

***Tydeinae* of the world: generic relationships, new and redescribed taxa and keys to all species. A revision of the subfamilies *Pretydeinae* and *Tydeinae* (*Acari: Actinedida: Tydeidae*) – part IV**

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Abstract. A total of 254 species of the subfamily *Tydeinae* are discussed or placed in the keys, including 64 new combinations and 24 species described as new to science: *Afrotydeus novaezealandiae* sp. n., *A. smileyi* sp. n., *A. zairensis* sp. n., *Lorryia akelai* sp. n., *L. amica* sp. n., *L. blaszaki* sp. n., *L. bloszyki* sp. n., *L. danhidalgoi* sp. n., *L. draciformis* sp. n., *L. elegans* sp. n., *L. globulipalpa* sp. n., *L. incomperta* sp. n., *L. jesionowskii* sp. n., *L. nobila* sp. n., *L. ornata* sp. n., *L. perlata* sp. n., *L. septuagesimusseptima* sp. n., *L. sherekhani* sp. n., *L. snajperi* sp. n., *Melissotydeus incarum* sp. n., *Metalorryia foliata* sp. n., *Neolorryia americana* sp. n., *Neoapolorryia hippocastani* sp. n., and *Tydeus helenipanoue* sp. n. Twelve species are redescribed: *Lorryia brevicula* (KOCH, 1838), *L. concinna* (OUDEMANS, 1929), *L. italica* (OUDEMANS, 1928), *L. longina* (KAŻMIERSKI, 1980), *L. pulchra* (OUDEMANS, 1929), *L. raphignathoides* (BERLESE, 1910), *L. reticulata* (OUDEMANS, 1928), *L. turrialbensis* BAKER, 1968, *Metalorryia cristata* (KARG, 1975), *M. insignita* (KUZNETZOV, 1971), *M. palpsetosa* (KARG, 1975) and *Neoapolorryia regia* (KUZNETZOV, 1973). Four synonyms and three homonyms are designated. The new synonyms are as follow: *Tydeus inflatus* MOMEN, 1988 = *Lorryia pulchra* (OUDEMANS 1929), *Tydeus magnanus* KARG, 1975 = *L. obstinata* (LIVSHITZ, 1973), *Tydeus octomaculatus* MOMEN & LUNDQVIST, 1995 = *L. unigena* (LIVSHITZ, 1973) and *Metalorryia cristata* (KARG, 1975) = *M. delicata* (KUZNETZOV, 1971). In addition, 64 species are specified as “ancient” species, i. e. impossible to determine according to the present systematic standards. The morphology of *Tydeinae* is discussed. The nomenclature of dorsal ornamentation (types and subtypes) is proposed and the keys to all known species are given. The generic relationships are considered and phylogenetic analysis is provided.

Key words: *Acari*, *Tydeidae*, *Tydeinae*, new taxa, keys, phylogeny, world.

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I. INTRODUCTION

The family *Tydeidae* was established by KRAMER (1877) on the basis of the earlier described genus, *Tydeus* KOCH, 1835. "The Tydeus of Greek legend (...) was a valiant warrior of small stature who was favoured by the goddess Athena until she found him opening the skull and sucking out the brains of one of his slain adversaries" (TREAT 1975). Thus, KOCH believed that the mites he described are predators without exception. This belief was confirmed in a number of references, for example, *Pronematus ubiquitus* (MC GREGOR 1932) preying on the fig mite *Aceria ficus*, or *Tydeus californicus* (BANKS, 1904) preying on the citrus bud mite *Aceria sheldoni* (BAKER & WHARTON 1952, BAKER 1965). Another common and very widely distributed species, *Lorryia ferula* BAKER, 1944, can prey on the eggs of coccid scale and spider mites (BAKER 1965). On the other hand, FLESCNER & ARAKAWA (1953), and ZAHER & SHEHATA (1963) indicated, that *T. californicus* might however be phytophagous, as well as *Lorryia formosa* COOREMAN, 1958, which was observed to cause a damage to citrus (SMIRNOFF 1957). In contrast to SMIRNOFF's observations, MENDEL and GERSON (1982) considered *L. formosa* to be a beneficial mite serving as a sanitary agent in citrus groves. It is possible that *Tydeidae* feed on mushroom spawn growing on plants: *Parapronematus acaciae* BAKER, 1965 was reared on the leaf-inhabiting fungi from the genera *Penicillium* and *Calletotrichum* (MC COY, SELHIME & KANAVAL 1969). GERSON (1968) supposed that although tydeid mites may occasionally feed on living animals or plants, they are best categorized as scavengers. Finally, KRANTZ and LINDQUIST (1979) stated that: "in general, the *Tydeidae* are unspecialized feeders with a propensity for phytophagy. Their lack of specialization suggests that the family is in an evolutionary transition phase and that phytophagy may be a major direction for future development". Recently, LINDQUIST (1998) considered *Tydeoidea* as a sister group of *Eriophyiidea* – a very highly specialized phytophagous superfamily. This hypothesis is quite new one and well demonstrated. However, although a few tydeid species have been recorded as a typical plant feeders, the remaining larger part of species have hitherto been described rather as omnivorous: saprophagous, fungifagous, and predators of the smallest arthropods and their eggs.

Similarly to many other mites, apart from the agriculture the *Tydeidae* are important in human and animal medicine. *Tydeus molestus* MONIEZ, 1889 was recorded as causing minor harm to man and domestic animals (THOR 1933) in the form of an itch and irritation of the skin. *T. interruptus* THOR, 1932 found in hay from Icelandic sheep pastures together with other mite species from *Acaridida* and *Tarsonemidae* may represents a self-sustaining reservoir for scrapie-like agents (“...if sheep are returned to a pasture that has not been used for as long as three years ... they still become infected with the disease”) (WIŚNIEWSKI et al. 1996). Unfortunately, both the species mentioned above are impossible to determine according to present systematic standards and are inadequately described. They are called “ancient” taxa further in this text. However, although specific identification of the mentioned species arouses serious doubt – they surely represent the subfamily *Tydeinae*.

Tydeidae are common in soil, humus, litter, on moss, lichens, mushrooms and grass, on trees (in bark, on leaves and fruits), in straw and hay, on stored grain, more rarely in the nests of birds and mammals, and also on animals – mainly on insects as phoretic forms. There is an exceptional richness of *Tydeidae* in lawns and on moss on rocks as well as on xerothermic slopes.

Tydeidae occur in all continents and all climatic zones of the world. Some species are very widely distributed, but connected with a particular type of habitat. However, the great majority of species are recorded only from locus typicus or from a few localities – and it is difficult at present to state anything substantial about their distribution and habitat preferences. On the other hand, zoogeographical and ecological studies need proper specific identification in order to avoid misunderstandings and false conclusions.

Undoubtedly, the knowledge regarding their zoogeography, ecology, biology and economic importance is poorer than that of their morphology, ontogeny and systematics.

The classic works of GRANDJEAN (1938a, b, c) were the foundation of the present basic knowledge concerning the morphology of these mites.

Seven stages exist in the ontogeny of *Tydeidae*: egg, prelarva (calyptostasis) (PL), larva (L), protonymph (PN), deutonymph (DN), tritonymph (TN) and adult (AD – female or male). The papers of GRANDJEAN (1938a, d), ANDRÉ (1979) and KUZNETZOV (1980) are particularly important in considerations concerning the ontogeny of *Tydeidae*.

In the history of studies on systematics of *Tydeidae* three main levels denoted by three generic revisions may be acknowledged: the first by THOR (1933), the second by BAKER (1965) and third by ANDRÉ (1979, 1980, 1981a, b). This last author divided *Tydeidae* into seven subfamilies. All remarks about feeding, distribution, etc. given above equally concern the family *Tydeidae* and subfamily *Tydeinae* – the main pillar of *Tydeidae* and the richest subfamily with regard to number of genera and species. The diagnosis of *Tydeinae* was given by ANDRÉ (1979) and KAŻMIERSKI (1996b). In the present paper 24 new species and 12 known species are described or redescribed and illustrated. Keys to all species in particular genera are included. The “ancient” species (whose generic status is unclear) are also listed. The material studied and discussed here comes from various countries from all continents. The specimens of described or redescribed species derive from collections of earlier explorers, but the majority from the author’s collection. In the latter case individuals were examined using open-slide techniques, mounted on slides in modified BERLESE medium, and observed in immersion with the application of phase-contrast (Microscopes: Zeiss – Peraval Inter FA-KO and Olympus). Measurements are given in micrometers (μm) and refer to the holotype (if not otherwise stated). For the first, second, and third part of this revision see KAŻMIERSKI 1989b, 1996a, 1996b.

The type material is deposited in the Zoological Museum in Hamburg (ZMH), and in the Department of Animal Morphology, A. Mickiewicz University, Poznań (DAM).

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II. MORPHOLOGY AND NOMENCLATURE

The *Tydeidae* are small (ca 100-500 μm) prostigmatic mites, poorly sclerotized, more or less oval in shape, and relatively fast moving. They are usually green or greenish, more rarely brownish, reddish, yellowish, or glittering white. However, the colour does not seem to be a good specific feature because it depends greatly on the gut content. Particular descriptions of the structure of *Tydeidae* – anatomy, morphology and primitive segmentation – were given in the papers of GRANDJEAN (1938a, b), ANDRÉ (1981a, b) and KAŻMIERSKI (1989a). This chapter concerns only body-parts and a notation of elements used in descriptions of species and in the keys.

The body of *Tydeidae* is composed of gnathosoma and idiosoma. The gnathosoma is formed by a cheliceral frame with chelicerae and infracapitular epimeron (hypostome + palps). The idiosoma is divided into the aspidosoma, opisthosoma, and podosoma with four pairs of legs.

The chelicerae are composed of two parts: a fixed digit (*digitus fixus*) and movable one (*digitus mobilis*). The movable digit consists of the principal segment (=basilar sclerite) and a stiletto (=dagger, stylet) (Fig. 3D). On the apex of the hypostome occur two pairs of small (probably eupathidial) setae called adorals: ad1 and ad2 (former designation – orals: or1 and or2). Ventrally and behind them is the next pair of hypostomals – subcapitular setae: sc1 and sc2 (former designation: a and h, respectively) (Fig. 2). The palps (Fig. 3C) are composed of four segments: trochanter, femurogenu (=femur-genu), tibia and tarsus. There are no setae on the trochanter. The femurogenu bears setae df and dg, sometimes df only. Tibia bears setae t' and t'', though sometimes one of them is lacking. The organotaxy of the palpal tarsus in *Tydeidae* may be varied, although the archetype must have been formed of eight setae and the solenidion, similarly to the contemporary genus *Meyerella*. *Tydeinae* have six setae on the distal part of the segment. These are: (p ζ) – double eupathidium probably fused with a third former seta, d (usually forked), l', l'', v and small, vestigial ba. The solenidion ω is more or less reduced and poorly visible. The tip of (p ζ) is "T"-shaped, with a wedge-like cross piece, goblet-shaped, cleft or rounded distally. In the latter case the eupathidium is usually large, strong, and straight, not bent.

The shape of dorsal setae on the idiosoma is one of the most important specific features. There are four pairs of setae on the aspidosoma: bo, ro, la and ex (Fig. 1). The first pair are trichobothrials (=sensoric setae, =bothridial setae) and set in the bothridial areoles (Fig. 10B). They are usually whiplike; very rarely are similar to other aspidosomal setae (*Tydides*, *Acanthotydides*). *Tydeinae* usually possess ten pairs of opisthosomal setae (excluding the setae of the genital region) (Fig. 1): c1, c2, d1, e1, f1, f2, h1, h2 (all situated dorsally), ps1 (most often situated terminally, or ventroterminally, but always ventrally in larval stage), and ventrally located ps2. The absence of ps1 is characteristic to a few genera. Thus, this subfamily differs from the paleotrichial pattern in the absence of d2 and ps3 (rarely also ps1). The localization of ps2 (former name: anal setae) in *Tydeinae* is secondary: they replaced the missing ps3 in the vicinity of the anus (Fig. 2).

Tydeinae have three pairs of lyrifissures: *ia*, *im* and *ih* (Figs 1, 2, 10E,F,G). Particularly the localization of *im* is variable and determines a preliminary sketch of division of the genus *Lorryia* into species groups together with other features. The problem was preliminarily considered by KAŻMIERSKI (1989a, 1991), as well as by KAŻMIERSKI & PANOU (1997). The localization of lyrifissures *ia* and *ih* is more stabilized. The former lie posteriorly to setae c2 and medially to the line c2-e1, or at least in this line. The latter are situated ventrally, although they are probably derived from the former segment H (KAŻMIERSKI 1989a). In the ventral view, *ih* are located beside and slightly anterior of ps1 (Fig. 2). The existence, structure and role of lyrifissures were discussed by ANDRÉ (1981a).

A pair of primitive eyes (*oculi*) (*oc*) commonly occur laterally (Fig. 1), behind the setae la, or in the line la-ex. Remarks concerning eyes are included in WOOD 1965, ANDRÉ & NAUDO 1965, and in the first part of the present revision (KAŻMIERSKI 1989b).

The genital region includes a progenital aperture flanked by setae (Figs 2, 13A). The progenital aperture leads to the progenital chamber and has a shape similar to a recumbent letter H in females or is longitudinal in males (KAŹMIERSKI 1989b – fig. 2, 1996b – Fig. 1C). Nymphs have only genital pores and they do not have a chamber (Fig. 24A, also KAŹMIERSKI 1989b – fig. 2). The genital chaetotaxy is formed by the eugenital setae (eu – only in males), genital setae (ge, former name: g) and aggenital setae (ag), formerly called also adgenitals, or paragenitals (pg). Males of *Tydeinae* have four pairs of the eugenital setae: the first three pairs lie on the anterior eugenital flap while the fourth pair lies on the posterior one. The number of pairs of genital and aggenital setae may vary, although most genera and species show the characteristic pattern: 6 pairs of genitals and 4 pairs of aggenitals in adults – the maximum number for *Tydeinae* (excluding anomalies). However, genital chaetotaxy is a stable generic feature only when linked with other characters. Moreover, individual variability in this matter was noted in some species (KAŹMIERSKI 1989b, 1990, MOMEN and LUNDQVIST 1995, 1996c, MOMEN & SOLHØY 1996).

The ventral part of the podosoma consists of the sternum and coxae, fused together into the coxosternal or epimeral region. The epimeral setal formula for *Tydeinae* is 3-1-4-2 and it is slightly poorer than the paleotrichial one in lacking setae 4c. According to the nomenclature proposed by KAŹMIERSKI (1989a) the symbols of the setae in this region are as follows: pt, 1b, 1c, 2a, mt α , 3b, 3c, 3d, mt β , 4b (Fig. 2). Setae pt and mt are ventral. Setae pt are prosternal while setae mt are metasternal ones. The remaining setae are original coxal setae.

Coxal organs (cg) (ANDRÉ 1981a), i. e. coxal gland openings (MARSHALL 1970), or CLAPERÉDE's organs (ANDRÉ 1991) described for the first time by MARSHALL (1970) lie on the first epimeres, more or less behind of setae 1c (Figs 3G, 11E). Among subfamilies of *Tydeidae*, only in *Pronematinae* have they not been observed. The answer to the question "Are the coxal organs CLAPERÉDE's organs?" was discussed by ANDRÉ (1991). Finally he stated that postlarval CLAPERÉDE's organs are unique to the *Tydeoidea* and distinguish tydeoids from all other superfamilies of *Actinotrichida*.

Each leg consists of six segments, excluding the coxa: trochanter, femur, genu, tibia, tarsus and apotele. Chaetotaxy of the legs is the main generic feature in ANDRÉ's systematic concept (ANDRÉ 1979, 1980). The genus *Melissotydeus* ANDRÉ, 1985, the closest to the archetype, has the richest leg chaetotaxy in all *Tydeinae* genera and therefore constitutes a good point to consider the kind, number, and localization of setae on particular leg segments.

T r o c h a n t e r. In *Tydeinae* only trochanters I and III can have the seta (trI, trIII). Both of them lie ventro-paraxially. Genera *Nudilorryia*, *Paralorryia* and *Tydides* have nude trochanter I. Genus *Quasitydeus* has nude trochanter III. Genera *Afrotydeus* and *Perafrotydeus* have all trochanters nude (*Melissotydeus* and the remaining genera have trI and trIII).

F e m u r. This segment consists of the two previous segments: basifemur and telofemur, but in *Tydeinae* these two elements are always fused. Femur I usually has three setae: dorsal db and ventrals: vb, and vt (this notation is introduced for the first time). In some genera db is lacking (*Melissotydeus* has a full complement of setae). Femur II can have three, two, or one seta only. The presence of setae db, vb and vt makes a primitive state. Some genera do not have db (e. g. *Tydeus*, *Neoapolorryia*), or db and vb (e. g. *Afrotydeus*) (*Melissotydeus* has all three setae). There are two setae or one seta on femur III: d (db?) and v (vt?), or v only. Similarly, on femur IV two setae as mentioned above can occur, but only in the genus *Melissotydeus*. The remaining genera of *Tydeinae* have only a single ventral seta, or do not have seta on this segment (*Afrotydeus*, *Perafrotydeus*).

G e n u. The full and most frequent genual setal pattern is 3-2-1-1, which occurs among others in *Melissotydeus*. The other possible states are: 2-1-1-1 (*Metalorryia*, *Idiolorryia*, *Afridiolorryia*), 2-2-0-0 (*Edlorryia*), 2-1-0-0 (*Krantzlorryia*, *Neolorryia*, *Neoapolorryia*) and, finally, 1-1-0-0 (*Apolorryia*). It is difficult to give a proper notation of three setae on genu I. The first point of view suggests that none of them are ventral – thus, they would be l', d and l'', according to their real location. However, morphological analysis of each of the setae commands the consideration of another

possibility: l' may in fact be v (migration to the paraxial position), while d is a proper l' (migration to the dorsal position and substitution of d) – then, the complement of setae on genu I would be: v, l' and l''. To sum up, the question of the absence of seta v or d remains open, although the author opts for the latter possibility. When the genu I has only two setae, the seta l'' is lacking (only v and l' are present). Consequently, the setae on genu II should be called l' and l'' (seta l' is located dorsally and slightly paraxially). In the cases when only one seta is situated on this segment, the absent one is l'' (e. g. *Metalorryia*, *Neoapolorryia*). Genua III and IV (when not nude) have one seta – l'. Its localization is similar to that in the genu II.

T i b i a. The tibial setal pattern is 4-2-2-2 (*Melissotydeus* and the greater part of the remaining genera), 3-2-2-2 (*Metalorryia*, *Krantzlorryia*, *Edlorryia*), 4-2/1-1-1 (*Idiolorryia*), 4-1-1-1 (*Afriorryia*), and 3-1-1-1 (*Neolorryia*, *Neoapolorryia*, *Apolorryia*). There are four setae on tibia I, including famulus k'' (Fig. 3A). The remaining (=“normal”) setae are: v, l' and l''. The latter is in a dorsal and slightly adaxial position. Thus, dorsal displacement of the adaxial lateral seta is characteristic in contrast to the genera where the paraxials are displaced dorsally. Famulus k'' always lies adaxially, though slightly dorsally. The arrangement described above characterizes the species belonging to the genera which were grouped in the item “I” by KAŻMIERSKI (1996b, p. 226). It is not easy to interpret the setal notation in cases where three setae occur on tibia I, because, for example, in *Metalorryia* and *Neoapolorryia* the “dorsal” seta lies slightly but visibly paraxially. It is determined here as l'. The remaining elements are v and k''. Tibiae II, III, and IV have two setae (v, and l' dorso-paraxially), or one seta v only.

T a r s u s. The archetype of *Tydeidae* had six pairs of setae on tarsus I, as in the genus *Meyerella* (ANDRÉ 1981b). In *Tydeinae* eight setae are present (usually five of them have an eupathidial character): ft' and ft''ζ (fastigials), tc'ζ and tc''ζ (tectals), p'ζ and p''ζ (prorals), u' and u'' (unguinals) (Fig. 3A). However, the genera *Momenia*, *Kenlorryia* and *Apolorryia* lost seta ft''ζ. The problem of a correct interpretation of the setae on tarsus I in larvae was explained by ANDRÉ (1979, 1981b), who described a phenomenon of anabasis, i.e. migration of either (simple anabasis) or both (double anabasis) proral setae to the position of the tectal setae, which are undersized (=vestigial). On the dorsal side of tarsus I, slightly distally to the fastigial setae, solenidion ωI occurs. Tarsus II has six setae with no exceptions (ft', ft'', p', p'', u' u'') and almost always solenidion ωII (Fig. 3B). Tarsi III and IV have five setae: two prorals, two unguinals and one fastigial, probably ft'.

A p o t e l e. A distal leg part, apotele, has an empodium (em) with chetoids and a more or less developed empodial hook (=empodial claw) (om) (Figs 3A, B 11A). Sometimes the om is underdeveloped and exists only in the form of a thiny thorn (Figs 35A, 55A), rarely, the empodial hook is completely reduced (Figs 19A, 24D). On both sides and above of the empodium appear two claws (ol', ol''), also called lateral claws. A single claw ol in *Lorryia superba* was described by OUDEMANS (1925).

The status described above concerns adults and almost always tritonymphs and deutonymphs (if not otherwise stated). The protonymphal and larval organotaxy of the legs differ in some details.

III. ORNAMENTATION

Ornamentation of the surface of the body has been studied with attention as an important taxonomic feature since the beginning of investigations on *Tydeidae*. In the generic concept of BAKER (1965, 1968a, b, 1970) the kind of ornament determined the division into genera. This concept was conformable with the principle proclaimed among others by MAYR (1963), stating that the ornamentation is an unadaptative feature and is therefore a good illustration of common origin. A general classification advanced by ANDRÉ (1979, 1980) degraded the significance of ornamentation in *Tydeidae* taxonomy, although it still remains one of the main specific features. Ornamentation of the cuticle is a constant feature, or variable at least in limited measure in all stages. The development of research technique, especially scanning microscope photography (photo 1) permits one to see the

essence of the structure of particular elements of ornamentation – as revealed by ALBERTI & al. (1981) who described the sculpture of *Lorryia catenulata*. The classification of body-sculpture types in Tydeidae presented below is on the one hand a review of diversity and on the other hand can be a diagnostic tool for the determination of species. The traditional nomenclature of types of sculpture which was used by Tydeidae-investigators is preserved in this paper; it is only extended by the addition of patterns of reticular regions and classification of striation.

There are two main categories of ornamentation in Tydeidae: reticulation and striation. There are species among *Pretydeinae* and Tydeinae in which the reticulation, striation, or both categories may occur on the dorsum. The species covered with flat reticulum at least in the dorso-central region (between setae d1) represent type “Lorryia” (e. g. Figs 4D,E,F,G, 18, 20, 22A, 23). A separate type of reticulation is an ornaments of “Mountains” type (Figs 6, 27, 28K). This term is precisely explained in the description of *Paralorryia edwardbakeri* in KAŻMIERSKI (1989b). Similarly, a separate form of striation is the ornamentation called “Basketweave” type (Fig. 7). Reticulation may cover the dorsal side of the idiosoma totally, or form discrete reticulate areas (= regions, shields), divided by striae or by another kind of reticulum. In this latter case the borderline between distinct areas may be not clear, when the strong and unnatural flatness of a specimen in constant slide blurs the outlines of reticulate regions. The boundaries between shields are in agreement with the localization of pairs of sigillae (insertions of muscles). In some species the striae “running” to a central point, or the meshes of reticulum narrowing to a central point create external rosettes, which indicate the place of the internal sigillum (which lies under the rosette). Rosettes are more or less visible in particular specimens, therefore the number of their pairs does not seem to be a constant specific feature (it depends to a certain degree on the mounting medium, on the internal turgor of the specimen, and on cover-glass pressure).

Apart from the above remarks, the reticulate areas may be denoted by a system of symbols, examples of which are shown in Fig. 4. Each region is described by a pattern composed of the letter A (area) and the symbol of the seta, or setae situated in this area. The symbol of the seta in parenthesis indicates both elements of the pair (both setae), i.e. concerns medial shields. For example, the symbol A(c1) – an area in which both setae c1 are located. A reticulate area without setae is marked with “0” followed by symbols of setae which lie on both sides of the mentioned “nude area”. These symbols are in brackets, e.g.: A[c2]0[e1] – an area without setae located between setae c2 and e1, A[c2]0 – an area without setae located laterally to c2. Sometimes the reticulate area lies anteriorly, or posteriorly to the seta, or in the middle of the rectangle delineated by four setae.

Examples: A $\frac{0}{[bo]}$ – an area without setae in front of seta bo, A $\frac{[la]}{0}$ – an area without setae posteriorly to seta la, A $\frac{[bo]}{[cl]}0\frac{[bo]}{[cl]}$ – an area without setae between pairs of setae bo and c1.

Symbols AA0 and AA concern aspidosoma. AA0 refers to a frontal aspidosomal reticulate area with no setae (Fig. 4A). Conversely, AA (area aspidosomal) bears all the aspidosomal setae and refers to a situation in which the dorsal surface of the aspidosoma is entirely reticulated (Fig. 4F).

The arrangement of reticulate areas does not precisely reflect the primitive segmentation. For example, the lateral position of setae e1 is probably the result of migration (Fig. 4G). Often e1 are set in separate areas Ae1, which lie on both sides of A(d1) and together form one ordered row. The area Ae1 can then join together with area A(f2)(f1) into a “U”-shape area A(e1)(f2)(f1), as in *Lorryia ancora* KARG, 1973 and *Lorryia danutae* KAŻMIERSKI, 1978, or can be joined with area A(d1) in A(e1)(d1) (Fig. 4F). The latter case might be interpreted as evidence that setae d1 and e1 were once set in a single primary segment (segment D – see KAŻMIERSKI 1989a). However, in larva of *Metalorryia* sp. found in Czechia, shields Ae1 give the impression of being “lodged as a wedge” between A(d1) and A(f2)(f1). It is possible to imagine the theoretical arrangement, in which (e1) lie dorsally in a shield A(e1), behind (d1). The former A(e1) disintegrate to the left and right Ae1 pushed out and slightly forward (Fig. 4G), as the effect of migration of e1. Thus, the arrangement of Ae1 in larva of *Metalorryia* is intermediate between primary and secondary one. However, the theo-

retical primitive state with medial area A(e1) can never exist if the phenomenon of migration of setae e1 to the lateral position is older than the appearance of regular reticulate areas.

Neighbouring meshes (=cells) of reticulum are connected to each other by cross-ties. Those may differ in shape: most often "Y"-shaped, triangular or rounded (e. g. as in Figs 21K, 71B, 26I respectively), more rarely "X"-shaped or rectangular. The frames of meshes, similarly as the striae are provided with rods (e. g. Figs 10D, 35G), "I"-shaped costulae (Figs 3F, 31B) or tubercles (=lobi). Tubercles may be triangular (Figs 41G, I), rectangular (Fig. 14G), semicircular in shape (Figs 49G, 57G) or in the form of more or less irregular, vast and extensive excrescences (e. g. Fig. 17D in KAŻMIERSKI 1996a). Some species have very clearly visible subcuticular fillets: *Nudilorryia virginia* KAŻMIERSKI, 1996, *Lorryia scopi* KUZNETZOV, 1975, *L. ancora* KARG, 1973 (unpublished author's observation on the holotype of KARG's species), *Tydeus caudatus* (DUGÈS, 1834), *T. californicus* (BANKS, 1904), *T. calabrus* (CASTAGNOLI, 1984), *T. africanus* BAKER, 1970, *T. taiwanensis* BAKER, 1970, *T. reticoxus* UECKERMANN, 1988 and others (see also Figs 62A and 64A). The fillets form the reticulation with larger cells, independently of common, external reticulation or striation. These cells usually occur also on the ventral side, as well as on coxae and trochanteres.

The striation is the second main category of dorsal ornamentation. Figure 5 refers to species completely covered by striae, or with the extensive reticulate pattern at least on the aspidosoma or on the posterior part of the opisthosoma only. Particular kinds of striation of the opisthosoma are listed below. They differ in the arrangement of striae between the successive pairs of dorsomedial setae. In the type "Paralorryia" the differences also concern the direction of striae on the line c1-d1, which forms the letter "S" on the left side in dorsal view (on the right side -mirrored "S"). Excluding the "Basketweave" type, three main types of striation are distinguished: "Tydeus" (Fig. 5A), "Paralorryia" (Figs 5B-I), and "Venilia" (Fig. 5J). Type "Paralorryia" is divided into eight subtypes respectively as in Fig. 5:

"Mesoparalorryia" – e. g.: *Lorryia subularis* (KUZNETZOV, 1972), *L. recki* (LIVSHITZ, 1973), *L. subularoides* KAŻMIERSKI, 1989, *L. blaszaki* sp. n., *L. bloszyki* sp. n.

"Paralorryia s. str." – e. g.: *Lorryia woolleyi* (BAKER, 1968), *L. ocellata* (KUZNETZOV, 1972), *L. longiuscula* (KUZNETZOV, 1972), *Nudilorryia paraferula* KAŻMIERSKI, 1996, *N. obsequens* KAŻMIERSKI, 1996.

"Biparalorryia" – e. g.: *Lorryia eharai* (BAKER, 1968), *L. nobila* sp. n.

"Mesoparalorryia-incerta" – e. g.: *Lorryia livshitzi* (KUZNETZOV, 1974), *L. perlata* sp. n.

"Paralorryia-incerta" – e. g.: *Lorryia vinea* (UECKERMANN & SMITH MEYER, 1979), *Nudilorryia mariae* KAŻMIERSKI, 1996.

"Biparalorryia-incerta" – e. g.: *Lorryia scabriseta* (KUZNETZOV, 1972), *L. draciformis* sp. n., *Melissotydeus incarum* sp. n.

"Veniparalorryia" – e. g.: *Lorryia sapodilla* (BAKER, 1968), *L. concinna* (OUDEMANS 1929), *L. jesionowskii* sp. n., *L. elegans* sp. n., *L. ornata* sp. n., *L. septuagesimusseptima* sp. n.

"Paravenilia" – e. g.: *Lorryia opifera* (KUZNETZOV, 1973), *L. fibra* (KUZNETZOV, 1975), *L. bakeri* (ZAHER & EL BAGOURY, 1981), *L. akelai* sp. n.

Type of striation "Tydeus" characterized the former genus *Tydeus* sensu BAKER (BAKER 1965, 1970). Type of striation "Venilia" characterized the former genus *Venilia* KUZNETZOV (KUZNETZOV 1979, KAŻMIERSKI 1980b).

In general, two categories of ornamentation can be distinguished: reticulation and striation. The former divides into two types: "Lorryia" and "Mountains". Types: "Paralorryia" (with eight subtypes), "Tydeus", "Venilia" and "Basketweave" represents the second category.

IV. GENERA, SPECIES AND KEYS

Twenty one genera of *Tydeinae* have been described so far, excluding synonyms. Ten of them are still monospecific. These are: *Momenia* KAŻMIERSKI, 1996, *Kenlorryia* KAŻMIERSKI, 1996,

Quasitydeus KAŻMIERSKI, 1996, *Acanthotydidies* KAŻMIERSKI, 1996, *Tydides* KUZNETZOV, 1975, *Afridiolorryia* KAŻMIERSKI, 1996, *Edlorryia* KAŻMIERSKI, 1996, *Krantzlorryia* ANDRÉ, 1980, *Apolorryia* ANDRÉ, 1980 and *Perafrotydeus* ANDRÉ, 1980.

Key to genera of the subfamily Tydeinae (after KAŻMIERSKI 1996b – somewhat modified)

1. Femur IV with one or two setae. More than one seta on femur II 2
- Femur IV nude. Femur II with one seta 20
2. Femur IV with two setae *Melissotydeus* ANDRÉ, 1985
- Femur IV with one seta 3
3. Femur III with two setae 4
- Femur III with one seta 9
4. Tibia III and IV with one seta ; lack of ω II ; lack of setae ps1 *Idiolorryia* ANDRÉ, 1980
- Tibia III and IV with two setae ; ω II present ; setae ps1 occur 5
5. Palpal femurogenu with one seta 6
- Palpal femurogenu with two setae 7
6. Trochanter I with seta *Acanthotydidies* KAŻMIERSKI, 1996
- Trochanter I without seta *Tydides* KUZNETZOV, 1975
7. Lack of seta ft'' ζ on tarsus I. Cheliceral stilettos divided *Momenia* KAŻMIERSKI, 1996
- Setae ft'' ζ on tarsus I present. Stilettos normally developed (undivided/coalesced) 8
8. Trochanter I with one seta *Lorryia* OUDEMANS 1925
- Trochanter I without seta (nude) *Nudilorryia* KAŻMIERSKI, 1996
9. Femur II with three setae 10
- Femur II with two setae 13
10. Seta ft'' ζ on tarsus I absent *Kenlorryia* KAŻMIERSKI, 1996
- Seta ft'' ζ on tarsus I present 11
11. Trochanter III without seta *Quasitydeus* KAŻMIERSKI, 1996
- Trochanter III with one seta 12
12. Trochanter I with seta *Pseudolorryia* KAŻMIERSKI, 1989
- Trochanter I without seta *Paralorryia* BAKER, 1965
13. Femur I with three setae. Genua III and IV with one seta 14
- Femur I with two setae. Genua III and IV nude 16
14. Genu I with three setae. Genu II with two setae *Tydeus* KOCH, 1835
- Genu I with two setae. Genu II with one seta 15
15. Tibial setal pattern: 3-2-2-2 *Metalorryia* ANDRÉ, 1980
- Tibial setal pattern: 4-1-1-1 *Afridiolorryia* KAŻMIERSKI, 1996
16. Tibiae II, III and IV with two setae. Setae ps1 present 17
- Tibiae II, III and IV with one seta. Setae ps1 absent 18
17. Tibia I with four setae. Trochanter I with seta. Genu II with two setae. Both setae on palpal tibia *Edlorryia* KAŻMIERSKI, 1996
- Tibia I with three setae. Trochanter I nude. Genu II with one seta. Palpal tibia with only one seta *Krantzlorryia* ANDRÉ, 1980
18. Trochanter III with seta *Neolorryia* ANDRÉ, 1980
- Trochanter III without seta 19
19. Genu I with two setae. Tarsus I with eight setae (ft'' ζ present) *Neoapolorryia* EL BAGOURY & MOMEN, 1990
- Genu I with one seta. Tarsus I with seven setae (ft'' ζ absent) *Apolorryia* ANDRÉ, 1980
20. Solenidion ω II present *Afrotydeus* BAKER, 1970
- Solenidion ω II absent *Perafrotydeus* ANDRÉ, 1980

Genus: *Melissotydeus* ANDRÉ, 1985

Description: as in ANDRÉ (1985).

Type - species: *Melissotydeus macrosolenus* ANDRÉ, 1985.

Melissotydeus incarum sp. n.

(Figs 8-11)

Locus typicus. Peru: Machu Picchu. In dense thickets of bamboo among debris (northern exposition). A single moist place in dry environment (water accessible only from the rain). High moisture of the air. Altitude 3400 meters. 01.09.1976, J. MICHEJDA leg. One female, two tritonymphs and two deutonymphs.

Type repository. Holotype tritonymph (Slide N° PE-025/P-1) is deposited in ZMH. Paratypes: female (PE-025/P-1), tritonymph (PE-025/P-2) and two deutonymphs (PE-025/P-4) are kept in DAM. A single female is damaged, therefore the tritonymph is designated as a holotype.

Etymology. The new species is coined of antique famous race of Peruvian Indians (Inca). The largest species in the family Tydeidae (female nearly 550 long!).

Body broadly oval, greenish with very long setae.

Idiosoma. Holotype tritonymph: length 289 / width 222. Female: 546/396, second tritonymph: 386/272, deutonymphs: 269-313/194-237.

Dorsal ornamentation: striation type "Paralorryia", subtype "Biparalorryia-incerta" (Figs 5G, 8). Reticulation limited to area AAO on aspidosoma. Striae with rods. Eyes present. Bothridial setae (bo) whiplike, i.e. flimsy, narrowed and sharply ended. These are long, but shorter than the majority of normal dorsal idiosomal setae. The latter ones are extremely long, slightly serrated and tapering, though not pointed. The length of setae: bo - 68, ro - 55, la - 70, ex - 90, c1 - 82, c2 - 86, d1 - 94, e1 - 85, f1 - 94, f2 - 94, h1 - 90, h2 - 83, ventro-terminal ps1 - 51. Ventrally situated and setiform ps2 are 18 µm long and similar to aggenitals. Setae of female are proportionally longer. Transverse distances between the opisthosomal setae in pairs are as follow: c1-c1: 73, d1-d1: 55, e1-e1: 117, f1-f1: 31, h1-h1: 25, ps1-ps1: 23. Distance f1-h1: 43. Lyrifissura ia located posteriorly to c2 in the distance equal to 1/3 of section between c2 and e1, on the line c2-e1. Ventral side more delicately striated. The striae form obtuse "U" letter shape between the metasternal setae. In genital region two pairs of acetabulae are visible and broadly spreaded in female. Genital organotaxy: AD (0; ?-6-4), TN (4-4), DN (2-2). Nymphal genital pores double, i.e. in shape of recumbent "8". Epimeral formula: AD-DN (3-1-4-2).

Gnathosoma. Not covered dorsally, protrudes from under the anterior edge of aspidosoma. Cheliceral stilettos relatively short: shorter than the length of palpal tarsus. Palpal tarsal eupathidium (pç) three times shorter than its segment, bent, with "T"-shaped tip. Seta d on palpal tarsus forked distally, seta ba very tiny and visible only under immersion. Measurements: stilettos - 21.5, palpal femurogenu - 32.5/12.5, seta df - 19, dg - 18.7, t' - 16.5, t'' - 7, palpal tarsus - 30.5/5.5, (pç) - 10.

Legs. Organotaxy of the legs - as in generic description. Coxal organ "8"-shaped. Tarsi extremely elongated. Tarsus+apotele I: length - 83, width - 14, height - 15. Length of solenidion ωI - 9.8, seta ft' - 33, ft''ζ - 50, bifurcate famulus k'' - 4.7, solenidion ωII - 3.9. Empodial hooks (om) strongly developed. Claws (ol) with delicately serrated ventral (concave) edges.

Differentiating diagnosis.*Melissotydeus macrosolenus* ANDRÉ, 1985

1. Extremely small size of the body: length of the idiosoma of female - about 190 µm.
2. Dorsal ornamentation type "Tydeus", with addition of a fingerprint pattern between setae e1.

3. No reticulation present.
4. Bothridial setae plumose.
5. The remaining dorsal idiosomal setae and the most part of leg setae short and distinctly serrate.
6. "Rocket-like" solenidions.
7. No empodial hooks present.
8. Habitats: bee nests.

Melissotydeus incarum sp. n.

1. Extremely large size of the body: length of the female idiosoma – about 550 μ m.
2. Dorsal ornamentation type "Paralorryia" (particularly: "Biparalorryia-incerta").
3. Small reticulate area on the frontal part of aspidosoma (AAO).
4. Bothridial setae whiplike and nude.
5. The remaining dorsal idiosomal setae very long and only slightly serrate. Leg setae nude.
6. Solenidion commonly shaped, not "rocket-like".
7. Empodial hooks strong and well developed.
8. Habitats: bamboo thickets.

R e m a r k s. The generic name *Melissotydeus* suggests association only with bee nests. However, this genus now includes two species known from different habitats in South America. *Melissotydeus macrosolenus* is more specialized species regarding its peculiar type of habitat.

Key to the species of *Melissotydeus*

1. Ornamentation type "Tydeus". Dorsal idiosomal setae short and distinctly serrated *macrosolenus* ANDRÉ, 1985
- . Ornamentation type "Paralorryia", subtype "Biparalorryia-incerta". Dorsal idiosomal setae very long and slightly serrated *incarum* sp.n.

Genus *Lorryia* OUDEMANS, 1925 sensu KAŻMIERSKI 1989

S y n o n y m s: see KAŻMIERSKI (1989b), also *Quadrotydeus* MOMEN & LUNDQVIST, 1996 (MOMEN & LUNDQVIST 1996b)

D e s c r i p t i o n: as in KAŻMIERSKI (1989b)

T y p e - s p e c i e s: *Lorryia superba* OUDEMANS, 1925

Lorryia nobila sp. n

(Figs 12-14)

L o c u s t y p i c u s. Poland: Krosno province, Sanok. Slope on the right bank of San river (southern exposition). Deciduous forest, mainly oaks (*Quercus robur*), but also *Tilia* sp., *Corylus avellana* and shrubs. Thick undergrowth. Leaves, twigs and detritus. 29.05.1958, M. JACKIEWICZ and J. RAFALSKI leg. Holotype female.

O t h e r l o c a l i t y. Poland: Poznań province. Hornbeam forest on Mogielnica river (*Galio silvatici-Carpinetum*) with rich undergrowth. 19.09.1981, J. BŁOSZYK and A. KAŻMIERSKI leg. Paratype tritonymph.

T y p e r e p o s i t o r y. Holotype female (T-0070) is deposited in ZMH, tritonymph (L-I-8/6) in DAM.

E t y m o l o g y. The name of the new species means "noble".

Body relatively large, oval, green, with plumose dorsal setae.

I d i o s o m a. Holotype female: 325/200 ; tritonymph: 322/218.

Dorsal ornamentation: striation type "Paralorryia", subtype "Bipalorryia" (Figs 5D, 12). No reticulation present. The tubercles on the striae in form of longitudinal rectangles. Eyes not observed (see KAŻMIERSKI 1989b, chapter: "Remarks about eyes"). Bothridial setae (bo) smooth and whiplike, about twice longer than remaining ones, which are plumose. Length of setae: bo – 51, ro – 20, la – 22.5, ex – 26, c1 – 24, c2 – 26, d1 – 28, e1 – 28, f1 – 25.5, f2 – 26.5, h1 – 23, h2 – 21, ventrally situated ps1 – 20. The setae ps2 are thin and nude, 17 long. Distances: c1-c1: 74.5, d1-d1: 66.5, e1-e1: 171.5, f1-f1: 50.5, h1-h1: 77.5, ps1-ps1: 15, f1-h1: 30.5. Lyrifissura *ia* located precisely on the line c2-e1. The distance c2-*ia* equal to 4/10 of section c2-e1. Lyrifissura *im* antieriad of and closely to the base of e1 (in the distance less than 1/4 c2-e1), but distinctly medially to the line c2-e1. Thus, the localization of lyrifissures similar to that of *Lorryia grandisignia*, *L. reticuloin-signia* and the other closely related species (KAŻMIERSKI 1991, KAŻMIERSKI & PANOU 1997). Ventral side more delicately striated. Between the metasternal setae the striae oriented longitudinally. Genital chaetotaxy: AD (0; ?-6-4), TN (4-4).

G n a t h o s o m a. Hidden under aspidosoma (only cheliceral stilettos and palpal tarsus occasionally visible from above). The stilettos distinctly longer than palpal tarsus, but shorter than the length of palpal tarsus and (pč). Palpal eupathidium strong, thick and straight, rod-like and rounded distally, slightly longer than the 1/2 length of palpal tarsus. Setae on palpal tarsus not forked and long; only slightly shorter than their segment. Seta ba relatively well developed: as long as 1/3 width of palpal tarsus. Measurements: stilettos – 26, palpal femurogenu – 24.8/12, df – 23.5, dg – 13.5, t' – 16.5, t'' – 8.2, palpal tarsus – 18.4/5, (pč) – 11.2.

L e g s. Organotaxy of the legs – as in generic description. Coxal organ "8" digit-shaped. Tarsus+apotele I: length – 32, width – 11.5, height – 12.2. Length of ω I – 8, ft' – 22.4, ft'' ζ – 25.2, barbed famulus k'' – 4, solenidion ω II – 4.4. Empodial hooks (om) present. Claws thin and smooth.

D i f f e r e n t i a t i n g d i a g n o s i s. Type of striation and shape of setae in *L. nobila* are most characteristic. The following features may easily distinguish *L. nobila* sp. n. and *L. innuba* (LIVSHITZ, 1973).

Lorryia innuba (LIVSHITZ, 1973)

1. Dorsal idiosomal setae very delicately serrated.
2. Palpal eupathidium (pč) as long as palpal tarsus.
3. ω I do not reach with its end to the bases of (tcč).
4. Subtype of striation: "Bipalorryia-incerta".
5. (bo) "rough" at the base.

Lorryia nobila sp. n.

1. Dorsal idiosomal setae pilose.
2. Palpal eupathidium (pč) much shorter than palpal tarsus.
3. ω I reaches with its end to the bases of (tcč).
4. Striation subtype "Bipalorryia".
5. (bo) totally smooth.

Lorryia draciformis sp. n.

(Figs 15-17)

L o c u s t y p i c u s. Spain: Sierra de Guadarrama. Mosses at the base of trunk of *Quercus pyrenaica*. 27.05.1975, L. S. SUBÍAS leg., 1 female.

Type repository. The holotype female (E-006/P-7) is deposited in ZMH.

Body relatively large, dark green.

Idiosoma. Holotype female: 324/211.

Dorsal ornamentation: striation type "Paralorryia", subtype "Biparalorryia-incerta" (Figs 5G, 15). Striae folded. No reticulation present. Extensive tubercles on the striae in shape of longitudinal rectangles and flattened hemispheres, closely situated to each other. Eyes present. Bothridial setae (bo) whiplike, with flabby distal half, more than two times longer than remaining (normal) setae. The latter are sharp and strongly serrated: teeth of serration much longer than the width of setal axle. Length of setae: bo – 55, ro – 16, la – 23.5, ex – 23.5, c1 – 18, c2 – 22, d1 – 17, e1 – 23.5, fl – 22, f2 – 22, h1 – 23, h2 – 23.5, ps1 (situated ventro-terminally) – 19.5. Flimsy and nude ps2 – 18. Distances: c1-c1: 67, d1-d1: 62.5, e1-e1: 160.5, fl-fl: 51, h1-h1: 54.5, ps1-ps1: 20.7, fl-h1: 40. Both dorsal lyrifissures: *ia* and *im* lie medially to line c2-e1, although *im* more distinctly. Lyrifissura *ia* located posteriorly to c2 in the distance slightly longer than 1/3 of c2-e1. Lyrifissura *im* lies antero-medially and very closely to the base of e1. Ventral side with more delicate striation. All ventral setae whiplike and flabby, fantastically bent. The striae between metasternal setae arranged longitudinally. Female genital chaetotaxy: (0-6-4).

Gnathosoma. Hidden under aspidosoma, and only ends of palps can be anterior of the frontal edge of aspidosoma. Cheliceral stiletto long, but shorter than the length of palpal tarsus and (pζ). The shape of eupathidium as in *L. nobila*, but it is only slightly shorter than palpal tarsus. Also palpal tarsal setae are as in *L. nobila*, but seta ba very tiny. Measurements: stiletto – 29.2, palpal femurogenu – 31/12.5, df – 19.5, dg – 14.8, t' – 15.6, t'' – 8.6, palpal tarsus – 19.5/5.8, (pζ) – 16.5.

Legs. Organotaxy as in generic description. Coxal organ oval. Tarsus+apotele I: length – 43, width – 14.5, height – 14.5. Length of ωI – 9.7, ft' – 24.2, ft''ζ – 31.2. Famulus k'' broadened and cleft distally, 4.3 long. Solenidion ωII small and spherical (1.17/1.17). Empodial hooks (om) occur. Claws (ol) with relatively strongly serrated ventral edges.

Differentiating diagnosis. The most similar species to *L. draciformis* sp. n. is *L. scabriseta* (KUZNETZOV, 1972).

Lorryia scabriseta (KUZNETZOV, 1972)

1. Cheliceral stiletto as long as palpal tarsus.
2. Palpal tarsus (20) significantly longer than (pζ)(13).
3. Claws (ol) nude.
4. ft' as long as 1/2 length of ft''ζ.
5. Teeth of dorsal setae triangular, not long: shorter than the width of main trunk of seta.

Lorryia draciformis sp. n.

1. Stiletto distinctly longer than palpal tarsus and only slightly shorter than the combined length of palpal tarsus and (pζ).
2. Palpal tarsus (19.5) not as long as its eupathidium (16.5).
3. Claws (ol) with serrated ventral edges.
4. ft' only slightly shorter than ft''ζ.
5. Teeth of setae setiform and long: significantly longer than the width of main trunk of seta.

Remarks. There are many species similar to *L. nobila* sp. n. and *L. draciformis* sp. n. sharing the following features:

- 1) Position of lyrifissura *im* located anteriorly to setae e1, but medially to the line c2-e1.
- 2) Shape of palpal eupathidium (pζ): long, broad and rounded distally, subequal in thickness through its length.
- 3) Body relatively large, widened and richly ornamented, with broad and strong striae, gnathosoma usually hidden.

Thus, I create here a preliminary notion "nabila group" for the cluster of species listed below:

Lorryia carya (BAKER, 1968), *L. mansonii* (BAKER, 1968), *L. stegmaieri* (BAKER, 1968), *L. montrealensis* MARSHALL, 1970, *L. formosa* (LIVSHITZ, 1972), *L. scabriseta* (KUZNETZOV, 1972), *L. flamma* (KUZNETZOV, 1973), *L. innuba* (LIVSHITZ, 1973), *L. insignia* (LIVSHITZ, 1973), *L. lena* (KUZNETZOV, 1973), *L. nuncia* (LIVSHITZ, 1973), *L. unigena* (LIVSHITZ, 1973) (junior synonym: *Tydeus octomaculatus* MOMEN & LUNDQVIST, 1995), *L. parataurica* (MOMEN, 1988), *L. grandiiinsignia* KAŻMIERSKI, 1991, *L. filiformis* (MOMEN & LUNDQVIST, 1996), *L. alykaneeae* PANOU & EMMANOUEL, 1996, *L. reticuloinsignia* KAŻMIERSKI & PANOU, 1997, *L. nobila* sp. n., *L. draciformis* sp. n., probably *L. nytebodensis* (MOMEN & LUNDQVIST, 1995) and *L. parainflatus* (MOMEN & LUNDQVIST, 1995), may be *L. vinea* (UECKERMANN & SMITH MEYER, 1979) and also *L. chapultepecensis* (KARG, 1943) – classified earlier to the genus *Pseudolorryia* (KAŻMIERSKI 1989b). It is interesting, that similar combination of the features mentioned above characterizes some species of the genus *Pseudolorryia* (*P. edwardbakeri*, *P. taurica*, *P. nikitensis*). This fact suggests the parallelism, or leads to a more careful glance concerning the current general concept ("leg's chaetotaxy first of all").

Lorryia sherekhani sp. n.

(Figs 18, 19)

L o c u s t y p i c u s. India: Kashmir, near Srinagar in the direction of Kargil. Slope of a mountain above the road, 20 km from Sonamarg town. Pine-spruce-fir forest with addition of hazel. Undergrowth with wild strawberry, clover and high grass. 06.09.1976, C. BŁASZAK and J. BŁOSZYK leg., two tritonymphs.

T y p e r e p o s i t o r y. Holotype tritonymph (IND-004/P-1) is deposited in ZMH. Paratype tritonymph (IND-004/P-11) in DAM.

E t y m o l o g y. The species is named after the tiger, Shere Khan (Rudyard KIPLING: "The Jungle Book").

Body medium-sized, oval, light green.

I d i o s o m a. Holotype tritonymph: 246/167. Paratype tritonymph: 217/176. Dorsal ornamentation: type "Lorryia". Reticulation forms discrete areas (shields) divided by striated integument. The shields are: Aex, A(ro)(la)(bo), Aex, A0[c2] (in lateral position), Ac2, A(c1), Ac2, A[c2]0 (in lateral position), A[c2]0[e1], A[c2]0[e1], Ae1, A(d1), Ae1, A(f2)(f1) and A(h2)(h1)(ps1). In summary: fifteen reticulate areas are present, among which five are single, i.e. dorso-medial ones (Fig. 18A). Cross-ties are "Y"-shaped, rarely "X"-shaped. Frames of polygonal cells with rare "T"-shaped costulae (Fig. 18B). Striae with rectangular or flattened, semicircular tubercles. Eyes not observed. Bothridial setae (bo) whiplike and smooth. Remaining dorsal idiosomal setae relatively short, curved, distinctly lanceolate, nude and sharply ended, similar to each other, except for setiform setae ps1. These are thinner and situated clearly ventrally. Setae ps2 similar in type with ps1. Length of setae: bo – 57, ro – 15, la – 11, ex – 12, c1 – 16, c2 – 15, d1 – 14, e1 – 12, f1 – 14, f2 – 16, h1 – 14, h2 – 13, ps1 – 8.5, ps2 – 8.5. Distances: c1-c1: 58, d1-d1: 51, e1-e1: 100, f1-f1: 25.5, h1-h1: 32, ps1-ps1: 12, f1-h1: 28. Lyrifissurae *ia* invisible. Lyrifissurae *im* poorly visible, medially and anteriad of e1 setae, on the border of shield. Ventral side striated. Centrally, between the metasternal setae, the striae form very narrow "V"-shape pattern. Genital chaetotaxy: TN (4-4).

G n a t h o s o m a. Its larger part visible from above (only its basal part is hidden). Cheliceral stilettos short in comparison to the majority of *Lorryia* species, but longer than palpal tarsus together with (pç). Palpal tarsus dumpy: very short and rounded. Eupathidium (pç) straight and broadened distally in goblet-shape tip. Palpal tarsal seta d forked at the end. Seta ba well developed. Measurements: stilettos – 13.5, palpal femurogenu – 13, df – 8.8, dg – 8.8, t' – 12.3, t'' – 10.5, palpal tarsus – 6.5/4.7, (pç) – 3.5.

Legs. Coxal organ oval. Tarsus+apotele I: length – 20, width – 8, height – 9.5. Length of ω I – 10, ft' 10, $ft''\zeta$ – 11.8. Famulus k'' widened distally with three small teeth, 4.1 long. Solenidion ω II tiny, 1.8 long. No empodial hooks. Claws (ol) nude.

Differentiating diagnosis. *Lorryia sherekhani* sp. n. is closely related to *L. catenulata* (THOR, 1931), *L. arkadiensis* PANOU & EMMANOUEL, 1995 and *L. polita* KUZNETZOV, 1975. It differs from the first two species mainly by the presence of areas A[c2]0[e1]. The differences between *L. sherekhani* and *L. polita* are as follows:

Lorryia polita KUZNETZOV, 1975

1. Dorsal idiosomal setae of medium length (28–32), narrowly lanceolate and serrate.
2. $ps1$ similar in shape to remaining dorsal setae.
3. Dorsal leg setae (excluding tarsal ones) serrate.
4. ft' on tarsus I serrate.
5. Gnathosoma hidden under aspidosoma (only distal part of stilettos may be visible in dorsal view).

Lorryia sherekhani sp. n.

1. Dorsal idiosomal setae shorter (11–16), distinctly lanceolate and nude.
2. $ps1$ different in shape than other dorsal idiosomal setae.
3. Dorsal leg setae (excluding tarsal ones) lanceolate, nude.
4. ft' on tarsus I nude.
5. Most part of gnathosoma visible from above.

Lorryia snajperi sp. n.

(Figs 20, 21)

Synonym: *Lorryia terrestris* KARG, 1973 sensu KAŻMIERSKI (1980)

Locustypicus. Poland: Elbląg province. Mixed hornbeam forest on the southern side of Kwidzyn. 26.07.1968, J. RAFALSKI leg.

Typerepository. Holotype female (T-0057) and paratypes: two males and two tritonymphs (on the same slide) are deposited in ZMH.

Etymology. The species is named to the memory of Champion Prima Sprawny Snajper.

Body medium-sized, narrowly oval, green.

Idiosoma. Holotype female (with an egg inside): 287/163. Males: 243–256/145–160, tritonymphs: 221–229/139–145. Dorsal ornamentation type “*Lorryia*”: reticulation covers totally all dorsal side and goes down onto lateral sides to the venter, thus the reticulate pattern occurs on the marginal portion of the ventral side of opisthosoma. However, the furrows impress the boundaries between the shields. These are: AA, Ac2, A(c1), Ac2, A(d1), A(e1)(f2)(f1)(h2)(h1) and A(ps1). The arrangement of separate areas in tritonymphs is slightly different: the areas A(e1)(f2)(f1) and A(h2)(h1)(ps1) occur posteriorly, similarly as in *Lorryia danutae* KAŻMIERSKI, 1978 and *L. ancora* KARG, 1973. In summary, seven areas are present. The multiangular (most often hexagonal) and relatively large (10–13) meshes of reticulum are connected by three arm (“Y”-shaped) cross-ties. On the frames of meshes single “T”-shaped costulae and rounded pores occur (Fig. 21K). The latter are not observed in any other species. Eyes occur. Bothridial setae (bo) whiplike and longer than the double length of normal dorsal idiosomal setae. The latter ones are needleform, or rather very narrowly lanceolate, nude and acute. Setae $ps1$ similar to others, terminally situated. Setae $ps2$ more flimsy and shorter. Length of setae: bo – 50, ro – 16, la – 15, ex – 19, c1 – 17, c2 – 16, d1 – 18, e1 – 17, f1 – 18, f2 – 16, h1 – 17, h2 – 18, $ps1$ – 12, $ps2$ – 10.8. Distances: c1–c1: 48, d1–d1: 45, e1–e1:

106, fl-fl: 37, h1-h1: 21, ps1-ps1: 16, fl-h1: 33.5. Lyrifissures *ia* invisible, probably hidden between the elements of rich ornamentation. Lyrifissures *im* visible better in lateral than in dorsal position. They lie anterior of e1 and outside the line connecting the bases of c2 and e1. Ventral side striated: striae with tiny "I"-shaped costulae and rods; they form narrow "V"-pattern between metasternal setae. Genital chaetotaxy: AD (0,4-6-4), TN (4-4).

G n a t h o s o m a. Completely hidden by frontal "hood" of aspidosoma. Cheliceral stilettos nearly as long as the palpal tarsus. Palpal tarsal eupathidium with goblet-shape tip. Seta d simple, seta ba very small. Measurements: stilettos -14, palpal femurogenu -21/12, df -10.5, dg -9.7, t' -10.3, t'' -5.7, palpal tarsus -15/4, (pç) -5.5.

L e g s. Coxal organ oval, divided transversely by scarcely visible cross-bar. Tarsus+apotele I: length -26, width -10.3, height -12. Length of ω I -5, ft' -14.3, ft''ç -16.5. Famulus k'' broadly expanded distally and cleft, 2.8 long. Solenidion ω II rocket-like, small (2.6). Empodial hooks (om) present. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. This species can be compared with *Lorryia ancora* KARG, 1973 and *L. danutae* KAŻMIERSKI, 1978. The differences concern the shape of dorsal idiosomal setae, the presence/absence of small rounded pores on the frames of "cells" of ornamentation (see key), as well as the type of separation of dorsal reticulate shields (reticulate furrows in *L. snajperi* and striae in *L. ancora* and *L. danutae*). The differences between *L. snajperi* sp. n. and *L. ancora* (KARG, 1973) are given below:

Lorryia ancora (KARG, 1973)

1. Reticulate areas separated from each other by striae.
2. Lack of rounded pores on the frames of cells.
3. Dorsal body setae indistinctly pointed.
4. Gnathosoma visible from above.

Lorryia snajperi sp. n.

1. Reticulate areas separated from each other by finer network.
2. Rounded pores on the frames of cells present.
3. Dorsal body setae distinctly pointed.
4. Gnathosoma covered with aspidosoma.

R e m a r k s. The specimens of *L. snajperi* were reported as *Lorryia terrestris* KARG, 1973 in KAŻMIERSKI (1980) on the basis of KARG's figures and description. The recent examination of the holotype of *L. terrestris* allowed to state that this previous determination was incorrect. The real *L. terrestris* has no impression dividing ornamentation to the discrete areas. Moreover, the meshes of reticulum in *L. terrestris* vary in shape: in some places they are distinctly elongated, in conformity with direction of the striae as in type of striation "Paralorryia". Thus, *L. terrestris* is similar in this respect to *L. varsoviensis* KAŻMIERSKI, 1978, *L. paravarsoviensis* (MOMEN & LUNDQVIST, 1996), or *L. incrustata* (KUZNETZOV, 1972). *L. snajperi* is similar to *L. terrestris* mainly by having nude setae, by empodial hooks and by the ratio of length of palpal tarsus and stiletto.

Lorryia turrialbensis BAKER, 1968

(Fig. 22)

D e s c r i p t i o n: BAKER (1968a), SALVIEJO (1969).

Body rounded, completely reticulated and characteristically strongly lobed. Solenidion ω I long and extremely slender. Empodia without claws.

R e m a r k s. BAKER described this species on the basis of the holotype female and paratypes: male, two females and two nymphs only, collected from undetermined tree in Turrialba, Costa Rica. A year later, SALVIEJO (1969) recorded a single female from citrus in Villa Verde, Philippines. However, BAKER's slide from Turrialba contains the higher number of specimens: six females, one male, five tritonymphs, seven deutonymphs, two protonymphs and two larvae. The larvae are rounded in shape, respectively 110 and 108 long, 102 and 100 broad, with typical single anabasis on tarsus I (Fig. 22C).

***Lorryia pulchra* (OUDEMANS, 1929)**

(Figs 23, 24)

Tydeus pulcher OUDEMANS, 1929a: 426

Lorryia pulcher: OUDEMANS 1929b: 481

Lorryia (L.) *pulchra*: THOR 1933

Lorryia pulchra: BAKER 1968a

Tydeus inflatus MOMEN, 1988, syn.n.

R e d e s c r i p t i o n. Slide designated as a holotype from the National Museum of Natural History in Leiden (Holland): "*Typha latifolia*. Potsdam (Germany), 30.09.1928. *Tydeus pulcher* OUDEMANS, 1929. Female, dors., type. Faure 4026.". In fact, the single specimen covered in this slide is a deutonymph.

I d i o s o m a. Rhomboidal in shape. Measurements: 192/147. Dorsal ornamentation: reticulation (type "Lorryia"). No discrete reticulate areas present. The meshes of reticulum irregular in shape: more or less as long as wide or elongated. On the aspidosoma the meshes are elongated longitudinally between the bothridial setae. The meshes are elongated transversely on the opisthosoma between the setae c1 and behind the line c1-c1, as well as between the lines d1-d1 and f1-f1. The cross-ties are irregular in shape. No visible rosettes and sigillae (see: chapter 3, remarks about rosettes). Eyes not observed. Bothridial setae (bo) whiplike and nude, more than twice longer than normal dorsal idiosomal setae. The latter ones are different in shape. The aspidosomal setae ro and la are equally broad, narrowed distally, but not sharply ended. Setae ex are rod-like. Setae c1 similar to ex. All the remaining opisthosomal setae broadened-inflated distally and truncate on their ends (they represent a "spatulate" type). All setae nude. Their length is as follows: bo – 36, ro – 14, la – 15, ex – 15, c1 – 14, c2 – 13.5, d1 – 14, e1 – 15, f1 – 15.5, f2 – 15.5, h1 – 15.5, h2 – 15.5, ps1 (terminally situated) – 14.3. Ventrally located ps2 of the same length (14), but setiform. Distances: c1-c1: 37, d1-d1: 30, e1-e1: 68, f1-f1: 18, h1-h1: 21, ps1-ps1: 12, f1-h1: 25. Lyrifissura *ia* situated nearly in half distance from c2 to e1, slightly medially to c2-e1 line. Lyrifissura *im* situated anterolaterally to e1 at the distance equal to approximately 1/5 of distance c2-e1. Ventral side striated. Between the setae mt α the striae form a narrow "V". Genital chaetotaxy: DN (2-2).

G n a t h o s o m a. When seen from above protrudes partially. Cheliceral stilettos similar in length to palpal tarsus: nymphs with palpal tarsus slightly shorter than stilettos. In adults the palpal tarsus is more elongated and slightly longer than styletto. Palpal eupathidium (p ζ) straight, with cross-piece in form of tiny and narrow triangle at the tip. Seta d not forked. Seta ba very tiny, scarcely visible. Measurements (holotype deutonymph): stilettos – 14.3, palpal femurogenu – 20/11, df – 18, dg – 15, t' – 15, t'' – 6.5, palpal tarsus – 13/5, (p ζ) – 4.8.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length 23, width – 9.5, height – 11. Length of solenidion ω I – 5.4, ft'' ζ – 22.7. Seta ft' much shorter: 8. Famulus k'' typical, strong but short, cleft distally (2.2). Solenidion ω II very small: 2. Empodial hooks absent. Claws (ol) nude.

R e m a r k s. Two species described later are very similar to *Lorryia pulchra*: *L. teresae* CARMONA, 1970 found on leaves and twigs of apple tree in Portugal and *T. inflatus* MOMEN, 1988 = *L. inflata* (MOMEN, 1988) found on twigs and bark of apple tree in Ireland. The dorsal idiosomal se-

tae of *L. teresae* seem to be broader (i.e. more spatulate) than in *L. superba* and *L. inflata*. On the Fig. 6 by CARMONA (1970) seta $tc''\zeta$ is rod-like and seta $ft''\zeta$ – spatulate. No confirmation of this character is found on Fig. 1. Moreover, seta $tc''\zeta$ is shorter than $tc'\zeta$ and seta $ft''\zeta$ is shorter than ft' – just the opposite to all remaining species of *Lorryia*. The meshes of reticulation in *L. teresae* are not as strongly elongated between setae bo , setae cl , and in dorso-central region of opisthosoma as in *L. pulchra* and *L. inflata*. The latter species was characterized by having three well visible sigillae (rosette-like areas in MOMEN's description). The sigillae or rosettes are invisible in *L. teresae* as well in the holotype of *L. pulchra*. In a number of the Hungarian specimens from Dr. G. Ripka collection determined by me as *L. pulchra*, the sigillae are also invisible. However, the remaining individuals from the same localities have more or less visible sigillae under rosettes. Sometimes only first pair, or only third pair seems to be present. These are more distinct in adults, than in nymphs: I can not find the rosettes in the Hungarian tritonymph and protonymph. These nymphs are almost identical with holotype deutonymph regarding the details of ornamentation. Taking these arguments into account (see also remarks in chapter 3) I decide to consider *Tydeus inflatus* (= *L. inflata*) as a junior synonym of *L. pulchra* (the same reasons suggest that *T. octomaculatus* MOMEN & LUNDQVIST, 1995 is a junior synonym of *L. unigena* (LIVSHITZ, 1973) – see key). The question of a final status of *L. teresae* remains open until the holotype is available for study.

All specimens of the species mentioned above were collected from trees. The Hungarian specimens of *L. pulchra* from Dr. G. RIPKA collection were taken from *Acer pseudoplatanus* (three females), *A. campestre* (male), *Cornus sanguinea* (female), *Alnus glutinosa* (four females, male and protonymph) and *Tilia platyphyllos* (tritonymph). I found also the female and male collected from *Platanus* sp. in Turkish collection of Dr. S. COBANOGU.

Genital chaetotaxy of adults, tritonymph and protonymph is typical to the genus.

Lorryia reticulata (OUDEMANS, 1928)

(Figs 25, 26)

Synonyms: *Lorryia bedfordiensis* EVANS, 1952, *Lorryia polaris* WOMERSLEY, 1937 ?

Tydeus reticulatus OUDEMANS, 1928, 1929a; MOMEN & SINHA 1991: 1242

Tydeus reticulata: ANDRÉ 1980; MOMEN & SINHA 1991: 1226 (sic!); MOMEN & LUNDQVIST 1996a

Lorryia reticulatus: OUDEMANS 1929b

Lorryia (*L.*) *reticulata*: THOR 1933

Lorryia reticulata: THOR 1931; BAKER 1944; 1968a; GARMAN 1948; SINHA 1962; KUZNETZOV 1971; TREAT 1975; KARG 1975; VAINSTEIN et al. 1978; KAŻMIERSKI 1980a, 1990, 1997b; KULCZYCKI 1992; BERNINI, CASTAGNOLI & NANNELLI 1995

Lorryia bedfordiensis: EVANS 1952; BAKER 1965, 1968a; SHIBA 1969 ? (see remarks in KAŻMIERSKI 1980); MARSHALL 1970; KAŻMIERSKI 1980a; BERNINI, CASTAGNOLI & NANNELLI 1995

Tydeus bedfordiensis: ANDRÉ 1980, 1986, 1987; UUSITALO & HUHTA 1995

Lorryia polaris: WOMERSLEY 1937; BAKER 1968a

Redescription. Slide designated as a holotype from the National Museum of Natural History, Leiden, (Holland): "Francken, in baerberij, Juli 1928. Dr. Baudet, Utrecht misit. *Tydeus reticulatus* OUDEMANS 1928. Faure 3817". The slide contains four females and one tritonymph. One female seems to be marked by a red dot on the coverglass. The author chose this specimen for redescription and drawing. The remaining specimens are in poorer condition (partially with plucking distal segments of the legs and with broken dorsal idiosomal setae).

Idiosoma. With proportions typical of the genus, more rhomboidal in shape than oval. Measurements: 304/199. Dorsal ornamentation: reticulation without discrete areas. The meshes of reticulum vary in shape: alveolate and multiangular (as long as broad) in the medial part of aspidosoma, behind the line $d1-d1$, and in medially-caudal part of opisthosoma, between setae $h1$ and

ps1. Those most elongated transversely occur behind the line c1-c1 and in front of the line f1-f1. The longitudinally elongated meshes are formed mainly on the lateral sides, laterally to the line c1-d1-f2. Cross-ties "O"-shaped, the tubercles in form of short and terminally rounded rods are more or less pronounced in some places. Three clearly visible rosettes, thus, the sigillae are located at the same place, as in Fig. 25. No eyes present. Bothridial setae (bo) stiff, narrower, but slightly longer than the remaining aspidosomal setae. Dorsal setae stick-like, uniformly narrow, nude and apically blunt. These are straight or slightly bent (e. g. left c2, left h1, right ex, f2 and h2 in holotype) and relatively long. The tips of setae f1 reach to the bases of h1. Aspidosomal setae slightly narrower than opisthosomal ones, and rounded rather than truncated apically (especially ro). Length of setae: bo – 54, ro – 34, la – 40, ex – 48, c1 – 38, c2 – 52, d1 – 42, e1 – 50, f1 – 46, f2 – 60, h1 – 52, h2 – 60, dorsally situated ps1 – 52. Setae ps2 much shorter (22), sharp and setiform. Distances: c1-c1: 39, d1-d1: 39, e1-e1: 85, f1-f1: 34.5, h1-h1: 22, ps1-ps1: 17.5, f1-h1: 34.5. Lyrifissura *ia* lies on the line c2-e1 at a distance of less than 2/5 of the length of that between c2 and e1. Lyrifissura *im* lies antero-laterally to e1 at a distance equal to 1/5 of c2-e1. On the ventral side the striae occur, lying longitudinally between the metasternal setae. Genital chaetotaxy usually: AD (0,4-6-4), TN (4-4) although the tritonymph from Leiden has only three genital setae on one side.

G n a t h o s o m a. Visible from above in dorsal aspect. Stilettos of chelicerae nearly as long as the palpal tarsus. Eupathidium (p ζ) straight and cleft terminally. Seta d forked on the end. Seta ba tiny. Seta t'' very small in contrary to well developed t'. Measurements: stilettos – 23, palpal femur genu – 25/6.5, df – 21, dg – 17, t' – 20, t'' – 5.7, palpal tarsus – 24/4, (p ζ) – 8.5.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 57, width – 13, height – 16. Length of ω I – 10.3, ft' – 21, ft'' ζ – 41. Famulus k'' small (2.8) and cleft distally. Solenidion ω II much smaller (2.8) than ω I. Empodial hooks (om) present, but not strong. Claws (ol) nude.

R e m a r k s. There are five species very similar to each other: *Lorryia superba* OUDEMANS, 1925, *L. reticulata* (OUDEMANS, 1928), *L. polaris* WOMERSLEY, 1937, *L. bedfordiensis* EVANS, 1952 and *L. stefani* (ANDRÉ, 1987). The first one is mysterious by having a single claw (ol) on each apotele (individual anomaly ?), although the remaining features are as in the generic diagnosis (OUDEMANS 1925, 1927). However, apart from the claws, there are no important differences between *L. superba* and *L. reticulata*. The holotype of *L. superba* is lost, but the figure drawn by OUDEMANS shows the main species features sufficiently. Therefore, if the lack of a second claw in *superba* holotype is anomalous, then the possibility of treating *L. reticulata* as a junior synonym of *L. superba* would be worth consideration.

There are no differences between the holotype of *L. reticulata* from Leiden and that of *L. bedfordiensis* from the British Natural History Museum. Therefore, *L. bedfordiensis* is a junior synonym of *L. reticulata*. The holotype of *L. polaris* is unfortunately not available for study. The differentiating diagnosis between *L. bedfordiensis* and *L. stefani* was presented precisely by ANDRÉ (1987). However, many specimens determined as *L. reticulata* or *L. bedfordiensis*, including both holotypes, have indirect features and it is hard to decide whether they look similarly to ANDRÉ's figures of *bedfordiensis*, or *stefani*. The above remark mainly concerns the length and the shape of dorsal setae, which are longer and with two bends, i.e. similar rather to *L. stefani*, while the ornamentation resembles that of *L. reticulata*. Perhaps *L. reticulata* (= *bedfordiensis*) characterizes individual variability in that matter, as noted by BAKER (1968a).

Lorryia reticulata is a very common and widespread (probably cosmopolitan) species described from Holland, and collected from many other European countries, from Crimea and Georgia, as well as from the USA and Canada. According to the author's observations, it prefers xerothermic slopes, straw, hay, stored grain, the nests of birds and mammals, as well as synantropic habitats. It was also recorded from the "ears" (= tympana) of noctuid moths (Lepidoptera, Noctuida) (TREAT 1975). ANDRÉ (1986) studied the ecology of corticolous epiphyte dwellers and collected this species (using the name *Tydeus bedfordiensis*) in foliose lichens, fruticose lichens and crustose epiphytes. He warned that in the past this species might have been confused with very similar *L. stefani*

mentioned above – slightly differing not only in morphological details, but also with regard to preference of microhabitats.

Only four Polish localities of *Lorryia reticulata* (under the name *L. bedfordiensis*) were recorded in KAŹMIERSKI (1980a). Later (KAŹMIERSKI 1990) three additional ones were added. The author's collection moreover contains specimens from twenty new localities from Poland, three from the Czech Republic, and single localities from Slovakia, Hungary, Germany, Spain, Turkey, and Comoros.

***Lorryia danhidalgoi* sp. n.**

(Figs 27,28)

L o c u s t y p i c u s. Slovakia: vicinity of Sekulé town, near the Czech boundary. Mixed forest with birches, pines and aspens. From soil, grass, moss and ferns. 14.05.1979, A. KAŹMIERSKI leg.

T y p e r e p o s i t o r y. Holotype female (CS-003/P-3) and paratype male (CS-003/P-10) are deposited in ZMH. The remaining two paratypes males (CS-003/P-2, CS-003/P-17) are in DAM.

E t y m o l o g y. The species is named to memory of Champion Dan Hidalgo.

Body relatively large, oval, green, richly ornamented.

I d i o s o m a. Holotype female: 305/202. Males: 310/208, 305/227, 340/246. Dorsal ornamentation type "Lorryia". Aspidosoma covered with flat reticulation. Conversely, the sculpture of opisthosoma represents the "Mountains" type (KAŹMIERSKI 1989b, p.298), similarly to *Lorryia scopae* KUZNETZOV, 1975, *L. collicupata* (SCHIESS, 1981) or *Pseudolorryia edwardbakeri* KAŹMIERSKI, 1989. No discrete reticulate areas present. The cross-ties irregular in shape, mostly rounded. The tubercles weakly pronounced. Eyes located closely and laterally to setae la. Bothridial setae (bo) smooth and rather stiff. dorsal idiosomal setae lanceolate and curved in shape of sabre. They are serrated, with four rows of teeth. Setae ps1 situated terminally. Setae ps2 straight, narrowly lanceolate and nude. Length of bo – 60. Length of the other dorsal idiosomal setae (at ro to ps1): 28-35, besides the shortest ones are: ro, la and ps1. Length of ps2: 24. Distances: c1-c1: 55, d1-d1: 55, e1-e1: 103, f1-f1: 32, h1-h1: 32, ps1-ps1: 17, f1-h1: 37. Lyrifissura *ia* located posteriorly to c2 in the distance equal to 2/5 of section between c2 and e1, slightly laterally to the line c2-e1. Lyrifissura *im* lies anteriorly to the base of e1 in the distance equal to 1/5 c2-e1 and also slightly laterally to c2-e1 line. Ventral striae with rectangular tubercles. Longitudinal striation between setae mtβ. Genital chaetotaxy: AD (0,4-6-4).

G n a t h o s o m a. In most part hidden under aspidosoma and only its terminal elements visible from above. Cheliceral stilettos longer than palpal tarsus, but shorter than the combined length of palpal tarsus and (pζ). The eupathidium is ended by wedge-like cross-piece. Seta d on palpal tarsus distinctly forked. Measurements: stilettos – 19.5, palpal femurogenu – 30/15, df – 18, dg – 16, t' – 9.5, t'' – 8.5, palpal tarsus – 15.3/4.2, (pζ) – 8.2.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 47, width – 10.5, height – 12. Length of solenidion ωI – 10.5, seta ft' – 23, ft''ζ – 29, famulus k'' (stout and cleft distally) – 4, solenidion ωII – 6.5. Empodial hooks (om) well developed. Claws (ol) distinctly bent and nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *L. danhidalgoi* sp. n. resembles *L. raphignathoides* (BERLESE, 1910): both species have the sabre-shaped setae. The differences between *L. danhidalgoi* and *L. raphignathoides* are as follows:

Lorryia raphignathoides (BERLESE, 1910)

1. Dorsum of opisthosoma covered with flat reticulation.
2. Aspidosomal meshes of reticulum extremely large: 10-18μ.
3. Bothridial setae bluntly ended.

Lorryia danhidalgovi sp. n.

1. Dorsum of opisthosoma covered with reticulation of "Mountains" type.
2. Aspidosomal meshes of reticulum medium-sized: 4-7 μ .
3. Bothridial setae sharply ended.

R e m a r k s. *Lorryia danhidalgovi* sp. n. is easily recognized by having "Mountains"-type ornamentation on the opisthosoma, while the aspidosoma is covered with flat, "normal" reticulation. These characters combined with sabre-shaped, serrated setae are highly specific.

Lorryia raphignathoides (BERLESE, 1910)

(Figs 29, 30)

Lasiotydaeus (*Melanotydaeus*) *raphignathoides* BERLESE, 1910

Lorryia (*Raphitydeus*) *raphignathoides* THOR 1933

Lorryia raphignathoides: BAKER 1968a; BERNINI, CASTAGNOLI & NANNELLI 1995; KAŻMIERSKI 1997

An unique and very rare species, which seemingly resembles *Eustigmaeus segnis* (KOCH, 1836) (*Stigmaeidae*, *Raphignathoidea*) by the broad and sabre-shaped dorsal setae, as well as by the cells of reticulation. *Lorryia raphignathoides* was known so far only from *terra typica* (Italy, Palermo) and from Ireland (BAKER 1968a). The new localities are as follows:

Sweden: Lommeland, 6 km. from Svinesund, close to the Norwegian boundary. Top of the rocky hill. Spruces, birches and junipers. Ground layer with *Festuca* sp. and moss. Large stones covered with *Cladonia* sp. Large patches of moss and lichens scraped from the rocks. 14.09.1993, A. KAŻMIERSKI leg. One female (slide N° S-025).

Poland: Szczecin district. Świnoujście. Pine forest. Cluster of heathers and litter under the heathers. 20.02.1977, B. GAWROŃSKA leg. One tritonymph (slide N° T-0046 WK 1/2).

Both slides are kept in DAM. The present figures and description concern the Swedish specimens.

I d i o s o m a. Oval in shape, medium-sized. Dimensions: female: 228/142, tritonymph: 155/95. Dorsal ornamentation represents type "Lorryia". No discrete reticulate areas present. The reticulum has cells significantly larger (10-18 μ m) than those in the other known species. Moreover, in the centre of each cell the pointed areas occur, similarly as in some species of *Eustigmaeus* (*Stigmaeidae*). The cross-ties are vast and tubercles are very extensive, irregular in shape. Eyes clearly visible, located closely and laterally to setae la. Bothridial setae (bo) stout and not sharp. Other dorsal idiosomal setae sabre-shaped, characteristically bent, flat, and relatively broad, narrowed at the base and sharply ended. Only setae ps1 are different in form: stick-like and rounded (female) or narrowed distally (tritonymph). Setae ps2 needle-form, similar to the other setae on the ventral side. All setae mentioned above are slightly serrate, with exception of bo and ps2, which are smooth. Length of bo – 40. Length of ps1 – 22. Length of remaining dorsal setae – 38-44. Setae ps2 are 8 long. Distances: c1-c1: 55, d1-d1: 46, e1-e1: 110, f1-f1: 22, h1-h1: 25, ps1-ps1: 16, f1-h1: 26. Lyrifissures *ia* invisible. Lyrifissures *im* situated anterior of the base of e1, laterally to the c2-e1 line. Ventral side striated. The striae form a "V" pattern between the setae mt α and lie longitudinally between the setae mt β . Genital chaetotaxy typical for the genus: AD (0,?-6-4), TN (4-4).

G n a t h o s o m a. Completely hidden under aspidosoma. Cheliceral stiletos slightly shorter than palpal tarsus. Palpal terminal eupathidium (p ζ) "T"-shaped terminally. Seta d with forked tip. Measurements: stiletos – 16, palpal femurogenu – 24/9, df – 12, dg – 10.5, t' – 6, t'' – 4, palpal tarsus – 18/3.8, p(ζ) – 8.

L e g s. Coxal organ relatively large, in shape of "8". The femoral, genual and tibial setae situated dorsally are broadly lanceolate and distinctly serrate, as well as seta ft' on tarsus I. Tarsus+apotele I: length – 35, width – 9, height – 11. Length of ω I – 6, ft' – 20, ft'' ζ – 26.5. Length of

"Y"-shaped famulus k'' – 2.6. Solenidion ω II very small and spherical – 1.2. Empodial hooks (om) dumpy and strong. Claws (ol) nude.

R e m a r k s. The specimens from Ireland, Sweden and Poland have the setae ps1 different in shape in comparison to the remaining dorsal setae. In the original BERLESE's drawing seta ps1 is rather in form of sabre, i.e. similar to the other setae.

***Lorryia globulipalpa* sp. n.**

(Figs 31, 32)

Synonym: *Lorryia volgini* (KUZNETZOV, 1973) in KAŻMIERSKI (1990). See also comment 4 in KAŻMIERSKI (1997b).

L o c u s t y p i c u s. Poland: Kielce province, Świętokrzyskie (Holy Cross) Mts., between Częstków and Rudki villages. The lawn with *Brachypodium pinnatum* together with soil from *Peucedano-Coryletum* and *Carpino-Prunetum* thickets. 21.05.1982, W. NIEDBAŁA & A. KAŻMIERSKI leg.

T y p e r e p o s i t o r y. Holotype female (HCM 8A/W-82 P-4) is deposited in DAM.

E t y m o l o g y. The name of species refers to the spherical palpal tarsi.

Body oval, medium-sized, yellowish.

I d i o s o m a. Dimensions: 305/197. Dorsal ornamentation type "Tydeus", No reticulation present. Dorsal and ventral striae with "I"-shaped costulae. Dorsal setae set in small tear-shape areas with more tiny striation. Instead of eyes, the traces in form of swirls of striae occur. Bothridial setae (bo) long and whiplike, uniformly narrowed to the acute tip. The remaining dorsal setae (including ps1 and ps2) short, narrowly lanceolate, smooth and sharp. Length of setae: bo – 41, ro, la and ps2 – 9, ps1 – 10, the remaining ones – about 14. Distances: c1-c1: 44, d1-d1: 39, e1-e1: 102, f1-f1: 37, h1-h1: 47, ps1-ps1: 39, f1-h1: 46. Lyrifissura *ia* located posteriorly to c2 in the distance equal to 2/5 of section c2-e1 and distinctly medially to c2-e1. Lyrifissura *im* anterior of and closely to e1 (1/5 of section c2-e1), on the lateral side of c2-e1 line. Ventrally, in the metasternal region, the striae lie longitudinally. Genital chaetotaxy: AD (0,?-6-4). Setae ge and ag relatively long (in comparison to the other setae).

G n a t h o s o m a. Only its basal part covered with aspidosoma. Cheliceral stilettos strong and longer than the combined length of palpal tarsus and terminal eupathidium (p ζ). The latter element is tapering distally. There are eight setae on the left palpal tarsus and seven setae on the right one in the holotype (including eupathidium). This unique state seems to be as anomaly: a result of doubling of setae d and l'' on the left side and setae d on the right side. All the palpal tarsal setae are simple (not forked). Setae l'' set more proximally than l', just the opposite to usual state. Palpal solenidion (ω) is big and dumpy. Palpal tarsus spherical, as long as broad. Measurements: stilettos – 18, palpal femurogenu -18/13, df – 14, dg – 10, t' – 13, t'' – 6, palpal tarsus – 6.3/6.3, (p ζ) – 7.3.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 34, width – 12, height – 14.3. Both leg solenidions lanceolate, rounded distally, but different in size: ω I – 9.5, ω II – 2.8. Seta ft' – 13, ft'' ζ – 15. Famulus k'' stout, of equal thickness throughout its length, 2.8 long. Empodial hooks (om) present, although their blades are shorter than empodial chetoids. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. Apart from the fact of an abnormal palpal tarsal chaetotaxy, the new species is most similar to *Lorryia volgini* (KUZNETZOV, 1973). The species may be distinguished by the following differences:

Lorryia volgini (KUZNETZOV, 1973)

1. Gnathosoma completely visible in front of anterior edge of aspidosoma.
2. Stilettos two times longer than palpal tarsi, which are 1.5 times longer than their width.

3. Solenidion ω I (6 μ m long) not reaching the base of (tc).
4. Empodial hooks (om) strongly developed: their curved blades are longer than empodial chetoids.
5. Seta I'' lies closer to tip of palpal tarsus than I'.
6. (p ζ) cleft distally.

Lorryia globulipalpa sp. n.

1. Basal part of gnathosoma hidden under aspidosoma.
2. Stilettoes nearly three times longer than palpal tarsi, which are spherical.
3. Solenidion ω I (9.5 μ m long) reaching the base of (tc).
4. Empodial hooks (om) poorly developed: their curved blades are shorter than empodial chetoids.
5. Seta I' lies closer to tip of palpal tarsus than I''.
6. (p ζ) tapering distally.

Lorryia brevicula (KOCH, 1838)

(Figs 33-35)

Synonym: *Tydeus curtus* BERLESE, 1910

Tydeus breviculus KOCH, 1838, 1842

Brachytydeus breviculus: THOR 1931, 1933

Lorryia brevicula: KAŻMIERSKI 1997b

Tydeus curtus: BERLESE 1910; THOR 1933; BERNINI, CASTAGNOLI & NANNELLI 1995

Body widened and dorsally striated, dorsal setae smooth and tiny, palpal tarsus short and tubby as well as curved palpal tarsal eupathidium with terminal cross-piece reveal a characteristic picture of this species, sufficiently visible also in old figures (e. g. THOR 1933, Fig. 44). The holotype is lost. A knowledge of distribution of *L. brevicula* is limited to a few records only (Germany, Italy, Norway), however, it seems to be common in some habitats. There are many new localities of this species in the author's collection. Four of them are given below:

Poland: Gorzów province, west edge of Przytoczna settlement. Old pine forest mixed with young oaks, with an admixture of *Acer* sp. and *Robinia pseudoacaccia*. Junipers on the edge of forest. Soil from young oak, sod of *Festuca ovina*, litter of conifer needles from pine, dry detritus from old oak and moss from *Robinia*. 07.06.1981, A. KAŻMIERSKI leg.

Slide T-0181/P-2, protonymph.

Poland: Krosno province, Dąbrówka Starzeńska village near Dynów town. Old park with old deciduous trees with poor grass undergrowth. Lawn, moss and detritus from the ruins of castle, also leaves and detritus from hollow scooped out in a tree trunk. 23.09.1981, A. KAŻMIERSKI & W. NIEDBAŁA leg.

Slides: T-0267/P-5, tritonymph ; T-0267/P-9, tritonymph.

Poland: Bydgoszcz province, 8 km from Szubin town on the line Szubin-Żnin. Maple-tree copice with sparsely distributed old pines. Litter and dry leaves on the ground. 07.10.1984, A. KAŻMIERSKI leg.

Slides from series N^o T-0293, four females, one male, twenty tritonymphs and one deutonymph.

Poland: Sieradz province, near Potok settlement (ca 4 km. from Złoczów town). Mixed forest dominated by beech. From moss, bark and agaric on fallen birch trunk. 03.06.1986, J. RAFALSKI & A. KAŻMIERSKI leg.

Slides from series N^o T-0296, five females with egg inside, twenty two other females, four males, three deutonymphs, thirty nine protonymphs and four larvae.

The specimens mentioned above are deposited in DAM. The present description and dimensions relate to selected specimens: female from the slide T-296/P-14, male from the slide T-0293/P-8, tritonymph from the slide T-0267/P-5, deutonymph from the slide T-0293/P-5, protonymph from the slide T-0181/P-2 and larva from the slide T-0296/P-10. The figures concern female and protonymph only.

Female. I d i o s o m a. Dimensions: 237/180. Ornamentation: reticulate pattern absent, striation type "Tydeus" (Fig. 33), although in other specimens arrangement of striae represents also subtypes "Mesoparalorryia-incerta", "Paralorryia-incerta", or even "Paralorryia s. str.". This variability seems to be characteristic for the species. Striae provided with rods and "I"-shaped costulae. Delicately striated tear-shape areas around the bases of dorsal setae occur. Eyes located laterally and very closely to setae la. Bothridial setae (ba) long, smooth and whiplike, with slender and flabby distal half. Dorsal idiosomal setae flimsy, very tiny, slightly bent, nude, narrowly lanceolate and sharply ended. Length of setae: bo – 90, the remaining ones (together with ps1 and ps2) – 11-14 (ro, cl and ps1 are shortest ones). Distances: cl-cl: 50, d1-d1: 37, e1-e1: 88, fl-fl: 29, h1-h1: 31, ps1-ps1: 20, fl-h1: 32 (dorsal setae significantly shorter than 1/2 distance fl-h1). Lyrifissures distributed as in *Lorryia globulipalpa* sp. n. (see above). Ventral striae form very narrow "V"-pattern between the metasternal setae. Genital chaetotaxy: (0-6-4).

G n a t h o s o m a. Visible from above. Cheliceral stilettos insignificantly longer than the combined length of palpal tarsus and terminal eupathidium. Eupathidium (pč) curved, with wedge-like cross-piece on the end. Seta d forked distally. Palpal tarsus short: only two times longer than wide. Measurements: stilettos – 16.5, palpal femurogenu – 36/15, df – 16, dg – 14, t' – 12, t'' – 7, palpal tarsus -8.8/4.4, (pč) – 5.2.

L e g s. Coxal organ oval. Tarsus+apotele I: length – 30, width – 10.7, height -12. Length of ωI – 5.2, ft' – 11, ft'ζ – 17.4, broadened distally k'' – 3.8, ωII – 2.0. Empodial hooks (om) hardly visible, in form of small and scarcely bent thorn.

Male. I d i o s o m a: 243/180. Genital chaetotaxy: (4-6-4).

Tritonymph. I d i o s o m a: 214/171. Genital chaetotaxy: (4-4).

Deutonymph. I d i o s o m a: 184/131. Genital chaetotaxy: (2-2).

Protonymph. I d i o s o m a: 153/120. Genital chaetotaxy: (0-1). Epimeral formula: (3-1-3-0). Trochanter formula: (0-0-1-0).

Larva. I d i o s o m a: 112/84. Epimeral formula: (3-1-2). Trochanter formula: (0-0-0). Both tectals on tarsus I are vestigial and anabasis is single (see ANDRÉ 1981b, p.170 and KAŻMIERSKI 1993, p. 66), although seta p'č set in half way between its former position and position of tc'.

R e m a r k s. There are four similar species: *L. brevicula* (KOCH, 1838), *L. aberrans* (OUDEMANS, 1932), *L. volgini* (KUZNETZOV, 1973), and *L. globulipalpa* sp. n. The following features are shared: the absence of reticulation, striation type "Tydeus", long and whiplike bothridial setae, the remaining dorsal setae short, narrowly lanceolate, nude and sharply ended as well as the short and dumpy palpal tarsi, not longer than their double width. The differences concern:

1. The shape of (pč).
2. Ratio of length to width of palpal tarsus.
3. Ratio of length of palpal tarsus + (pč) to length of styletto.
4. Proportion's coefficient of idiosoma (length/width).
5. Stability of arrangement of dorsal striation.

L. globulipalpa has almost straight and acute eupathidium (pč). Curved (pč) with wedge-like cross-piece characterizes the remaining species. Spherical palpal tarsus (ratio 1/1) is characteristic for *L. globulipalpa*, ratio 1.5/1 – for *L. volgini*, ratio 2/1 – for *L. brevicula* and *L. aberrans*. In all cases the stilettos are slightly, or distinctly longer than combined length of palpal tarsus and terminal eupathidium. *L. brevicula* is the broadest species (coefficient: 1.3). Coefficients for the remaining species are as follow: *volgini*: 1.6, *globulipalpa*: 1.6, *aberrans*: 1.8-2.0. Inconstancy of

arrangement of dorsal striation relates to *L. aberrans* and, especially, *L. brevicula*, in which the striation type "Tydeus" (usually), and subtypes "Mesoparalorryia-incerta", "Paralorryia-incerta" or "Paralorryia s. str." may occur.

The most similar species to those mentioned above are: *L. nuda* (KARG, 1992), *L. danielssoni* (MOMEN & LUNDQVIST, 1995), *L. frekei* (MOMEN & LUNDQVIST, 1996), *L. sleipneri* (MOMEN & LUNDQVIST, 1996), *L. (?)* LUNDQVISTI (MOMEN & SOLHØY, 1996) (Generic Unit), *L. perlata* sp. n. (see below) and *L. saga* (LIVSHITZ, 1973). The differences as in the key.

***Lorryia perlata* sp. n.**

(Figs 36-38)

L o c u s t y p i c u s. Nepal: Sanctuary of Annapurna (way to Raski). Moss and lichens. Altitude 4400 meters above the sea level. 08.09.1981, H. DASTYCH leg.

T y p e r e p o s i t o r y. The holotype female (NP – 010) is deposited in ZMH.

E t y m o l o g y. The name of the new species derives from the Latin word "perlatus" which means "very broad".

Body dark green, large and extremely broadened (ratio of length to width: nearly 10/9).

I d i o s o m a. Dimensions: 310/269. Dorsal ornamentation represents subtype "Mesoparalorryia-incerta". No reticulation present. Striae thick with tubercles different in shape: usually semicircular, or in form of truncated cones. Eyes not observed. Bothridial setae (bo) whiplike, about three times longer than the remaining dorsal setae. The latter ones are lanceolate, sharply ended and densely covered with sharp and relatively long teeth. Length of setae: bo – 81.5, la – 25, ex – 28, cl – 25, c2 – 27, d1 – 25, e1 – 24, fl – 26, f2 – 31, h1 – 26, h2 – 30, ps1 – 23 (ventrally situated). Setae ps2 are 26 long, acute but nude. Distances: cl-cl: 83, d1-d1: 62.5, e1-e1: 137.5, fl-fl: 51, h1-h1: 54.5, ps1-ps1: 20, fl-h1: 44.5. Lyrifissura *ia* located posteriorly to c2 in the distance approximately equal to 2/5 of section between c2 and e1, medially to line c2-e1. Lyrifissura *im* lies anteriorly to e1 in the distance slightly shorter than 1/4 of c2-e1, slightly laterally to c2-e1 line. Ventral side more delicately striated. The striae form "V" pattern between setae (mt). Genital chaetotaxy: (0-6-4).

G n a t h o s o m a. Strongly protrudes in front of the anterior edge of aspidosoma. Cheliceral stilettos indistinctly longer than the palpal tarsus with its terminal eupathidium. Eupathidium (pζ) bent, narrowed terminally, with "T"-shaped tip, and slightly longer than 1/2 length of palpal tarsus. Seta l' forked distally, seta ba very small. Palpal tarsus short and dumpy. Measurements: stilettos – 24.2, palpal femurogenu – 20.6/12, df and dg – 15.5, t' – 16.4, t'' – 8.6, palpal tarsus – 14.4/11.9, (pζ) – 8.2.

L e g s. Coxal organ oval with slanting cross-piece. Tarsus+apotele I: length – 43, width – 18, height – 20. Length of solenidion ωI – 11.7, ft' and ft''ζ – 26.5. Famulus k'' (4.7) broadened and cleft distally. Solenidion ωII 5.8 long. Empodial hooks (om) occur. Claws (ol) with serrated ventral concave edges.

D i f f e r e n t i a t i n g d i a g n o s i s. *Lorryia perlata* sp. n. is compared with *L. danielssoni* (MOMEN & LUNDQVIST, 1995) as follows:

***Lorryia danielssoni* (MOMEN & LUNDQVIST, 1995)**

1. Idiosoma commonly elongated (ratio of length to width – ca 10:6).
2. Reticulation forms small area AA0.
3. Striae with "I"-shaped costulae.
4. Stilettos shorter than palpal tarsus together with (pζ).
5. Dorsal idiosomal setae acciculate and nude.
6. Empodial hooks absent.

Lorryia perlata sp. n.

1. Idiosoma broadened (ratio of length to width – nearly 10:9).
2. Reticulation absent.
3. Striae with tubercles.
4. Stilettos longer than palpal tarsus together with (pč).
5. Dorsal idiosomal setae lanceolate and serrate.
6. Empodial hooks present.

R e m a r k s. *Lorryia perlata* sp. n. is easily distinguished by the combination of the following features: general proportions of the body, dorsal ornamentation, short and dumpy palpal tarsi and tarsi of the legs, lanceolate and distinctly serrate setae. The new species is the second one described from the Himalayan region. The first one, *Lorryia* (?) *lundqvisti* (MOMEN & SOLHØY, 1996) resembles *L. perlata* in the subtype of dorsal striation and in the shape of palpal tarsus. However, all setae in *L. lundqvisti* are smooth and “I”-shaped costulae occur on the striae instead of thick tubercles. Moreover, the trochanter formula of female is unique by the lack of seta trIII (MOMEN & SOLHØY 1996) (see below: Generic Unit of *Lorryia*).

Lorryia incomperta sp. n.

(Figs 39-41)

L o c u s t y p i c u s. Peru: near the way from Hanguenaco to Base Cook. *Chinua* shrubs (southern exposition). Altitude 4600 meters above the sea level. 03.08.1976, J. MICHEJDA leg.

T y p e r e p o s i t o r y. Holotype female is deposited in ZMH (slide N° PE-013A/P-1).

E t y m o l o g y. The Latin word “incompertus” means “not investigated”, “uncertain”.

Body large, oval, green.

I d i o s o m a. Female: 338/207. Dorsal side striated with addition of a few small reticulate areas. Striation subtype “Paralorryia s. str.”. Reticulum forms the following areas: AA0, A $\frac{0}{[bo]}$, A $\frac{0}{[bo]}$,

A0[c2], A[c2]0, Ah2h1, Ah1h2. Strial tubercles in shape of tiny cones with more or less rounded tops. Cross-ties of reticulum square-shaped. Eyes present. Bothridial setae (bo) whiplike, long, with flimsy and flabby terminal part. Common dorsal idiosomal setae blunt or plainly truncated distally, delicately serrated and different in length, although some of them seem to be broken. Length of setae: bo – 77, ro – 9, la – 19, ex – 21, c1 – 13, c2 – 23, d1 – 10.5, e1 – 23.5, f1 – 13, f2 – 16, h1 – 21, h2 – 15, ps1 – 12. Setae ps2 slender and setiform, 18 long. Distances: c1-c1: 61.2, d1-d1: 59.7, e1-e1: 125, f1-f1: 38.2, h1-h1: 43.7, ps1-ps1: 19.5, f1-h1: 44.8. Lyrifissura *ia* located posteriorly to c2 at a distance equal to 1/3 of c2-e1. Lyrifissura *im* lies anteriorly to e1 and directly on the line c2-e1, at a distance slightly longer than 1/5 of c2-e1. Ventral side with more subtle striation. The striae form a “V”-shaped pattern between the metasternal setae. Genital chaetotaxy: (0-6-4).

G n a t h o s o m a. Visible from above. Cheliceral stilettos shorter than palpal tarsus. Eupathidium (pč) curved, narrowed terminally and shorter than 1/2 length of its segment. Tip of (pč) “T”-shaped. Seta d forked distally, seta ba not longer than 1/4 of width of palpal tarsus. Measurements: stilettos – 16, palpal femurogenu – 31/15, df – 22.6, dg – 16.4, t' – 15.6, t'' – 7.8, palpal tarsus 25/6.2, (pč) – 10.

L e g s. Coxal organ “8”-shaped. Tarsus+apotele I: length – 49.5, width – 14, height – 15.2. Solenidion ωI bent and very long (15.6); longer than the width and height of tarsus. Setae ft' (13.5) shorter than 1/3 of length of setae ft''ζ (43.1). Bifurcate famulus k'' 3.1 long and ωII 7.8 long. Empodial hooks (om) moderately developed. Claws (ol) with subtly serrated ventral edges.

D i f f e r e n t i a t i n g d i a g n o s i s. The new species is most similar to *Lorryia mali* (OUDEMANS, 1929) and to *L. celtides* (UECKERMANN & SMITH MEYER, 1979). The five characters distinguishing *L. incomperta* sp. n. and *L. mali* are as follows:

Lorryia mali (OUDEMANS, 1929)

1. Reticulate areas: AA0 occurs only.
2. Solenidion ω I shorter than width of tarsus.
3. Eupathidium ($p\zeta$) longer than 1/2 length of palpal tarsus.
4. Cheliceral stilettos not shorter than the palpal tarsus.
5. Dorsal idiosomal setae similar in length, longer than 1/2 length of bothridial setae.

Lorryia incomperta sp. n.

1. Besides AA0, two small reticulate areas anterior of (bo) on the aspidosoma, and three pairs of reticulate areas on the opisthosoma occur.
2. Solenidion ω I longer than width of tarsus I.
3. Eupathidium ($p\zeta$) shorter than 1/2 length of palpal tarsus.
4. Cheliceral stilettos shorter than the palpal tarsus.
5. Dorsal setae different in length, but none of them is equal in length to 1/2 of bothridial setae.

Also *L. celtides* differs from the new species in a few features:

Lorryia celtides (UECKERMANN & SMITH MEYER, 1979)

1. Reticulate areas: AA0, A[f1]0[f1]. Moreover, some irregular meshes anteriorly and posteriorly to the line d1-d1 may occur.
2. Dorsal idiosomal setae unequal in shape, but subequal in length.
3. Empodiae without hooks (om).
4. Solenidion ω I short: shorter than 1/2 of height of tarsus.

Lorryia incomperta sp. n.

1. Reticulate areas: AA0, $A\frac{0}{[bo]}$, $A\frac{0}{[bo]}$, A0[c2], A[c2]0, Ah2h1, Ah1h2.
2. Dorsal setae not subequal in length, but subequal in shape.
3. Empodiae with hooks (om).
4. Solenidion ω I long: slightly longer than height of tarsus.

Lorryia akelai sp. n.

(Figs 42-44)

L o c u s t y p i c u s. India: Kashmir, vicinity of Khalse settlement. Litter, pieces of wood and goats excrements near the stream in the moist scrubs composed mainly with *Salix* sp. 09.09.1976, C. BŁASZAK & J. BŁOSZYK leg.

T y p e r e p o s i t o r y. Holotype tritonymph (IND-009/P-1) is deposited in ZMH, paratype tritonymph (IND-009/P-5) in DAM.

E t y m o l o g y. The name of species is derived from the name of white wolf, Akela (Rudyard KIPLING: "The Jungle Book").

Body relatively elongated and glittering white.

I d i o s o m a. Holotype tritonymph: 318/174.5, paratype tritonymph: 308/166. Dorsal ornamentation: striation type "Paralorryia", subtype "Paralorryia s. str." AA0 present, although dorsal side of aspidosomal "eaves" is longitudinally striated: meshes of reticulum seen only in the frontal view and well developed ventrally (Fig. 43A). Striae broad with extensive tubercles in shape of flat semi-circles. The bases of tubercles are larger than distances between them. Eyes present. Bothridial setae (bo) whiplike, nude and longer than the double length of the remaining dorsal setae. The latter ones are straight and of equal thickness throughout their length with exception of tips which are narrowed, but not acute. The surfaces of setae are covered with small and sharp teeth. Length of setae: bo-60, ro-20, la-20, ex-22, c1-21, c2-24, d1-22, e1-23.5, f1-27, f2-29, h1-28, h2-29, ps1-28. Setae ps1 situated ventro-terminally, setae ps2 slender, setiform, 16 long. Distances: c1-c1: 46, d1-d1: 39, e1-e1: 98, f1-f1: 36, h1-h1: 28.5, ps1-ps1: 41, f1-h1: 45. Lyrifissura *ia* located posteriorly to c2 in a distance equal to 1/3 of section c2-e1, medially and very closely to c2-e1. Lyrifissura *im* lies anteriorly to e1 in a distance slightly longer than 1/4 of c2-e1. It fits close laterally to the c2-e1 line. Ventral side more subtly striated. Centrally, between metasternal setae the striation is longitudinal. Genital chaetotaxy: TN (4-4).

G n a t h o s o m a. Only its basal part is hidden under aspidosoma: the main part is visible from above. Cheliceral stilettos shorter than palpal tarsus, but distinctly longer than 1/2 of length of that segment. Eupathidium (p ζ) slightly bent, uniformly narrowed, with "T"-shaped end, shorter than 1/2 of length of palpal tarsus. Seta d forked distally, seta ba relatively well developed; not shorter than 1/3 of width of palpal tarsus. Measurements: stilettos - 16.5, palpal femurogenu - 24.3/8.2, df-21, dg-15.8, t'-12, t''-7, palpal tarsus - 22.6/5.1, (p ζ) -9.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length - 41.7, width - 13.3, height - 14. Solenidion ω I - 6.6, ft' - 16, ft'' ζ - 24. Famulus k'' forked distally, 3.9 long. Solenidion ω II - 2.7. Empodial hooks (om) long, thick and strongly bent on the ends. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *Lorryia akelai* sp. n. is similar to *L. bakeri* (ZAHER & EL BAGOURY, 1981) from Egypt. The other similar species are: *L. exiguelitteratus* (MOMEN & LUNDQVIST, 1995), *L. gerei* (MOMEN & LUNDQVIST, 1996), *L. woolleyi* (BAKER, 1968), in a lesser degree also *L. ferula* BAKER, 1944 and *L. mali* (OUDEMANS, 1929). Three main differences between *L. bakeri* and *L. akelai* sp. n. are given below:

Lorryia bakeri (ZAHER & EL BAGOURY, 1981)

1. Eupathidium (p ζ) without "T"-shaped tip.
2. Lack of reticulate pattern.
3. Empodial hooks (om) absent.

Lorryia akelai sp. n.

1. Eupathidium (p ζ) with "T"-shaped tip.
2. A few meshes of reticulum occur under the frontal edge of aspidosoma.
3. Empodial hooks (om) well developed.

The differences between *L. akelai* sp. n., *L. exiguelitteratus*, *L. gerei* and *L. woolleyi* are given in the key.

***Lorryia italica* (OUDEMANS, 1928)**

(Figs 45-46)

Tydeus italicus OUDEMANS, 1928

Brachytydeus italicus: THOR 1933

Paralorryia italica: BAKER 1968b

Lorryia italica: BERNINI, CASTAGNOLI & NANNELLI 1995

R e d e s c r i p t i o n. Slide designated as a holotype from the National Museum of Natural History in Leiden (Holland): "3519. Steelgroeve van sinaasappel. Breda. 1926. Dr. J. Bes-seling.". The specific name suggests its Italian origin and it is mentioned in a check-list of the Italian fauna (BERNINI, CASTAGNOLI & NANNELLI 1995). Thus, although locus typicus of *L. italica* seems to be doubtful (Breda?), the phrase from the original description of OUDEMANS ("Deze soort is dus vermoedelijk in Italië inheemsch") is decisive in this matter. The slide mentioned above contains a single tritonymph, which is in a very bad condition (slightly twisted and with crystalized substance inside).

I d i o s o m a. Tritonymph: 192/110. Body striated; reticulate pattern limited to the region AA0. Striation type "Paralorryia", subtype "Paralorryia s. str.". Striae thick, broadly placed to each other. Lateral view of stria tubercles resembles rectangles or semi-circles. No eyes present. Nymphal dehiscence line (δ) on aspidosoma well visible anteriorad of setae ro. Bothridial setae stout, stiff (rod-like) and relatively short: not longer than the main part of the remaining dorsal idiosomal setae. The latter ones are different in shape: ro, la, ex, c1, c2, d1 and e1 are sharp on the ends and bent like a sabre. Setae fl are blunt, but with rounded tips, the remaining setae are blunt and truncated distally. All setae set in tear-shaped and more delicately striated areas. Setae fl reach to the bases of h1. Setae ps2 are setiform. Length of setae: bo – 28, ro – 18, la – 30.5, ex – 32.5, c1 – 32.5, c2 – 35, d1 – 32.5, e1 – 47.5, fl – 29.5, f2 – 32.5, h1 – 30.5, h2 – 30.5, ps1 – 25.5, ps2 – 9. Distances: c1-c1: 29, d1-d1: 19.5, e1-e1: 58, fl-fl: 14.5, h1-h1: 17, ps1-ps1: 13.7, h1-fl: 27.3. Lyrifissura *ia* located posteriorly to c2 in a distance equal to 2/5 of section c2-e1 and slightly medially to line c2-e1. Lyrifissura *im* lies anteriorly to c2 in a distance equal to 1/5 of section c2-e1, distinctly laterally to c2-e1 line. Ventral side striated, although the striae are more subtle. They are arranged longitudinally between setae mt. Genital chaetotaxy of holotype tritonymph is somewhat atypical by the lack of seta ge4 on the left side (4/3-4) (Fig. 4G).

G n a t h o s o m a. Visible from above. Cheliceral stilettos similar in length to palpal tarsus. Eupathidium (p ζ) straight, with a wedge-like cross-piece on the tip. Seta d forked distally, seta ba very small, seta l' stout. Measurements: stilettos – 16.2, palpal femurogenu – 25/10.4, df – 18, dg – 14, t' – 11.5, t'' – 4.3, palpal tarsus – 17/4, (p ζ) – 7.5.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 36, width – 9.8, height – 11.5. Solenidion ω I curved and long (11.3). Seta ft' (15) much shorter than ft'' ζ (31). Famulus k'' (1.7) widened terminally as a fan. Solenidion ω II small (2.3). Empodial hooks (om) poorly developed. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. There are three very similar species: *L. mali* (OUDEMANS, 1929), *L. ferula* BAKER, 1944 and *L. italica* (OUDEMANS, 1928), however, the latter two species seem to be most closely related. The differences include three features.

Lorryia ferula BAKER, 1944

1. Setae fl sharp
2. Empodial hooks (om) stronger, relatively well developed.
3. The surfaces of dorsal idiosomal setae very subtly serrated ("rough") – feature visible only under immersion.

Lorryia italica (OUDEMANS, 1928)

1. Setae fl blunt
2. Empodial hooks (om) small, poorly developed.
3. The surfaces of setae seem to be smooth also under immersion.

Lorryia amica sp. n.

(Figs 47-49)

L o c u s t y p i c u s. Hungary: 44 km from Budapest near the road to Tatabanya. Young deciduous forest (*Quercus* sp., *Robinia* sp., scrubs) with rich undergrowth (*Lactuca muralis*, *Galium* sp., *Astragalus glycyphyllus*, *Veronica* sp., *Euphorbia hyparysias*, *Evonymus* sp.) on the small, sunny hill. From soil and dry leaves. 14.05.1979, A. KAŻMIERSKI leg. Female (holotype).

O t h e r l o c a l i t y. Turkey: Ankara. From *Cotoneaster bullatus* (Rosaceae). 29.06.1995., S. COBANOGU leg. Female and male (paratypes).

T y p e r e p o s i t o r y. Holotype female (H-001/P-6) is deposited in DAM. Paratypes: female (35/73/97) and male (60/83) are preserved in the Department of Plant Protection, Agricultural Faculty, Ankara University.

E t y m o l o g y. The name of species means a traditional, Polish-Hungarian amity.

Body medium-sized, elongate oval, light brownish.

I d i o s o m a. Holotype female: 280/180, paratype female: 287/183, paratype male: 284/189. Dorsal striation represents type "Paralorryia", subtype indirect between "Paralorryia s. str." and "Veniparalorryia". Striation limited to the small area AA0 and a few meshes, which lie centrally between the lines bo-bo and c1-c1, on the rear of aspidosoma. Tubercles on the striae in shape of slightly flattened hemispheres. Eyes not observed. Bothridial setae lanceolate, nude, sharply ended, rather stiff and not long: only slightly longer than the normal dorsal setae. Setae ro, la, ex, c, d, e, and f slightly bent, narrowly lanceolate and sharp. The remaining ones (h, ps1) are blunt – rounded distally. All dorsal setae with subtle serration. Lengths: bo – 30.5, ro – 25.5, la – 30.5, ex – 29, c1 – 27.3, c2 – 28, d1 – 29.3, e1 – 26.5, f1 – 27.3, f2 – 30, h1 – 29.3, h2 – 28, ps1 – 23.5. Setae ps2 (7) smooth, slender and needle-shaped. Distances: c1-c1: 45, d1-d1: 43.7, e1-e1: 97.5, f1-f1: 33.5, h1-h1: 30, ps1-ps1: 23, f1-h1: 33. Lyrifissura *ia* lies posteriorly to c2 in a distance nearly equal to 2/5 of section c2-e1, slightly medially to c2, but closely to the line c2-e1 on its lateral side. Lyrifissura *im* anterior of e1, at a distance equal to 1/5 of c2-e1 and distinctly laterally to c2-e1 line. Ventral striation more delicate. Between setae mt the striae parallel to each other, in conformity with main body axis. Genital chaetotaxy: female (0-6-4), male (4-6-4).

G n a t h o s o m a. Visible from above. Cheliceral stilettos shorter than palpal tarsus. Eupathidium (pç) slightly shorter than 1/2 of length of palpal tarsus, subtlly bent, uniformly narrowed to the end, with "T"-shaped tip. Seta d apparently simple, seta ba as long as 1/2 of width of its segment. Measurements: stilettos – 15.5, palpal femurogenu – 24/10, df – 17.5, dg – 15.5, t' – 14.8, t'' – 5.5, palpal tarsus – 18.7/3.9, (pç) – 7.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 45.5, width – 12, height – 13. Length of narrowed terminally ω 1 – 8.2, length of ft' – 15.3, ft''ç – 27.7. Famulus k'' with triple tip, 2.7 long. Solenidion ω II small (2.4). Empodial hooks (om) poorly developed: their curved blades are shorter than the length of empodial chetoids. Ventral edges of claws (ol) "rough".

D i f f e r e n t i a t i n g d i a g n o s i s. There are a few differences only between *L. amica* sp. n. and *L. ferula* BAKER, 1944. The latter species is probably most closely related.

Lorryia ferula BAKER, 1944

1. Reticulation limited to AA0 only.
2. Setae f2 blunt.
3. Empodial hooks (om) strong (clearly visible).
4. Bothridial setae of equal thickness throughout their length (rod-like).

Lorryia amica sp. n.

1. Two small reticulate areas on aspidosoma occur: AA0 and $A \frac{[bo]_0 [bo]}{[cl] [cl]}$.
2. Setae f2 sharp.
3. Empodial hooks (om) very tiny (poorly visible).
4. Bothridial setae (bo) narrowly lanceolate.

Lorryia blaszaki sp. n.

(Figs 50-52)

L o c u s t y p i c u s. India: Kashmir, near Srinagar in the direction of Kargil. Slope of a mountain above road, 20 km from Sonamarg town. Pine-spruce-fir forest with addition of hazel. Undergrowth with wild strawberry, clover and high grass. 06.09.1976, C. BLASZAK & J. BŁOSZYK leg.

T y p e r e p o s i t o r y. Holotype male (IND-004/P-3) is deposited in ZMH. Paratypes: male (IND-004/P-6), and tritonymphs (IND-004/P-2), (IND-004/P-4), (IND-004/P-5) are deposited in DAM.

E t y m o l o g y. The new species is named in honour of Prof. Czesław Karol BLASZAK (Poznań).

Body large, oval, greenish.

I d i o s o m a. Holotype male: 345/207, paratype male: 332/207, paratype tritonymphs: 297/183, 312/174 and 297/162, respectively. Striation type "Paralorryia", subtype "Mesoparalorryia". A reticulation absent. Striae provided with rods. Small eyes located between setae la and ex. Bothridial setae (bo) whiplike, nearly three times longer than the longest normal dorsal idiosomal setae. The latter are narrowly lanceolate, narrowed to the ends but not sharp, delicately serrated. Length of setae: bo – 60.5, ro – 14.5, la – 13.5, ex – 17.5, c1 – 15.5, c2 – 17, d1 – 15.5, e1 – 17, f1 – 17, f2 – 17, h1 – 17, h2 – 18.5, ps1 – 17. Setae ps2 similar in length to dorsal ones (15), but smooth and flabby. Distances: c1-c1: 54.5, d1-d1: 49.5, e1-e1: 100, f1-f1: 48, h1-h1: 43, ps1-ps1: 26, f1-h1: 40. Lyrifissura *ia* located posteriorly to c2 in the distance approximately equal to 1/3 of section c2-e1, medially to c2-e1. Lyrifissura *im* lies anteriorly to e1 in a distance being at least slightly longer than 1/10 of c2-e1, slightly laterally to c2-e1 line. Ventral side more delicately striated. Between metasternal setae the striae form "V"-shaped pattern. Genital chaetotaxy: male (4-6-4), TN (4-4).

G n a t h o s o m a. Protrudes in front of the anterior edge of aspidosoma. Cheliceral stilettos distinctly shorter than palpal tarsus. Eupathidium (pζ) three times shorter than its segment, subtly bent, uniformly narrowed to the end, with "T"-shaped tip. Seta d forked distally, vestigial seta ba slightly shorter than 1/2 of width of palpal tarsus. Palpal solenidion ω relatively well developed, as long as ωII on tarsus II. Measurements: stilettos – 17.5, palpal femurogenu – 28/14, df – 20.7, dg – 15.6, t' – 13, t'' – 6.2, palpal tarsus – 25.7/5.8, (pζ) – 8.5.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 53, width – 13.5, height – 14. Length of ωI – 8.2, ft' – 20, ft''ζ – 25.3. Famulus k'' relatively long (5.5), slender and forked distally. Solenidion ωII – 3.9. Empodial hooks (om) well developed: as broad as claws (ol) and slightly longer than 1/3 length of ol.

Left leg IV in holotype is anomalous, without tarsus and apotele. Distal segment: more or less square-shaped tibia ended by nine setae (Fig. 52 M); one of them distinguishing by its thickness and by the shape of a sabre. The second one, very tiny and similar to ba on palpal tarsus occurs closely to the base of former seta. The remaining ones are setiform. Probably the distal part of leg was plucked and anomalous terminal segment shows the effect of regeneration.

D i f f e r e n t i a t i n g d i a g n o s i s. *Lorryia blaszaki* sp. n. resembles *L. subularis* (KUZNETZOV, 1972) and *L. subularoides* KĄŻMIERSKI, 1989: these three species have the same subtype of dorsal striation and a lack of reticulum in ornament. The differences between *L. blaszaki* and *L. subularis* are listed below.

Lorryia subularis (KUZNETZOV, 1972)

1. Dorsal idiosomal setae smooth and sharp.
2. Solenidion ω I of equal thickness throughout its length (with exception of the base), not shorter than 3/4 of width of tarsus I. Its peak reaches the bases of setae $tc\zeta$.
3. Empodial hooks very big and strong: broader than claws and not shorter than 1/2 length of claws.

Lorryia blaszaki sp. n.

1. Dorsal idiosomal setae narrowed terminally, but not sharp.
2. Solenidion ω I not so long and not equally narrow: lanceolate, although rounded distally. Its peak does not reach the bases of setae $tc\zeta$.
3. Empodial hooks (om) well developed but not broader than claws and only slightly longer than 1/3 of length of claws.

For the comparison – see also the next new species described below.

Lorryia bloszyki sp. n.

(Figs 53-55)

L o c u s t y p i c u s. India: Kashmir. Dale of small river, tributary of Indus. Scrubs (*Papilionaceae*) near big cave. From fallen leaves and detritus. 10.09.1976, C. BŁASZAK & J. BŁOSZYK leg.

T y p e r e p o s i t o r y. Holotype female is kept in ZMH (IND-015/P-2).

E t y m o l o g y. The new species is dedicated to Dr. Jerzy BŁOSZYK (Poznań).

Body green, extremely narrow and elongated.

I d i o s o m a. Dimensions: 286/152 (ratio of length to width: nearly 2:1). Striation type “Paralorryia”, subtype “Mesoparalorryia”. Reticulation absent. Striae subtle, with short rods. Small eyes are poorly visible. Bothridial setae (bo) whiplike, more than four times longer than the common dorsal setae, which are narrowly lanceolate, not expressively sharp and delicately serrated. Length of setae as follows: bo – 68.2, ro – 12, la – 13, ex – 15.2, c1 – 13.3, c2 – 15.5, d1 – 14, e1 – 13.6, f1 – 15.2, f2 – 15.5, h1 – 16, h2 – 15.5, ps1 – 12.6. Setae ps2 nude and slender, but slightly shorter than the majority of dorsal ones (13). Distances: c1-c1: 39, d1-d1: 39, e1-e1: 69.8, f1-f1: 42, h1-h1: 43.7, ps1-ps1: 21.8, f1-h1: 32.8. Lyrifissura *ia* located posteriorly to c2 in a distance longer than 1/3 of section c2-e1, almost on the line connecting the bases of c2 and e1, but slightly medially. Lyrifissura *im* anteriad, and very closely to the base of e1, at a distance equal to 1/18 of c2-e1, near the line c2-e1, but laterally to this line. On the ventral side the striae between setae mt form distinct “V”-shaped pattern. Genital chaetotaxy: female (0-6-4).

G n a t h o s o m a. Long and slender, visible from above. Cheliceral stilettos short: scarcely longer than 1/2 of length of palpal tarsus. Eupathidium (p ζ) slightly bent, uniformly narrowed to the end, with “T”-shaped tip, equal to the length of stylet. Seta d divided terminally, seta ba slightly shorter than the width of palpal tarsus. Measurements: stilettos – 12, palpal femurogenu – 30.4/11.3, df – 20.3, dg – 15.6, t' – 11, t'' – 7, palpal tarsus – 23.4/4.7, (p ζ) – 12.

L e g s . Coxal organ “8”-shaped. Tarsus+apotele I: length – 41, width – 10.5, height – 11. Length of ω I – 7.8, ft' – 12.9, ft'' ζ – 16.4, bifurcate famulus k'' – 3.1, ω II – 3.1 also. Empodial hooks (om) atypical, poorly visible, in form of small and slightly curved thorn located at the base of empodium. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. There are six species with striation subtype “Mesoparalorryia”: *Lorryia recki* (LIVSHITZ, 1973), *L. subularis* (KUZNETZOV, 1972), *L. subularoides* KAŻMIERSKI, 1989, *L. caputoperio* (MOMEN & LUNDQVIST, 1995), *L. blaszaki* sp. n. and *L. bloszyki* sp. n. The first one is peculiar by having the aspidosomal reticulate area AA0 and

strongly plumose dorsal idiosomal setae. The remaining five species are more similar to each other, although *L. bloszyki* sp. n. is characteristically elongated. *L. subularis*, *L. subularoides* and *L. caputoperio* have smooth dorsal setae and very strong empodial hooks, while the setae of *L. blaszaki* and *L. bloszyki* are slightly serrated and empodial hooks are not so distinctly developed (especially in *L. bloszyki*). Four differences between both Indian new species are given below.

Lorryia blaszaki sp. n.

1. Empodial hooks (om) well developed and typically rounded. They are slightly shorter than 1/2 of length of claws (ol).
2. Rods on the striae two-three times longer than the width of striae.
3. Cheliceral stilettos distinctly longer than palpal eupathidium (p ζ).
4. Body proportion mediocre: ratio of length to width ca. 5:3.

Lorryia bloszyki sp. n.

1. Empodial hooks very small, in shape of subtly curved thorn.
2. Rods on the striae very tiny, only insignificantly longer than the width of striae.
3. Cheliceral stilettos shorter: as long as (p ζ).
4. Body proportion rare for the genus: ratio 2:1.

Lorryia longina (KAŻMIERSKI, 1980)

(Figs 56, 57)

Venilia longina KAŻMIERSKI, 1980b; NIEDBAŁA et al. 1981, 1982, 1990.

Lorryia longina: KAŻMIERSKI 1997.

L o c u s t y p i c u s. Poland: Białoleka Dworska settlement near Warsaw. Pasture and old oak nearby. From soil. 25.05.1976., W. NIEDBAŁA & A. KAŻMIERSKI leg.

O t h e r l o c a l i t y. Poland: Konin province, Grabieniec village. Wooden barn, under the old rotten boards. 05.04.1978., Z. ANDRZEJEWSKA leg.

T y p e r e p o s i t o r y. All specimens: holotype female from Białoleka Dworska (T-0073 B-V-4/W-76), as well as two females and two tritonymphs from Grabieniec (T-0097/P-1, T-0097/P-3) are deposited in DAM. One female and one tritonymph (Grabieniec) are in ZMH (T-0097/P-2).

E t y m o l o g y. The species is named to the memory of knight Longinus PODBIPIĘTA who has been killed under the oak (Henryk SIENKIEWICZ "Fire and sword").

Body green, elongated. Ornamentation: striation type "Venilia". No reticulation present. Dimensions of idiosoma: holotype female: 353/208. Paratypes females: 287/150, 352/202, 316/179. Paratypes tritonymphs: 239/129, 223/126, 290/157.

The original description (KAŻMIERSKI 1980b) requires the following corrections: Dorsal striae have closely distributed tubercles in shape of flattened hemispheres. Setae on palpal tarsus are relatively well developed, thus – the palpal setal pattern is 0-2-2-6+ ω . Cheliceral stilettos (19) are only slightly shorter than palpal tarsus (22). The setae la (25) are not shorter than 1/2 of length of trichobothrium (50). Eyes visible only in two specimens (female and tritonymph) from Grabieniec. Setae e1 lie closer to main body axis than those in the other members of the genus. Lyrifissura ia located posteriorly to c2 in a distance slightly longer than 1/3 of section c2-e1, almost on the line c2-e1 (slightly medially). Lyrifissura im situated anteriorly to e1 in the distance shorter than 1/5 of c2-e1 and insignificantly laterally to c2-e1 line. Genital chaetotaxy: female (0-6-4), TN (4-4).

Lorryia jesionowskii sp. n.

(Figs 58-60)

L o c u s t y p i c u s. Poland: Cracow province, Kościelniki village near Cracow. Out-building of palace – at present little byre and poultry-house. From sweepings and straw. 05.12.1979, J. RAFALSKI leg.

T y p e r e p o s i t o r y. The holotype female (T-0251/P-15), as well as the paratypes (female T-0251/P-3, female T-0251/P-11, tritonymph T-0251/P-5 and deutonymph T-0251/P-16) are deposited in DAM.

E t y m o l o g y. This species is dedicated to the memory of my friend, Dr. Jacek JESIONOWSKI, ornithologist and acarologist.

Body large, richly ornamented, yellowish orange.

I d i o s o m a. Holotype female: 382/261. Paratypes: females: 401/303, 392/290, tritonymph: 316/215, deutonymph: 242/166. Ornamentation type “Paralorryia”, subtype “Veniparalorryia”, although the striae between setae c1 lie longitudinally, as in “Biparalorryia” subtype. Reticulation forms two vast areas: the first one on aspidosoma, and the second one – on the posterior part of opisthosoma. These are, respectively: A(ro)(la)(bo) and A(h2)(h1)(ps1). The meshes of reticulum are multiangular and as long as broad with the exception of anterior part of opisthosomal area. These meshes are connected by “Y”-shaped or three-radiate cross-ties. The tubercles on the striae well developed (some of them unusually large), in shape of hemispheres or truncated cones with rounded edges. Eyes present. Under the eyes the striae form a whorl-like pattern. Bothridial setae (bo) whiplike, slender, flabby and soft; they are approximately two times longer than the majority of the remaining dorsal idiosomal setae. Common dorsal setae densely haired. Length of setae: bo – 67, ro – 26.8, la – 27, ex – 32, c1 – 29, c2 – 31.2, d1 – 30.2, e1 – 32, f1 – 32, f2 – 34.3, h1 – 33, h2 – 40.6, ps1 – 35. Narrowly lanceolate ps2 (17) seems to be very slightly rough. Holotype has a double h2 on the left side. Distances: c1-c1: 70, d1-d1: 67.5, e1-e1: 153, f1-f1: 46.8, h1-h1: 25, ps1-ps1: 45, f1-h1: 54. Lyrifissura *ia* situated posteriorly to c2 in the distance slightly longer than 1/3 of section c2-e1. It is adjacent to the line c2-e1 at the medial side. Localization of lyrifissura *im* is particular: posteriad and laterally to the base of e1, at a distance equal to 1/4 of section c2-e1. (see KAŻMIERSKI 1989a, p.80, as well as the remarks under a redescription of *L. concinna* presented below). Ventral side more delicately striated. The striae arranged in narrow “V” between metasternal setae (more obtuse “V” in deutonymph). Genital chaetotaxy typical for the genus: female (0-6-4), TN (4-4), DN (2-2). Female paratype with two eggs inside.

G n a t h o s o m a. Protrudes before anterior edge of aspidosoma. Cheliceral stiletos distinctly shorter than palpal tarsus. Eupathidium (pç) very subtly bent, significantly shorter than 1/2 of length of palpal tarsus, gradually narrowed to a goblet-shape extremity. Seta d forked distally, vestigial seta ba clearly visible. Measurements: stiletos – 23, palpal femurogenu – 31.6/16, df – 20.3, dg – 16.8, t' – 11.3, t'' – 5.8, palpal tarsus long and slender – 35/6.2, (pç) – 13.3.

L e g s. Coxal organ “8”-shaped. Tarsus+apotele I: length – 73, width – 17, height – 18. Length of ωI – 9.5, ft' – 22.6, ft''ζ – 25. Seta ft' and setae u – distinctly serrated, ft''ζ, (tcç) and (pç) – “rough” (very slightly serrated). Famulus k'' (5.5) widened apically, with three teeth on its peak, ωII 5.6 long. Empodial hooks (om) thick and strong. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *Lorryia jesionowskii* sp. n. together with a few other species forms a compact group of species (see below). It is compared below with *L. nesziyyonensis* (GERSON, 1968).

Lorryia nesziyyonensis (GERSON, 1968)

1. Palpal tibial setae similar in length.
2. Dorsal idiosomal setae with short serration.

3. Setae fl nearly as long as the distance fl-h1.
4. Measurements of idiosoma of adults: 290-330 / 170-210.

Lorryia jesionowskii sp. n.

1. Palpal tibial setae distinctly different in length: t' two times longer than t''.
2. Dorsal idiosomal setae covered with hairs, which are a few times longer than the width of setal stem.
3. Setae fl more or less as long as 1/2 of fl-h1 section.
4. Measurements of idiosoma of adults: 380-400/260-300.

The differences between *L. jesionowskii* sp. n. and the other three closely related species (*L. concinna*, *L. elegans* and *L. ornata*) are listed below (see the description of *L. ornata* sp. n.)

***Lorryia concinna* (OUDEMANS, 1929)**

(Fig. 61)

Tydeus concinnus OUDEMANS, 1929a

Paralorryia concinna: BAKER 1968b

Lorryia concinna: OUDEMANS 1929b; THOR 1933

R e d e s c r i p t i o n. Slide designated as a holotype from the National Museum of Natural History, Leiden (Holland): "*Tydeus concinnus* OUDEMANS, 1929. Faure. In boerberij. Franeker. Juli 1928. Dr. Baudet misit.". The slide contains one female with damaged left side of the rear of opisthosoma.

I d i o s o m a. Dimensions: 318/196. Ornamentation type "Paralorryia", subtype "Veniparalorryia". Reticulation grouped in two vast areas: A(ro)(la)(bo) on the aspidosoma and A(h2)(h1)(ps1) on the opisthosoma. Moreover, a few meshes occur in the vicinity of setae: ex, c2, e1, fl and f2 – independently of the small tear-shaped, delicately striated areas, which surrounded the bases of setae. The meshes are more or less as long as broad, connected by "Y"-shaped cross-ties. The subcuticular fillets, which form independent reticulation combined with larger cells (see above, chapter 3) are clearly visible in A(ro)(la)(bo), as well in coxae, trochanters and femora of the legs I and II. The striae tubercles are hemispheric, but not as large as in *L. jesionowskii* sp. n. Eyes invisible. Bothridial setae (bo) whiplike, but stiff, dorsal idiosomal setae densely haired. Setae ro distinctly shorter than the other ones. Length of setae: bo – 46, ro – 18.5, la – 21.5, ex – 26, c1 – 26, c2 – 28, d1 – 28, e1 – 30, fl – 30, f2 – 37, h1 – 37, h2 – 41, ps1 – ?. Setae ps2 (14) setiform, nude. Distances: c1-c1: 50.5, d1-d1: 37, e1-e1: 97, fl-fl: 35.5, h1-h1: 37, ps1-ps1: ?, fl-h1: 42. Lyrifissures located similarly as in *L. jesionowskii*, although *im* are more removed to the rear. Ventral side more finely striated. The striae lie longitudinally between the metasternal setae. Genital chaetotaxy: female (0-6-4).

G n a t h o s o m a. Completely hidden under aspidosoma. Cheliceral stilettos (20) slightly shorter than palpal tarsus (24/7). Seta d forked distally. Eupathidium (pç) (10) straight, with "T"-shaped peak. Seta t' (15) two times longer than t'' (7.5). Palpal femurogenu – 33/12. Setae dg and df similar in length (18).

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 60, width – 14, height – 17. Tarsal setae ft''ç, (tcç), (pç) and (u) – apparently nude. Seta ft' as well as all setae of the remaining segments of leg – strongly serrated. Seta ft' is 25 long, seta ft''ç – 36. Solenidion ωI – 13, ωII – 5, widened and cleft distally famulus k'' – 4. Empodial hooks (om) relatively well developed. Claws (ol) nude.

R e m a r k s. *Lorryia concinna* is a nominative species for the group including: *Lorryia concinna* (OUDEMANS, 1929), *L. striata* (BAKER, 1968), *L. mexicana* (BAKER, 1968), *L. nesziyyonensis* (GERSON, 1968), *L. aegyptiaca* (RASMY & EL BAGOURY, 1979), *L. jesionowskii* sp. n., *L. ele-*

gans sp. n., *L. ornata* sp. n. and *L. septuagesimusseptima* sp. n. (the descriptions of the latter three species are given below). I treat this cluster as “*concinna* group”, which is characteristic by having the following features:

- 1) Position of lyrifissura *im*, which is located posteriorly to setae e1 and laterally to the protraction of the line c2-e1.
- 2) Striation type “Paralorryia”, usually ornamented (except in *L. striata*) by well developed reticulation.
- 3) Serrated or simply haired dorsal idiosomal setae.
- 4) Palpal eupathidium (pč) with goblet-shape or “T”-shaped tip.

However, the first feature is most indicative for affiliation to “*concinna* group”.

Lorryia elegans sp. n.

(Figs 62, 63)

L o c u s t y p i c u s. Poland: Konin province, environs of Turek town, Międzylesie village. Stable. Sweepings from behind feeding trough. 26.10.1978, Z. ANDRZEJSKA leg.

T y p e r e p o s i t o r y. Holotype female (T-0099/P-1) is deposited in ZMH. Paratypes: two females and male (T-0099/P-7), and fourth female (T-0099/P-9) are in DAM.

E t y m o l o g y. The Latin word “*elegans*” means “beautiful”.

Body medium-sized, oval, yellowish.

I d i o s o m a. Holotype female: 317/197. Other females: 306/195, 296/190, 287/153, 317/199. Male: 281/179. Ornamentation: striation type “Paralorryia”, subtype intermediate between “Paralorryia s. str.” and “Veniparalorryia”. Reticulum forms a central, large region A(ro)(la)(bo), flanked by A0[la], A $\frac{0}{[ex]}$ and A0[ex] on the left side, and A[la]0, A $\frac{0}{[ex]}$, and A[ex]0

on the right side on the aspidosoma. “Caudal” part of opisthosoma is covered with reticulation grouped in A(h2)(h1)(ps1). Moreover, a pair of Ae1 areas are running at the bases of e1 to the front and slightly to the lateral margins of the body. These areas are poorly detached, because the marginal meshes are elongated in conformity with direction of the striae. The subcuticular cells as in *L. concinna*. The cross-ties are in shape of two or three “Y”-letters connected with their bases. The striae tubercles are hemispheric. Eyes present. Bothridial setae (bo) needle-shaped, straight, stout and stiff, about two times longer than the common dorsal setae. The latter are densely haired. Length of setae: bo – 60, ro – 25.5, la – 19.8, ex – 25, c1 – 24.5, c2 – 27.2, d1 – 27.2, e1 – 32, f1 – 32.2, f2 – 32, h1 – 32.2, h2 – 34, ps1 – 25.6. Setae ps2 (15) similar to those in *L. concinna*. Distances: c1-c1: 49.6, d1-d1: 42.8, e1-e1: 109.8, f1-f1: 35.2, h1-h1: 25.6, ps1-ps1: 28.8, f1-h1: 44. Localization of lyrifissures as in *L. jesionowskii*. Ventral side more subtly striated. The striae form “V”-pattern between the setae mt α , and lie longitudinally between mt β . Genital chaetotaxy: female (0-6-4), male (4-6-4).

G n a t h o s o m a. Protrudes in front from under aspidosoma. Cheliceral stilettos shorter than palpal tarsus. Eupathidium (pč) of the same shape as in *L. jesionowskii*, shorter than 1/2 of length of its segment. Seta d forked distally, seta ba well developed (longer than 1/4 of width of palpal tarsus). Measurements: stilettos – 21, palpal femurogenu – 35/12, df – 23, dg – 17, t' – 15.6, t'' – 7.8, palpal tarsus – 25.2/7.2, (pč) – 11.

L e g s. Coxal organ “8”-shaped. Tarsus+apotele I: length – 64, width – 16, height – 19.6. Length of ω I – 13.6, strongly serrated ft' – 25.2, “rough” ft'' – 36. Setae tcč, pč and u – smooth. Famulus k'' (4) widened terminally, with three teeth on its peak. Solenidion ω II – 5.2. Empodial hooks (om) well developed. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *L. elegans* sp. n. is compared below with closely related species, *L. concinna* (OUDEMANS, 1929).

Lorryia concinna (OUDEMANS, 1929)

1. Gnathosoma covered with aspidosoma.
2. Areas Ac2 and Af2 present.
3. Setae ro shorter than la and distinctly shorter than the remaining setae.
4. Seta ft''ζ smooth.

Lorryia elegans sp. n.

1. Gnathosoma not covered with aspidosoma.
2. Areas Ac2 and Af2 absent.
3. Setae ro longer than la and inconspicuously shorter than the remaining setae.
4. Seta ft''ζ "rough".

Lorryia ornata sp. n.

(Figs 64, 65)

L o c u s t y p i c u s. Italy: Napoli-Arcofelice, 10 km to the north of centrum of the city. Slope of 400 years old crater (western exposition, angle of sloping: 35°-40°) covered with luxuriant leafy flora. Young oaks, beeches and ashes, with rarely distributed stone-pines and forsythies. 22.04.1971, J. MICHEJDA leg.

T y p e r e p o s i t o r y. Holotype male (I-001/P-3) is deposited in ZMH.

E t y m o l o g y. The name of the new species derives from the Latin word "ornatus" which means "decorative".

Body medium-sized, oval, green.

I d i o s o m a. Dimensions: 338/207. Ornamentation: striation as in *L. elegans*. Aspidosomal reticulation: A(ro)(la)(bo). Central meshes larger than marginal ones. Similarly to *L. concinna* and *L. elegans*, groups of "normal" external meshes are embraced by clearly visible subcuticular cells. Opisthosomal reticulation: A(h2)(h1)(ps1), Ac2, Ae2, Ae1, Ae1, Af2, Af2. Cross-ties and tubercles – as in *L. elegans*. Eyes not observed. Bothridial setae (bo) whiplike but stiff, similar to those in *L. concinna*, shorter than the double length of normal dorsal setae. The latter ones are densely haired. Length of setae: bo – 64.7, ro – 44, la – 34, ex – 44, c1 – ? (teared off), c2 – 45, d1 – 39.2, e1 – 40, f1 – 39, f2, h1, h2 – ? (teared off), ps1 – 23.7. The bases of opisthosomal "caudal" setae situated closely to each other. Setae ps2 (16.5) in shape as in *L. concinna*. Distances: c1-c1: 66.7, d1-d1: 63, e1-e1: 164.6, f1-f1: 35.5, h1-h1: 23.2, ps1-ps1: 23.4, f1-h1: 39.3. Lyrifissures located as in *L. jesionowskii* and *L. elegans*. Ventral side more delicately striated. Arrangement of the striae forms letter "V" between metasternal setae. Genital chaetotaxy: male (4-6-4).

G n a t h o s o m a. Visible from above. Cheliceral stilettos shorter than palpal tarsus. Palpal eupathidium (pζ) slightly bent, gradually narrowed to the extremity, with "T"-shaped end. Its length is equal to 1/3 of length of palpal tarsus. Seta d simple (not forked distally), seta ba very tiny. Measurements: stilettos – 20.3, palpal femurogenu – 33.8/11.2, df – 20.3, dg – 15.6, t' – 15.6, t'' – 4.2, palpal tarsus – 26.5/4.4, (pζ) – 8.9.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 56.5, width – 12.2, height – 13. Solenidion ωI – 10, ft' – 25.3, ft''ζ – 35. Seta ft' serrated, ft''ζ, (pζ) and (u) – smooth, setae tc_ – "rough". Famulus k'' (3.1) cleft distally, solenidion ωII 3.9 long. Empodial hooks (om) well developed. Claws (ol) slightly pilose on their ventral edges.

D i f f e r e n t i a t i n g d i a g n o s i s. The differences between *L. ornata* sp. n. and *L. concinna* (OUDEMANS, 1929) are as follows:

Lorryia concinna (OUDEMANS, 1929)

1. Gnathosoma covered with aspidosoma,
2. Setae ro shorter than distance ro-la.
3. Setae fl distinctly shorter than distance fl-h1.
4. Claws (ol) with nude ventral edges.
5. Palpal tarsal seta d forked.

Lorryia ornata sp. n.

1. Gnathosoma not covered with aspidosoma.
2. Setae ro slightly longer than distance ro-la.
3. Setae fl subequal in length to section fl-h1.
4. Palpal tarsal seta d not forked.

R e m a r k s. The most important differences between four closely related species from the "concinna group" (including *L. ornata*) are given below (the dimensions refer to adults).

Lorryia jesionowskii sp. n.

1. Body large (380-400 long).
2. Gnathosoma visible from above in natural position.
3. No reticulate pattern besides two main vast areas: A(ro)(la)(bo) and A(h2)(h1)(ps1).
4. Tubercles on the striae extremely large.
5. Bothridial setae (bo) whiplike and flabby.
6. Setae ro similar in length to la, and indistinctly shorter than the remaining ones. Section ro-la slightly longer than the length of ro.
7. The peak of seta fl (32) reaches barely 1/2 of fl-h1 section (54).
8. Seta ps1 subequal in length to the remaining dorsal setae (e. g.: ps1-35, ex - 32).
9. Seta ft''ζ "rough" (very slightly serrated).
10. Setae tcζ "rough".
11. Claws (ol) nude.
12. Palpal tarsal seta d forked distally.

Lorryia concinna (OUDEMANS, 1929)

1. Body slightly more than medium-sized (318).
2. Gnathosoma completely hidden under aspidosoma.
3. Apart from A(ro)(la)(bo) and A(h2)(h1)(ps1) a few pairs of small reticulate areas occur on the aspidosoma, as well as on the opisthosoma. Ac2 and Af2 present.
4. Tubercles on the striae not extremely large.
5. Bothridial setae whiplike becoming narrower to pointed extremities, but stiff.
6. Setae ro shorter than la and distinctly shorter than the remaining ones. Section ro-la slightly longer than ro.
7. The peak of seta fl (30) does not reach the base of h1. (Section fl-h1 42 long).
8. ? (See Fig. 61)
9. Seta ft''ζ smooth.
10. Setae tcζ look like smooth.
11. Claws (ol) nude.
12. Seta d forked.

Lorryia elegans sp. n.

1. Body medium-sized (280-317).
2. Gnathosoma visible from above.
3. Besides two main vast reticulate areas a few pairs of smaller ones occur on the aspidosoma, as well as on the opisthosoma. Ac2 and Af2 absent.
4. Tubercles on the striae moderately large.
5. Bothridial setae needle-shaped: straight, stout and stiff.
6. Setae ro longer than la and indistinctly shorter than the remaining ones. Section ro-la insignificantly longer than ro.
7. The peak of seta fl (33.2) does not reach the base of h1 (Section fl-h1 44 long).
8. Setae ps1 approximately equal in length to the remaining ones (e. g.: ps1 -25-26, ex - 25).
9. Seta ft''ζ "rough".
10. Setae tcζ smooth.
11. Claws (ol) nude.
12. Seta d forked.

Lorryia ornata sp. n.

1. Body medium-sized (296).
2. Gnathosoma visible from above.
3. Besides two main vast reticulate areas a few pairs of smaller ones occur on the opisthosoma only. Ac2 and Af2 present.
4. Tubercles on the striae moderately large.
5. Bothridial setae similar to those in *L. concinna*.
6. Dorsal setae relatively longer. Setae ro insignificantly longer than la and not distinctly shorter than the majority of the remaining ones. Section ro-la slightly shorter than ro.
7. Setae fl (39) nearly as long as a distance between the bases of fl and h1 (39.3).
8. Setae ps1 are distinctly shorter than the other dorsal setae (e. g.: ps1 -23.7, ex - 44).
9. Seta ft''ζ smooth.
10. Setae tcζ "rough".
11. Claws (ol) with slightly pilose ventral edges.
12. Seta d not forked (simple).

Moreover, the teeth of setal serration in *L. jesionowskii* and in *L. ornata* are slightly longer than those in *L. concinna* and *L. elegans*.

Lorryia septuagesimusseptima sp. n.

(Figs 66-68)

L o c u s t y p i c u s. Czech Republic: Svitavy district, 5 km from Letovice on the line Letovice-Bohunov. Old fir-spruce-larch forest near the artificial lake. Poor undergrowth with *Melamperum pratense*. From soil, litter of conifer needles and mosses on the rocks. 11.05.1979, A. KAŽMIERSKI leg.

T y p e r e p o s i t o r y. The holotype female (CS-002/P13) is deposited in ZMH.

E t y m o l o g y. The name of species means "seventy seventh" – to the memory of Czechoslovakian "charter seventy seven" and its signatories.

Body large, oval and greenish.

I d i o s o m a. Dimensions: 367/281. Ornamentation: striation type "Paralorryia" subtype intermediate between "Paralorryia s. str." and "Veniparalorryia". Reticulation occurs on the aspidosoma.

soma only. An extensive area A(ro)(la) reaches almost the bases of (bo), which still lie beside reticulation. The cross-ties are three-radiate and strial tubercles are in the shape of apically rounded or truncated cones. Eyes invisible. Bothridial setae (bo) whiplike and slightly longer than the common dorsal setae. The latter ones are thus very long, flabby, densely covered with long hairs and sharply ended. Length of setae: bo – 70, ro – 44.8, la – 42.5, ex – 56.2, c1 – 47.6, c2 – 55.4, d1 – 48, e1 – 58.2, f1 – 50.7, f2 – 60.8, h1 – 56.5, h2 – 62.8, ps1 – 56.6. Setae ps2 (20) narrowly lanceolate and minutely serrated. Distances: c1-c1: 72, d1-d1: 71.5, e1-e1: 154, f1-f1: 52.5, h1-h1: 25.5, ps1-ps1: 27, f1-h1: 49. Localization of lyrifissures as in *L. jesionowskii*, *L. elegans* and *L. ornatus* (see description of the first species). Ventral side more delicately striated. Shape of ventral setae similar to ps2. Between setae mt the striae form clearly a “V”-shaped pattern. Genital chaetotaxy: female (0-6-4).

G n a t h o s o m a. Protrudes in front of anterior projection of aspidosoma. Cheliceral stilettos short: only indistinctly longer than 1/2 of length of palpal tarsus. Eupathidium (pζ) slightly longer than 1/3 length of segment, gradually narrowed to the extremity, with “T”-shaped peak. The remaining palpal tarsal setae – as in *L. ornatus*. Vestigial ba very tiny. Measurements: stilettos – 17.5, palpal femurogenu – 31.2/13, df – 22.2, dg – 15.6, t' – 16.2, t'' – 5.8, palpal tarsus – 30/5.1, (pζ) – 9.7.

L e g s. Coxal organ “8”-shaped. Tarsus+apotele I: length – 71, width – 14.9, height – 15.2. Solenidion ωI (14.4) nearly as long as the width of tarsus. Seta ft' (25.7) serrated. Seta ft''ζ (42.5) smooth. Setae tcζ, pζ and u – smooth. Famulus k'' (4.7) widened and cleft distally. Solenidion ωII slender, but relatively long (5.8). Empodial hooks (om) small and poorly bent. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *L. septuagesimusseptima* sp. n. is compared with *L. concinna* (OUDEMANS, 1929) as follows:

Lorryia concinna (OUDEMANS, 1929)

1. Opisthosoma with vast posterior reticulate area.
2. Empodial hooks well developed and distinctly bent.
3. Gnathosoma hidden under aspidosoma.
4. Setae ro distinctly shorter than c1.

Lorryia septuagesimusseptima sp. n.

1. Opisthosoma completely striated.
2. Empodial hooks poorly developed: small and only slightly bent.
3. Gnathosoma not completely hidden under aspidosoma.
4. Setae ro subequal in length to c1.

R e m a r k s. *Lorryia septuagesimusseptima* sp. n. is very closely related to the remaining species of the “*concinna* group”. However, it mostly differs from the majority of members of that group by the lack of vast, “caudal” reticulate area and by a poorly developed empodial hooks (om).

Key to the species of *Lorryia*

1. Ornamentation type “*Lorryia*” or “*Mountains*”: dorsal side of idiosoma completely or partially reticulated. Reticulation occurs at least in dorso-central region between setae d1, although in some cases the meshes in this region may be extremely elongated in transversal line (then, cross-ties and costulae on the striae are “X”-shaped) 2
- Another type of ornamentation: dorsal side of idiosoma completely or partially striated or granulated. Striation occurs at least in dorso-central region, between setae d1 53
2. Palpal tarsal eupathidium (pζ) rod-like and rounded distally, thick and relatively long (not shorter than 1/2 of length of palpal tarsus) 3

- Another shape of (p ζ) 6
- 3. Dorsal reticulation forms discrete areas divided by striae. All dorsal idiosomal setae lanceolate, curved and sharp with exception of ps1, which are expanded and blunt distally *nytebodensis* (MOMEN & LUNDQVIST, 1995) comb. n.
- No discrete areas present: all dorsum covered with reticulum 4
- 4. Dorsal idiosomal setae aciculate and smooth. Meshes of reticulum not elongated and more or less similar in shape *montrealensis* MARSHALL, 1970
- Another character of dorsal idiosomal setae. Meshes of reticulum different in shape: most of them are distinctly elongated 5
- 5. Dorsal idiosomal setae similar in shape: minutely serrate and sharply ended. Eupathidium (p ζ) distinctly longer than 1/2 of length of palpal tarsus. *parataurica* (MOMEN, 1988) comb. n.
- Dorsal idiosomal setae different in shape: ro, la, ex, c1 and c2 rod-like, d1 and e1 – slightly enlarged distally, the remaining ones broadly expanded. All dorsal setae blunt and smooth. Eupathidium (p ζ) as long as 1/2 of length of palpal tarsus *parainflata* (MOMEN & LUNDQVIST, 1995)
- 6. Palpal tarsus dumpy and short: not longer than its double width 7
- Palpal tarsus commonly elongate: distinctly longer than its double width 11
- 7. Dorsum completely reticulated, without discrete areas. Dorsal idiosomal setae straight *ivoensis* (MOMEN & LUNDQVIST, 1996) comb. n.
- Dorsal reticulation divided into discrete areas. Dorsal idiosomal setae distinctly bent, sometimes nearly semicircular 8
- 8. Between areas Ac2 and Ae1 on each side the third one occur, without any seta: A[c2]0[e1]. Dorsal idiosomal setae narrowly or distinctly lanceolate 9
- No areas A[c2]0[e1] present. Dorsal idiosomal setae gradually narrowed toward the sharp tips 10
- 9. Dorsal idiosomal setae of medium length (28-32), sabre-shaped, narrowly lanceolate and serrated. Similarly, dorsal leg setae (excluding tarsal ones) and ft' on tarsus I serrate. Gnathosoma hidden under aspidosoma and only distal part of stilettos is visible from above. Setae ps1 of the same type as other setae *polita* KUZNETZOV, 1975
- Dorsal idiosomal setae short (11-16), distinctly lanceolate and nude. Similarly, dorsal leg setae (except tarsal ones) lanceolate and nude, together with ft' on tarsus I. Gnathosoma partially visible from above. Setae ps1 different in type: finer and setiform *sherekhani* sp. n.
- 10. Dorsal leg setae distinctly lanceolate. Relatively great number of costulae on the frames of polygons of reticulum. One side of polygon with 4-9 costules between neighbouring cross-ties (Photo 1) *arkadiensis* PANOU & EMMANOUEL, 1995
- Dorsal leg setae more stout than ventral ones, but not lanceolate. Small number of costulae: single polygon's side often with one, and no more than three costules between cross-ties. *catenulata* (THOR, 1931)
- 11. Dorsal reticulation forms discrete areas divided by striae. 12
- No discrete areas present: entire dorsal side covered with reticulation 29
- 12. All dorsal idiosomal setae blunt: not narrowed distally (rod-like) or expanded distally (club-shaped, spatulate). 13
- At least a part of dorsal idiosomal setae narrowed distally or simply sharp. 15
- 13. Dorsal idiosomal setae expanded distally (club-shaped), relatively short: fl much shorter than 1/2 of distance fl-h1. *podocarpa* BAKER, 1968
- Dorsal idiosomal setae rod-like, not expanded distally and distinctly longer: fl distinctly longer than 1/2 of distance fl-h1 14
- 14. Dorsal idiosomal setae slightly, but clearly serrated. *polygonata* KULCZYCKI, 1992
- Dorsal idiosomal setae without any serration and at least "rough" only *evansi* BAKER, 1968
- 15. Between setae c1 transversely arranged striae occur. Setae c1 and c2 stick in striated cuticle *benensis* BAKER, 1968
- Between setae c1 reticulation occurs. Setae c1 and c2 lie in reticulate areas 16
- 16. Setae ro distinctly different in shape in comparison with h1, h2 and ps1 17
- All dorsal setae represent the same type 18

17. Dorsal idiosomal setae lanceolate and sharply ended with exception of h1, h2 and ps1, which are blunt and rounded distally. Central part of opisthosoma covered with a single, large reticulate area, containing six pairs of setae: c1, c2, d1, e1 and h2 *minuta* KUZNETZOV, 1971
- All dorsal idiosomal setae narrowly lanceolate with exception of broadly lanceolate ro. Dorsal reticulation decomposed to many small discrete areas. *funki* BAKER, 1968
18. All dorsal idiosomal setae broadly lanceolate: expanded on their distal part, but tapering at ends . . 19
- Another shape of dorsal setae 20
19. Dorsal idiosomal setae serrate. Reticulate areas of setae c1 and c2 united in a single A(c1)(c2). Similarly, d1 and e1 lie in a common area A(d1)(e1) *cooremani* BAKER, 1968
- Dorsal idiosomal setae nude. No mentioned above areas, which are divided into Ac2, A(c1), Ac2, Ae1, A(d1), and Ae1. *formosa* COOREMAN, 1958
20. Dorsal idiosomal setae very strongly serrated: look like branches of moss *pinnigera* KUZNETZOV, 1973
- Dorsal setae another in shape 21
21. “Mountains” type of reticulation (the cuticle forms multitubercular “Mountains” located side by side, and each of them has several sharp edges “running down along the slopes”) 22
- Reticulation flat: no “Mountains” ornamentation present 23
22. On the dorsum of aspidosoma the regular, polygonal meshes are present. Besides, the larger subcuticular polygons occur independently in this place. Dorsal idiosomal setae slightly serrate *scopa* KUZNETZOV, 1975
- Irregular arrangement of aspidosomal meshes of reticulum, most of which in shape of very narrow rectangles. No large subcuticular polygons. Dorsal idiosomal setae nude *collicupata* (SCHIESS, 1981) comb. n.
23. A distinctive “U”-shaped area A(e1)(f2)(f1), or A(e1)(f2)(f1)(h2)(h1) present. 27
- Lack of “U”-shaped area 24
24. Dorsal idiosomal setae needle-shaped, straight. Four reticulate areas with polygonal reticulation occur: three on aspidosoma and a “caudal” one. These are, respectively: AA0, A[la]0[bo], A[bo]0[la] and A(h1)(h2)(ps1). The rest of body surface covered with extremely elongated meshes similar to striation. Cross-ties and costulae “X”-shaped *crucifera* KARG, 1973
- Dorsal idiosomal setae narrowly lanceolate, more or less strongly curved or semicircular, gradually tapering to pointed ends. Another kind of ornamentation. Cross-ties “Y”-shaped or triangular. Costulae mainly “I”-shaped 25
25. Dorsal idiosomal setae only slightly curved. Meshes of reticulum small and different in shape. Reticulate areas are separated from each other by finer network with more elongated cells. Centrally, between A(c1) and A(d1) occurs the third area in shape of very elongated and narrow rectangle. Bothridial setae (bo) with scarcely distributed small teeth *mantiniensis* PANOU & EMMANOUEL, 1995
- Dorsal idiosomal setae distinctly curved (usually sabre-shaped), or simply semicircular. Meshes of reticulum large, in shape of regular polygons. Reticulate areas separated by striation. No discrete area between A(c1) and A(d1). Setae (bo) smooth 26
26. Dorsal idiosomal setae serrated. Lack of empodial hooks (om). Gnathosoma hidden under aspidosoma *relhaniae* UECKERMANN & SMITH MEYER, 1979
- Dorsal idiosomal setae seem smooth (at least “rough” under immersion). Empodial hooks (om) present, although small. Gnathosoma visible from above *sighori* BAKER, 1968
27. Reticulate areas separated by finer network. Rounded pores on the frames of cells occur. Dorsal idiosomal setae straight but delicate, very narrowly lanceolate, distinctly pointed and short (12-19). Gnathosoma hidden under aspidosoma *snajperi* sp. n.
- Reticulate areas separated by striae. Lack of rounded pores on the frames of cells. Dorsal idiosomal setae straight but stout, stiff, equally thick in at least 4/5 of their total length, and becoming narrow near the ends, but not distinctly pointed. The scope of length: 17-25. Gnathosoma visible from above 28
28. Atypical number of genital setae in adults: five pairs. Dorsal idiosomal setae nude. *ancora* KARG, 1973

- Six pairs of genital setae in adults. Dorsal idiosomal setae with small, scarcely distributed spikes *danutae* KAZMIERSKI, 1978
- 29. Body strongly lobed in all stages. Almost each opisthosomal seta sticks in single lobus 30
- Body of adults without strong lobes 31
- 30. Dorsal idiosomal setae are almost straight, nude, equally thick, narrowed distally, but not sharp apically and extremely long: distinctly longer than the whiplike bothridial setae. *atyaei* BAKER, 1968
- Dorsal idiosomal setae common in length: distinctly shorter than the whiplike bothridial setae, narrowly lanceolate, curved, slightly serrate and sharply ended *turrialbensis* BAKER, 1968
- 31. All, or at least a part of dorsal idiosomal setae blunt: rod-like, or expanded distally (club-like, spatulate). 32
- None of dorsal idiosomal setae is rod-like, or club-like, spatulate 40
- 32. Club-like setae present 33
- Lack of club-like setae: all setae are rod-like 38
- 33. “Mountains – shape” type of reticulation (a cross-section trough these “mountains” gives the picture of “stars”, or “craters”). 34
- Another type of reticulation (not “Mountains”) 35
- 34. Three types of shape of dorsal idiosomal setae occur: narrowly rod-like (ro, la), strongly lanceolate (h1, h2, ps1) and club-like, rounded distally, in shape of spoon (remaining setae). Setae ps1, and also h1 and h2 situated ventrally. All setae slightly serrate. *collyerae* BAKER, 1968
- Two types of dorsal idiosomal setae occur: h1, h2 and ps1 are club-like, the remaining ones are rod-like. All setae nude *stellata* CARMONA, 1972
- 35. Setae f1 extend to the bases of h1 *pongolana* UECKERMANN & SMITH MEYER, 1979
- Dorsal idiosomal setae relatively shorter: f1 reach only halfway to the bases of h1 36
- 36. Dorsal idiosomal setae haired. Meshes of reticulum extremely prolonged: they give the picture of striation subtype “Paralorryia s. str.” *incrustata* (KUZNETZOV, 1972) comb. n.
- Dorsal idiosomal setae not haired. Meshes irregular, but not so strongly prolonged 37
- 37. Dorsal opisthosomal setae broadly spatulate: ratio of length to maximum width is nearly 5/1. Between the setae bo and setae c1, as well as in dorso-central region the meshes are only poorly elongated *teresae* CARMONA, 1970
- Dorsal opisthosomal setae not so broadly spatulate. Between (bo) and between (c1) the meshes are distinctly elongated *pulchra* (OUDEMANS, 1929)
junior synonym: *Tydeus inflatus* MOMEN, 1988 syn. n.
- 38. Single claw (ol) on each apotele *superba* OUDEMANS, 1925
- Both claws on each apotele 39
- 39. Dorsal idiosomal setae straight or slightly arch-shaped. Reticulation composed of regular meshes (=cells). Cross-ties in form of microtubercles are flat. Body of immatures not lobed *reticulata* (OUDEMANS, 1928)
junior synonym: *bedfordiensis* EVANS, 1952
- Dorsal idiosomal setae evidently bent down to the dorsal surface, sometimes “S”-shaped (two points of bend). Reticulation composed of irregular meshes. Microtubercles scattered along striae are much more pronounced, stand out. Body of immatures lobed. . . . *stefani* (ANDRÉ, 1987)
- 40. Dorsal side of opisthosoma covered with reticulation of “Mountains” type *danhidalgoi* sp. n.
- Another character of dorsal reticulation 41
- 41. All meshes of reticulation equal in shape, polygonal, approximately as long as broad. Dorsal idiosomal setae long: similar in length to bothridial ones (with exception of ps1) 42
- Meshes of reticulation irregular, unequal in shape, often elongated in some places. Dorsal idiosomal setae not so long: shorter than the bothridial ones 43
- 42. Meshes in form of extremely large cells. Dorsal idiosomal setae sabre-shaped: broad, curved and pointed (these both features give the picture, which resembles some Raphignathoidea, p.ex *Eustigmaeus segnis*). Setae ps1 different than the other: straight and blunt *raphignathoides* (BERLESE, 1910)

- Meshes not extremely large. Dorsal idiosomal setae sharply ended but straight, narrow, aciculate. Setae psI shorter than remaining ones, but in same shape *summersi* BAKER, 1968
- 43. Meshes approximately as long as broad between the bothridial setae (bo) 44
- Meshes longitudinally elongated between setae (bo) 50
- 44. Dorsal idiosomal setae acute: distinctly sharp and smooth 45
- Dorsal idiosomal setae at least narrowed distally but not acute and not smooth 46
- 45. Solenidion ω I short (4.5-5.5); it not reaches the bases of tectal setae tc ζ . Empodial hooks (om) well developed *terrestris* KARG, 1973
- Solenidion ω I longer (7): reaches the bases of (tc ζ). Empodial hooks (om) absent. *mattheyi* (SCHIESS, 1981) comb. n.
- 46. Bothridial setae (bo) stout, blunt distally and faintly serrate. Distance fl-fl longer than d1-d1. *hughesae* (MOMEN & SINHA, 1991) comb. n.
- Bothridial setae (bo) whiplike: not stout, but sharply ended and nude. Distance fl-fl not longer than d1-d1 47
- 47. Narrow and transversely elongated meshes form the inverted “U” pattern on the “caudal” part of dorsum. Body length: ca 350, width: ca 250 *electra* KUZNETZOV, 1973
- “Caudal” part of dorsum covered with as long as broad, polygonal meshes. Body length: 250-275, width: 145-175 48
- 48. Dorsal idiosomal setae gradually tapering, covered with well visible, rounded, blunt teeth. *echinulata* KUZNETZOV, 1971
- Dorsal setae almost lanceolate, covered with scarcely visible, sharp teeth 49
- 49. Bothridial setae (bo) about three times longer than the remaining dorsal setae. Ventral striae form a “V”-shaped pattern between metasternal setae *varsoviensis* KAŻMIERSKI, 1978
- Bothridial setae (bo) two times longer than the remaining ones. Striae between metasternal setae lie longitudinally *adamantiae* PANOU & EMMANOUEL, 1995
- 50. Idiosoma distinctly elongate: coefficient of body-proportion (length/width quotient) is 1.8. (dorsal idiosomal setae apparently nude, really – with very small serration, reticulation extremely irregular) *epimekes* PANOU & KAŻMIERSKI, 1996
- Idiosoma more broad: coefficient of body-proportion no higher than 1.5. 51
- 51. Empodial hooks (om) absent. *paravarsoviensis* (MOMEN & LUNDQVIST, 1996)
- Empodial hooks (om) present 52
- 52. Dorsal idiosomal setae almost straight, aciculate and smooth (length: 20-29). Setae fl reach to half way of fl-h1 distance. Coefficient of body-proportion: 1.5. In natural position gnathosoma visible from above. Empodial hooks (om) poorly developed (scarcely visible) . . . *martini* MARSHALL, 1970
- Dorsal idiosomal setae slightly curved, narrowly lanceolate and serrate (length: 15-17). Setae fl not reach to half way of fl-h1. Body broadened: coefficient of shape – 1.23. Gnathosoma completely covered with aspidosoma. Empodial hooks (om) very well developed, strong *sororcula* KUZNETZOV, 1975
- 53. Palpal tarsus dumpy and short: not longer than its double width. Cheliceral stilettos longer than total length of palpal tarsus combined with terminal eupathidium. Dorsal idiosomal setae short, very narrowly lanceolate, nude and sharply ended, several times shorter than the bothridial ones (bo), which are long and whiplike. Lack of reticulation (rarely a small AA0 near the anterior projection of aspidosoma may occur) 54
- Lack of mentioned above combination of features 58
- 54. Palpal tarsus spherical (ratio of length to width: 1/1). Palpal tarsal eupathidium (p ζ) almost straight and acute, without terminal cross-piece. Striation type “Tydeus” – see Figs 5A, 31A *globulipalpa* sp. n.
- Palpal tarsus longer than its breadth. Eupathidium (p ζ) curved and with wedge-like cross-piece on its peak. Striation variable 55
- 55. Palpal tarsus 1.5 times longer than its width (ratio 1.5/1). Coefficient of proportion of idiosoma (length/width): 1.6. Striation type “Tydeus” *volgini* (KUZNETZOV, 1973)
- Palpal tarsus two times longer than its width (ratio 2/1). Idiosoma broader, or more elongated. Striation type variable 56

56. Body elongated as usual: proportion coefficient of idiosoma is 1.8-2.0 *aberrans* (OUDEMANS, 1932) comb. n.
- Body broad: proportion coefficient of idiosoma is 1.3-1.4 57
57. Empodial hooks (om) in form of small thorn occur. Solenidion ω I broadly lanceolate in shape. AA0 absent. Inconstancy of arrangement of dorsal striae: striation type "Tydeus", as well as "Paralorryia" ("Mesoparalorryia-incerta", "Paralorryia-incerta", or even "Paralorryia s. str" *brevicula* (KOCH, 1838) — see Fig. 5) can occur junior synonym: *Tydeus curtus* BERLESE, 1910
- Empodial hooks (om) absent. Solenidion ω I slender, uniformly narrow. Small area AA0 present. Striation type "Tydeus" *frekei* (MOMEN & LUNDQVIST, 1996) comb. n.
58. Ornamentation type "Paralorryia", as in Figs 5B-I 59
- Another type of ornamentation 140
59. Palpal tarsal eupathidium (p ζ) becoming narrower toward the summit, but broadened or cleft distally, with goblet-shape, or "T"-shape tip, or terminated with a semi-moon or wedge-like cross-piece 85
- Eupathidium not broadened or cleft distally, without goblet-shape, "T"-shape, semi-moon or wedge-like tip 60
60. Eupathidium (p ζ) not rounded distally: acute, thorn-, spike- or blade-like in shape. 80
- Eupathidium (p ζ) rod-like and rounded distally. 61
61. All striae between setae c1 run longitudinally (subtype "Biparalorryia"), or at least the section c1-c1 is perpendicular to the striae only close to the bases of setae ("Biparalorryia-incerta") . . . 62
- Transversal striation between setae c1. 67
62. Reticulate area AA0 on the anterior portion of aspidosoma consists of meshes strongly elongated in various directions *filiformis* (MOMEN & LUNDQVIST, 1996)
- Lack of reticulate elements (no AA0 present) 63
63. Palpal tarsus as long as its eupathidium (p ζ). Cheliceral stilettos equal in length with combined length of palpal tarsus and (p ζ). Dorsal idiosomal setae with small, scarcely visible serration. . . 64
- Palpal tarsus longer than its eupathidium. Cheliceral stilettos shorter than combined length of palpal tarsus and (p ζ). Dorsal idiosomal setae strongly serrated or plumose 65
64. Striation subtype "Biparalorryia-incerta". Bothridial setae with slightly haired bases *innuba* (LIVSHITZ, 1973)
- Striation subtype "Biparalorryia". Setae (bo) completely smooth *carya* (BAKER, 1968)
65. Distance between setae h1 (78) much longer than distance f1-f1 (ca 50). Solenidion ω II stick-like, 4.4 long. Solenidion ω I straight. Dorsal idiosomal setae plumose; about 20-24 hairs set in one longitudinal row along the main setal axis. Striation subtype "Biparalorryia" *nobila* sp. n.
- Distance h1-h1 more or less equal in length with f1-f1. Solenidion ω II sphere-shape, very short (1-1.2). Solenidion ω I bent. Dorsal setae with sharp teeth, but not plumose; about 10-12 teeth in one row at the base to the tip of seta. Striation subtype "Biparalorryia-incerta". 66
66. Claws (ol) with pilose ventral edges. Long teeth of setal serration: distinctly longer than the stem of seta. Cheliceral stilettos (ca 29) much longer than palpal tarsus (ca 19). Seta ft' (ca 24) on tarsus I only slightly shorter than ft'' ζ (ca 31). *draciformis* sp. n.
- Claws (ol) nude. Setal teeth triangular and not long; shorter than setal stem. Cheliceral stilettos approximately as long as palpal tarsus (ca 20). Seta ft' as long as 1/2 length of ft'' ζ *scabriseta* (KUZNETZOV, 1972)
67. Striation subtype "Paravenilia" (see Fig. 5I). Seta u'' on tarsus I extremely well developed: stout and thicker than remaining tarsal setae *bakeri* (ZAHER & EL BAGOURY, 1981)
- Striation subtype "Paralorryia s. str." or "Paralorryia-incerta". Seta u'' normally developed . . . 68
68. Ornamentation with reticulate elements 69
- Ornamentation without reticulate elements 76
69. Reticulate elements occur on aspidosoma, as well as in opisthosoma. 70
- Presence of reticulate elements limited to AA0 on aspidosoma only 71

70. Palpal tarsal eupathidium (p ζ) as long as palpal tarsus. On the ventral side between setae mt striation "V"-shaped. *reticuloinsignia* KAŻMIERSKI & PANOU, 1997
- Eupathidium (p ζ) shorter than palpal tarsus. Striation pattern between setae mt almost transverse *alykaenae* PANOU & EMMANOUEL, 1996
71. Gnathosoma protrudes from above from under anterior projection of aspidosoma. Extensive AA0 in shape of rectangle elongated according with main body axis and reaching to the line ro-ro. Its length is twice as long as wide. Cheliceral stilettos very long (ca 45): much longer than the length of palpal tarsus together with (p ζ) (ca 33). Palpal eupathidium (p ζ) relatively short (ca 11): not longer than 1/2 length of its segment. Fastigial setae on tarsus I subequal in length and shape *formosa* (LIVSHITZ, 1972)
junior homonym of *L. formosa* COOREMAN, 1958
- Gnathosoma hidden under aspidosoma. AA0 not so extensive, not rectangular, more broad than long. Cheliceral stilettos shorter: not longer than length of palpal tarsus jointly with rod-like eupathidium. Eupathidium (p ζ) distinctly longer than 1/2 length of palpal tarsus. Seta ft'' ζ on tarsus I different in shape and longer than ft' 72
72. Cheliceral stilettos as long as palpal tarsus together with (p ζ) 73
- Cheliceral stilettos shorter than total length of palpal tarsus and (p ζ). 74
73. Ventral striae between setae mt lie longitudinally. Solenidion ω I longer than 3/4 width of tarsus I. Length of dorsal idiosomal setae: 14-16 (with exception of shorter ps1). Distances: d1-d1, f1-f1, and h1-h1 subequal in length (c1-c1 is slightly shorter). Body length (female): ca 310. *insignia* (LIVSHITZ, 1973)
- Striae between mt arranged in "V". Solenidion ω I insignificantly longer than 1/2 width of tarsus I. Dorsal setae longer: 19-24 (ps1: ca 15). Distances: d1-d1 (ca 97) and h1-h1 (ca 80) distinctly longer than c1-c1 and f1-f1 (ca 62). Body length (female): 340-415. *grandiinsignia* KAŻMIERSKI, 1991
74. Palpal tarsus and its terminal eupathidium (p ζ) equal in length *unigena* (LIVSHITZ, 1973)
junior synonym: *Tydeus octomaculatus* MOMEN & LUNDQVIST, 1995 syn. n.
- Palpal tarsus longer than its terminal eupathidium 75
75. Teeth of idiosomal dorsal setae triangular and short: distinctly shorter than the width of stem of seta. Length of dorsal setae: 22-24. Ratio of length to width of palpal tarsus – ca 5:2. Striation subtype "Paralorryia-incerta". Body length of female: ca 375. *nuncia* (LIVSHITZ, 1973)
- Setal teeth much longer, sharp: not shorter than width of stem of seta. Length of setae: 12-16. Palpal tarsus more elongate: ratio ca 7:2. Striation subtype "Paralorryia s. str.". Body length of female: ca 275 *lena* (KUZNETZOV, 1973)
76. Gnathosoma visible from above. Striation subtype "Paralorryia-incerta". Dorsal idiosomal setae smooth and unequal in shape: aspidosomal setae pointed, while opisthosomal ones – blunt. Setae f2, h1, h2 and ps1 almost club-like, rounded distally *vinea* (UECKERMANN & SMITH MEYER, 1979)
- Gnathosoma hidden under aspidosoma. Striation subtype "Paralorryia s. str.". Dorsal body setae not smooth, subequal in shape and all sharp distally 77
77. Dorsal idiosomal setae straight, relatively long: f1 longer than the distance between f1 and h1; c1 longer than 1/2 length of section c1-c1; d1 longer than 1/2 distance d1-d1; f1 longer than 1/2 distance f1-f1; h1 subequal in length with h1-h1 distance *masoni* (BAKER, 1968)
- Dorsal idiosomal setae slightly bent and shorter: f1 not longer than distance f1-h1. Setae c1, d1, f1 and h1 not longer than 1/2 distance between two "sister" setae, respectively 78
78. Dorsal striae of anterior part of aspidosoma lie transversely, i.e. parallel to anterior aspidosomal projection *flamma* (KUZNETZOV, 1973)
- Entire surface of aspidosoma (jointly with its anterior part) longitudinally striated 79
79. Dorsal idiosomal setae of medium length: longer than the width of leg segments. Solenidion ω I much shorter than width of tarsus I. *chapultepecensis* (BAKER, 1943) comb. n.
- Dorsal idiosomal setae very short: shorter than width of leg segments. Solenidion ω I as long as width of tarsus I. *stegmaieri* (BAKER, 1968)
80. Reticulation forms a single, longitudinally elongated area in the middle of aspidosoma, between setae ro, la and trichobothrials. *fabae* (EL BAGOURY & MOMEN, 1988) comb. n.

- No reticulation present. 81
- 81. Gnathosoma visible dorsally. 82
- Gnathosoma invisible dorsally (covered under aspidosoma) 84
- 82. Dorsal idiosomal setae serrated. Bothridial setae simple, stiff and blunt. Palpal tarsal eupathidium (p ζ) blade-like. *brusti* (MOMEN & SINHA, 1991) comb. n.
- Dorsal idiosomal setae smooth. Bothridial setae smooth and flabby, filiform, or expanded and furcated distally. Eupathidium (p ζ) blade-like. 83
- 83. Bothridial setae filiform, about four times as long as remaining aspidosomal setae. All dorsal setae similar in shape, spike-like. Palpal eupathidium (p ζ) equally narrow and subequal in length to palpal tarsus. Striation subtype “Biparalorryia” *artichokei* (EL BAGOURY & MOMEN, 1989) comb. n.
- Bothridial setae expanded and trifurcated distally. Dorsal idiosomal setae unequal in shape: setae f1, f2, h1, h2 and ps1 expanded distally and blunt, while the remaining ones – tapered. Palpal tarsus twice as long as palpal tarsal eupathidium, thick in three fourth of its length and becoming narrow to the tip. Striation subtype “Paravenilia” *furcata* (UECKERMANN & SMITH MEYER, 1979) comb. n.
- 84. Palpal tarsus (ca 20) longer than its terminal eupathidium (ca 14). Dorsal idiosomal setae sickle-likely bent, 22-25 long. Setae bo no more than two times longer than remaining dorsal setae. *latiuscula* (KUZNETZOV, 1972) comb. n.
- Palpal tarsus not longer than its eupathidium (ca 14). Dorsal setae not bent, 17-18 long. Setae bo more than three times longer than remaining dorsal setae *nasata* (SCHIESS, 1981) comb. n.
- 85. Striation subtype “Mesoparalorryia” or “Mesoparalorryia-*incerta*” (transverse striae between setae d1 – Figs 5B, E) 132
- Another subtype of striation 86
- 86. Dorsal ornamentation with reticulate elements 87
- Dorsal ornamentation without reticulate elements 118
- 87. Reticulate elements on aspidosoma and opisthosoma, or on opisthosoma only. 88
- Reticulate elements on aspidosoma only 105
- 88. Dorsal posterior part of opisthosoma with large reticulate area A(h2)(h1)(ps1) 89
- A(h2)(h1)(ps1) absent 101
- 89. Lack of reticulum on aspidosoma (dorsal setae rod-like, blunt, slightly serrated, approximately as long as 1/2 distance between their bases) *argentiniensis* (BAKER, 1968) comb. n.
- Aspidosoma with reticulate elements (dorsal setae variable in shape) 90
- 90. Aspidosomal reticulum limited to AA0; thus, none of aspidosomal setae stick in reticulated area 91
- If even only one reticulate area exists on aspidosoma – at least two pairs of setae stick in its range 94
- 91. Besides AA0 and A(h2)(h1)(ps1) reticulate ornament forms a small regions: A0[c2], A[c2]0, Ae1, Ae1, Af1, Af1, Af2, Af2 (dorsal idiosomal setae short, narrowed distally but not sharp, with blunt scale-shaped teeth). *fibra* (KUZNETZOV, 1975) comb. n.
- AA0 and A(h2)(h1)(ps1) occur only. 92
- 92. Dorsal idiosomal setae long: longer than distances between their bases and longer than bothridial setae (bo). Solenidion ω I long: about as long as width of segment *sapidilla* (BAKER, 1968) comb. n.
- Dorsal idiosomal setae not so long: shorter than the distance between their bases (with exception of h1, h2 and ps1) and shorter than bothridial ones. Solenidion ω I shorter than the width of segment 93
- 93. Dorsal idiosomal setae serrate and sharp distally. Solenidion ω I not as long as 1/2 width of segment. Empodiae with hooks (om) *peruviensis* (BAKER, 1968) comb. n.
- Dorsal idiosomal setae smooth and blunt distally. Solenidion ω I longer than 1/2 width of segment. Empodiae without hooks (om) *parafibra* (MOMEN, 1988) comb. n.
- 94. Dorsal idiosomal setae very delicately serrated and blunt: rounded distally. Meshes of reticulation between setae ro and bo elongated according to main body axis. 95

- Dorsal setae strongly haired and sharply ended. Aspidosomal meshes about as long as broad, polygonal. 96
- 95. Setae la lie outside reticulate area (thus, A(ro)(bo) occurs). Setae ps1 situated dorsally. Common dorsal idiosomal setae long: distinctly longer than 1/2 length of bothridial setae. Setae fl longer than the distance fl-h1. Empodial hooks (om) present *mexicana* (BAKER, 1968) comb. n.
- Setae la lie on the verge of reticulate area, but not outside of them (thus, A(ro)(la)(bo) occurs). Setae ps1 situated terminally. Dorsal idiosomal setae shorter: about as long as 1/2 length of (bo). Setae fl slightly shorter than distance fl-h1. Empodial hooks absent *berryi* (BAKER, 1968) comb. n.
- 96. Reticulation limited to A(ro)(la)(bo) and A(h2)(h1)(ps1) only 97
- A few reticulate elements occur with the exception of the two areas mentioned above. 98
- 97. Length of idiosoma of adults: 380-400, width: 260-300. Palpal tibial setae unequal in length: t' two times longer than t''. Dorsal idiosomal setae covered with hairs a few times longer than the width of setal stem. Setae fl subequal in length to 1/2 distance fl-h1 *jesionowskii* sp. n.
- Measurements of adults: 290-330 / 170-210. Palpal tibial setae subequal in length. Dorsal body setae with short hairs. Setae fl nearly as long as fl-h1 distance *nesziyyonensis* (GERSON, 1968)
- 98. Lack of empodial hooks (om). Dorsal idiosomal setae with scarcely distributed hairs. Three reticulate areas on aspidosoma: A(ro)(la)(bo) and two smaller ones: $A \frac{0}{[ex]}$, $A \frac{0}{[ex]}$.
Opisthosoma with three areas also: very small Ae1, Ae1 and vast A(h2)(h1)(ps1). Setae ps1 situated on dorsal side *aegyptiaca* (RASMY & EL BAGOURY, 1979) comb. n.
- Empodial hooks present. Dorsal setae densely haired. Somewhat different arrangement of reticulate regions. Setae ps1 situated terminally or in ventral side 99
- 99. Gnathosoma completely hidden under aspidosoma. Setae ro (ca 18) shorter than la and distinctly shorter than remaining ones *concinna* (OUDEMANS 1929)
- Gnathosoma visible from above. Setae ro longer: longer than la and indistinctly shorter than remaining ones 100
- 100. Setae ro (ca 25) slightly shorter than distance ro-la. Setae fl slightly shorter than the distance fl-h1. Setae ps1 similar in length to other dorsal setae. Seta ft''ζ on tarsus I "rough". Setae tcζ on tarsus I smooth. Claws (ol) nude. On both sides of large aspidosomal reticulate area
A(ro)(la)(bo) three pairs of small areas occur: A0[la], $A \frac{0}{[ex]}$, A0[ex] on the left side, and A[la]0, $A \frac{0}{[ex]}$, A[ex]0 on the right side *elegans* sp. n.
- Setae ro (ca 44) slightly longer than distance ro-la. Setae fl subequal in length with fl-h1 distance. Setae ps1 distinctly shorter than other dorsal setae. Seta ft''ζ smooth. Setae tcζ "rough". Claws (ol) with slightly pilose ventral edges. Aspidosomal reticulation limited to vast A(ro)(la)(bo) region. *ornata* sp. n.
- 101. Regular reticulation composed of polygonal (about as long as broad) meshes, similar to each other. Reticulate areas distinctly separated from striation. Aspidosomal area: A(ro)(la)(bo). Opisthosomal areas (two pairs): Af2f1, Af1f2 and Ah2h1, Ah1h2. Setae: f1, f2, h1, h2 and ps1 blunt, remaining – narrowly lanceolate and sharp *magdalenae* (BAKER, 1968) comb. n.
- Irregular reticulation: meshes more or less elongated, vary in shape. Boundary between reticulation and striation not sharp. None of aspidosomal setae situated in reticulate area (AA0 occurs). Different distribution of opisthosomal reticulate elements. Common dorsal body setae either equal in shape, or only ro and la sharply ended, the remaining ones blunt terminally. 102
- 102. Dorsal idiosomal setae with different ends: ro and la pointed, remaining ones broadened and rounded terminally (blunt). Empodiae without hooks (om). Except of AA0 a few reticulate elements occur anteriorly and posteriorly to line d1-d1, as well as between setae fl (A[f1]0[f1]) *celtides* (UECKERMANN & SMITH MEYER, 1979) comb. n.
- Dorsal setae equally ended (sharp). Empodial hooks (om) present. Somewhat different arrangement of reticulation 103

103. Dorsal idiosomal setae unequal in length and not narrowed distally. Solenidion ω I bent and very long; longer than the width and height of tarsus I. Besides AA0 reticulation forms the following areas: $A \frac{0}{[bo]}$, $A \frac{0}{[bo]}$, A0[c2], A[c2]0, Ah2h1 and Ah1h2 *incomperta* sp. n.
- Dorsal idiosomal setae subequal in length and sharp distally. Solenidion ω I straight or almost straight and short: shorter than 1/2 width and height of tarsus I. Different arrangement of reticulation. 104
104. Dorsal idiosomal setae broadly lanceolate. Bothridial setae (bo) short (29): shorter than the double length of common dorsal setae. Empodial hooks (om) poorly developed. Striation subtype “Paralorryia s. str.”. Except of AA0 reticulation forms A0[c2], A[c2]0, as well as a few small areas scattered on the surface of aspidosoma and opisthosoma. No inconstancy of number of genital and aggenital setae stated (Genital chaetotaxy: female (0-6-4)). *monticola* (UECKERMAN & SMITH MEYER, 1979) comb. n.
- Dorsal idiosomal setae narrowly lanceolate. Bothridial setae (bo) long (67): a few times longer than remaining (common) dorsal setae. Empodial hooks (om) strongly developed. Striation subtype “Paralorryia-incerta”. Except AA0 and $A \frac{[bo]}{[cl]}0A \frac{[bo]}{[cl]}$ exist usually $A \frac{[cl]}{[d1]}0A \frac{[cl]}{[d1]}$ or $A[d1]0[d1]$. Also Ae1, Ae1, Ah1, Ah1, A(ps1) or A[ps1]0[ps1] may occur – thus, opisthosomal reticulation is irregular. Variable number of genital and aggenital setae; usually poorer than typical one (6-4) (e. g.: 3-4, 3-3, etc.). *inconstans* KĄZMIERSKI, 1989
105. Vast aspidosomal reticulate area contains the bases of setae ro and la, and reaches to the bases of bothridial setae (bo). Dorsal idiosomal setae densely haired, flabby, very long (43-63). Setae fl not shorter than distance fl-h1 *septuagesimusseptima* sp. n.
- None of setae stick in aspidosomal reticulation. Dorsal idiosomal setae of another character. . . 106
106. Four aspidosomal reticulate areas present: AA0, $A \frac{0}{[bo]}$, $A \frac{0}{[bo]}$ and relatively vast $A \frac{[bo]}{[cl]}0A \frac{[bo]}{[cl]}$ near by “das” furrow (dorsal idiosomal setae short: 13-15, sharp, serrated and strongly bent) *pinifera* (KUZNETZOV, 1973) comb. n.
- No meshes anterior of (bo) present. A single AA0 occurs only, at least with addition of a few meshes, which form small $A \frac{[bo]}{[cl]}0A \frac{[bo]}{[cl]}$, or only this latter area occurs. 107
107. No AA0 present. A few meshes form small area $A \frac{[bo]}{[cl]}0 \frac{[bo]}{[cl]}$. Genital chaetotaxy usually poorer than common one: five or four pairs of genital setae (ge) present only. Striation subtype “Paralorryia s. str.”. Strial tubercles in form of rectangles. Stiletos slightly shorter than palpal tarsus. Empodial hooks well developed. Solenidion ω I short. Dorsal body setae narrowly lanceolate and slightly serrate, 16-17 long *ancoraria* (KARG, 1975) comb. n.
- Another combination of characters. 108
108. Palpal tarsus dumpy and short: as long as its double width. Cheliceral stiletos longer than combined length of palpal tarsus and its terminal eupathidium (striation subtype “Paralorryia s. str., dorsal idiosomal setae sharp, lanceolate and strongly serrate, solenidion ω I (11) not shorter than the width of tarsus I) *saga* (LIVSHITZ, 1973) comb. n.
- Palpal tarsus more elongated: distinctly longer than its double width. Cheliceral stiletos shorter than combined length of palpal tarsus and its terminal eupathidium. 109
109. Seta d on palpal tarsus unique in shape: forked from the very base. Stick-like, rounded distally and “rough” dorsal idiosomal setae longer than trichobothrials (only ro are subequal in length to bo) *tragelaphus* KĄZMIERSKI, 1993
- Seta d on palpal tarsus forked only on the very tip. Dorsal idiosomal setae shorter than bothridial ones 110
110. Common dorsal idiosomal setae sharply ended, serrated 115
- At least some dorsal idiosomal setae blunt distally 111
111. All common dorsal idiosomal setae rod-like, blunt distally (aspidosomal setae slightly more narrow than opisthosomal ones). Bothridial setae (bo) whiplike and flabby *mali* (OUDEMANS, 1929)

- At least setae ro and la sharp distally. Bothridial setae stiff, not whiplike. 112
- 112. Setae ro and la sharp. Setae ex, c1, c2 and d1 rod-like, e1 and f1 -slightly expanded. Remaining setae more widely expanded distally. Bothridial setae serrate, similarly to other ones. *dorothyae* (MOMEN, 1994) comb. n.
- Besides ro and la also at least setae ex, c, d, and e are sharply ended. Bothridial setae nude . . . 113
- 113. Only setae h1, h2 and ps1 blunt. Bothridial setae narrowly lanceolate, sharply ended. Aspidosoma with two small reticulate areas: AA0 and $A \frac{[bo]}{[cl]}_0 \frac{[bo]}{[cl]}$ *amica* sp. n.
- Not only setae h1, h2 and ps1 blunt. Bothridial setae of equal thickness throughout their length and bluntly ended. Aspidosoma with AA0 only 114
- 114. Setae f2 blunt, setae f1 sharp. Dorsal idiosomal setae very subtly serrated . . . *ferula* BAKER, 1944
- Both pairs of setae f blunt. Dorsal idiosomal setae smooth-like. *italica* (OUDEMANS, 1928)
- 115. Bothridial setae (bo) stout, rod-like, blunt distally and serrated *gerei* (MOMEN & LUNDQVIST, 1996) comb. n.
- Bothridial setae sharp distally, nude, not rod-like 116
- 116. Striation subtype “Paravenilia”. AA0 atypically located, invisible dorsally: it lies in frontal plain, as well as near by anterior projection of aspidosoma, but on the ventral side. Solenidion ω 1 short, about as long as 1/2 width of palpal tarsus: it not reaches to the bases of tectal setae (tc ζ) *akelai* sp. n.
- Striation subtype “Paralorryia s. str.”. Small AA0 typically located, visible dorsally. Solenidion ω 1 long: not shorter than the width of segment: its peak reaches to the bases of (tc ζ) 117
- 117. Bothridial setae strong, stiff, acute, about two times as long as other dorsal idiosomal setae. The latter ones set in small, tear-shape and finely striated areas. Idiosoma medium-sized (dimensions of female-holotype: 257/148). *woolleyi* (BAKER, 1968)
- Bothridial setae filiform, not strong and stiff, about three times as long as other dorsal body setae. No “tears” around the bases of setae. Body small (dimensions of females: 173-183/117-119) *exiguelitteratus* (MOMEN & LUNDQVIST, 1995) comb. n.
- 118. Striae between setae c1 lie longitudinally (striation subtype “Bipalorryia”). Gnathosoma hidden under aspidosoma. 119
- Striae between setae c1 lie transversely. Gnathosoma at least partially protrudes before anterior projection of aspidosoma 120
- 119. Dorsal idiosomal setae blunt, broadly spatulate-serrate. Anteriad of setae ex on aspidosoma the striae over eye forming an oval-transverse and lens-like structure. Lyrifissures *im* located posteriorly to e1 setae and laterally to the prolongation of c2-e1 line . . *striata* (BAKER, 1968)
- Dorsal idiosomal setae sharp, narrowly lanceolate-serrate. Lack of lens-like structures in aspidosomal ornamentation. Lyrifissures *im* located anteriorly to e1 *eharai* (BAKER, 1968) comb. n.
- 120. Cheliceral stilettos longer than combined length of palpal tarsus and its terminal eupathidium (p ζ). Dorsal idiosomal setae plumose (strongly spined). *gonzalezi* (BAKER, 1968) comb. n.
- Cheliceral stilettos not longer than combined length of palpal tarsus and its terminal eupathidium. Dorsal idiosomal setae not plumose (not so strongly spined) 121
- 121. Dorsal idiosomal setae long and haired: setae f1 about as long as distance f1-h1 (length of setae f, h and ps1, i.e. “caudal” setae: 32-41). Tarsal solenidions unique in shape: acute, in form of spire *oryx* KAŻMIERSKI, 1993
- Another character of dorsal idiosomal setae. Another (“normal”) shape of tarsal solenidions . . 122
- 122. Dorsal idiosomal setae unequal in shape 123
- Dorsal idiosomal setae equally shaped 126
- 123. Setae ro and la thin and smooth. Proximal half of setae ex serrated. Other dorsal body setae (except bo) strongly serrate. A few transverse striae on very front of aspidosoma, nearby its anterior projection *penicillata* (MOMEN & LUNDQVIST, 1996) comb. n.
- Another combination of characters. 124
- 124. All dorsal idiosomal setae with sharp tips. Aspidosomal setae, as well as setae c1, c2 and d1 needle-shaped, very slender and smooth. The remaining ones are thicker, lanceolate and slightly

- “rough”. A whorl-like pattern present between la and ex
brachypous PANOU & EMMANOUEL, 1995
- At least a part of dorsal idiosomal setae with blunt tips. No whorl-like patterns present 125
125. Dorsal idiosomal setae slightly serrate. Aspidosomal setae, as well as setae c, d and e sharply ended. Opisthosomal setae f, h and ps1 rod-like. Cheliceral stiletos as long as palpal tarsus *obliqua* (KUZNETZOV, 1973) comb. n.
- Dorsal idiosomal setae nude. Aspidosomal setae, as well as setae c, d and e rod-like. Opisthosomal setae f, h and ps1 more expanded distally (club-like). Stiletos shorter than palpal tarsus *paraobliqua* PANOU & EMMANOUEL, 1996
126. Dorsal idiosomal setae distinctly different in length, for example: f1 twice as long as ro and la. Idiosoma extremely elongated: ratio of length to width nearly 2:1. Setae e1 closely situated to each other: section e1-e1 shorter than double length of d1-d1 . . . *longiuscula* (KUZNETZOV, 1972)
- Dorsal idiosomal setae more or less equal in length. Setae ro and la much longer than 1/2 length of f2. Idiosoma not so strongly elongated. Section e1-e1 not shorter than double length of d1-d1 127
127. Striation subtype “Paravenilia”. A whorl-like pattern present between setae la and ex (dorsal idiosomal setae broadly lanceolate, serrate). *opifera* (KUZNETZOV, 1973) comb. n.
- Striation subtype “Paralorryia s. str.”. Lack of whorl-like pattern between la and ex 128
128. Dorsal idiosomal setae smooth, needle-shaped. *baderi* (SCHIESS, 1981) comb. n.
- Dorsal idiosomal setae not smooth (“rough”, or serrated), another in shape. 129
129. All dorsal idiosomal setae shorter than palpal tarsus. 130
- At least opisthosomal dorsal setae not shorter than palpal tarsus 131
130. Dorsal idiosomal setae lanceolate, strongly serrated, curved, sharply ended and very short (10-12). Empodiae with small hooks (om). Seta ft’ζ on tarsus I two times longer than ft’
 *falsa* (LIVSHITZ, 1973) comb. n.
- Dorsal idiosomal setae not lanceolate, very slightly serrated (“rough”), straight, narrowed on the very ends, but not sharp and not so short (19-22). Empodial hooks (om) absent. Setae ft on tarsus I subequal in length *balcanica* (NATCHEV & SIMOVA, 1978) comb. n.
131. Bothridial setae (ca 30) about two times longer than other dorsal idiosomal setae. These latter ones with relatively strong, but sparsely distributed serration. No tear-shape areas around the bases of dorsal setae. Striation with rectangular tubercles, which adhere to the striae by their longer sides. Empodial hooks (om) very small *ocellata* (KUZNETZOV, 1972) comb. n.
- Bothridial setae (ca 70) more than three times longer than most of other idiosomal dorsal setae. The latter ones with very small, but closely distributed serration (“rough”). Tear-shape areas with tiny striation present around the bases of dorsal setae. Lack of rectangular tubercles: striae with small rods only. Empodial hooks (om) big and strong: thicker than claws (ol) and equal to 1/2 length of ol *solaris* KĄŻMIERSKI, 1991
132. Striation subtype “Mesoparalorryia” (Fig. 5B). 135
- Striation subtype “Mesoparalorryia-incerta” (Fig. 5E) 133
133. Reticulate elements occur on aspidosoma and opisthosoma and form the following regions: AA0, Abo, Abo, Ae1, Ae1, Af2, Af2, Ah2h1, Ah1h2 and A(ps1). Gnathosoma completely hidden under aspidosoma. Cheliceral stiletos shorter than palpal tarsi, which are elongated. “X”-shaped cross-ties on the striae *livshitzii* (KUZNETZOV, 1974) comb. n.
- Reticulate elements may occur at least on aspidosoma (AA0). Gnathosoma visible from above. Cheliceral stiletos longer than palpal tarsi, which are short. Striae with “T”-shaped costulae, or with well developed tubercles 134
134. Idiosoma oval, commonly elongated. A few meshes form AA0 near by anterior projection of aspidosoma. Striae with small, “I”-shaped costulae. Cheliceral stiletos shorter than combined length of palpal tarsus and its terminal eupathidium (pζ). Dorsal idiosomal setae aciculate, nude. Empodial hooks absent *danielssoni* (MOMEN & LUNDQVIST, 1995) comb. n.
- Idiosoma extremely broadened (ratio of length to width – nearly 10:9). No reticulate elements (striation only). Striae with tubercles. Cheliceral stiletos longer than combined length of palpal tarsus and (pζ). Dorsal idiosomal setae lanceolate-serrate. Empodial hooks present . . . *perlata* sp. n.

135. Dorsal idiosomal setae strongly plumose. Cheliceral stilettos longer than palpal tarsi. Striae with "X"-shaped cross-ties *recki* (LIVSHITZ, 1973) comb. n.
- Dorsal idiosomal setae smooth or serrated. Stilettos shorter than palpal tarsi. Striae with rods or "I"-shaped costulae 136
136. Dorsal idiosomal setae smooth, sharp, aciculate. Empodial hooks (om) big and very strong: broader than claws (ol) and not shorter than 1/2 length of ol 138
- Dorsal idiosomal setae serrated, narrowed distally, but not sharp. Empodial hooks not so big and strong. 137
137. Idiosoma commonly elongated (ratio ca 5:3). Empodial hooks relatively well developed: typically bent and only slightly shorter than 1/2 length of claws (ol). Rods on the striae two-three times longer than the width of dorsal striae *blaszaki* sp. n.
- Idiosoma extremely elongate (ratio nearly 2:1). Empodia without typically bent hooks: only a small, insignificantly curved thorn at the very base of empodium occurs. Rods on the striae very tiny and only subtly longer than the width of dorsal striae *bloszyki* sp. n.
138. Reticulation forms a distinct AA0 *caputoperio* (MOMEN & LUNDQVIST, 1995) comb. n.
- Lack of reticulation 139
139. Solenidion ω I long: its length is subequal to 3/4 of width of tarsus I and its peak reaches the bases of tectal setae. All dorsal idiosomal setae about 15 long *subularis* (KUZNETZOV, 1972)
- Solenidion ω I short: not longer than 1/2 width of tarsus I. Its peak does not reach the bases of tectal setae. Dorsal idiosomal setae 17-25 long, with exception of shorter ps1 *subularoides* KAŻMIERSKI, 1989
140. Ornamentation type "Venilia": posteriorly to section c1-c1 the striae are parallel to the main body axis as far as to setae fl, thus the orientation of striae is longitudinal between d1, c1 and fl (Fig. 5J) 141
- Another type of ornamentation 147
141. Claws (ol) strongly haired. Large eyes between the bases of la and ex well developed and visible *leonorae* (UECKERMANN & SMITH MEYER) comb. n.
- Claws (ol) nude. Eyes, if occur, weakly developed (not large) 142
142. Dorsal striae of anterior part of aspidosoma parallel to anterior aspidosomal projection (i. e. transversely). Palpal tarsal eupathidium (p ζ) with distinct "T"-shaped tip. Seta v on palpal tarsus clearly serrated *ovata* (KUZNETZOV, 1979) comb. n.
- Entire surface of aspidosoma (jointly with its anterior part) longitudinally striated. Eupathidium (p ζ) without "T"-shaped tip: blunt, or at least cleft distally (with two small teeth). Seta v on palpal tarsus smooth 143
143. Aspidosomal whorl-like pattern between setae la and ex present. All dorsal idiosomal setae shorter than 1/2 length of bothridial ones 144
- Whorl-like pattern absent. At least some dorsal idiosomal setae longer than 1/2 length of bothridial ones 145
144. Gnathosoma hidden under aspidosoma and only distal part of palpi are visible from above. Palpal eupathidium (p ζ) blunt distally *zaheri* (BAKER, 1968) comb. n.
- Gnathosoma protrudes before anterior edge of aspidosoma (only its basal part invisible). Eupathidium (p ζ) cleft distally *maga* (KUZNETZOV, 1973)
145. Dorsal idiosomal setae stout, narrowly lanceolate, serrate and relatively short (12-18). None of them is nearly as long as trichobothrials. Setae fl do not reach with their tips 1/2 distance fl-h1 *liberta* (LIVSHITZ, 1973) comb. n.
- Dorsal setae whiplike and hairy; in most part relatively long (10-47). Some of them are nearly as long as trichobothrials, or even slightly longer. Setae fl distinctly longer than distance fl-h1 146
146. Body large (dimensions of female-holotype: 353 / 208). Gnathosoma covered distally with aspidosoma and only palpal tarsi may be visible from above. No significant differences between the lengths of dorsal idiosomal setae: the shortest ones (la) – 25, the longest ones (f2 and h2) – less than 50 *longina* (KAŻMIERSKI, 1980)

- Body less than medium-sized (holotype female: 220 / 135). Gnathosoma strongly protrudes before anterior projection of aspidosoma. Dorsal idiosomal setae extremely different in length: la – 8, h2 – about 33. (“caudal” setae characteristically long). *caudata* (KUZNETZOV, 1979) comb. n.
- 147. Ornamentation type “Tydeus”: dorsal side covered completely or in most part with striae. Between setae d1 the striae lie transversely, or form an “U”- or “V” pattern (Fig. 5A). 148
- Ornamentation type “Basketweave”: body surface covered with special kind of granulation, as in Fig. 7 172
- 148. Ornamentation with reticulate elements 149
- Ornamentation without reticulate elements (striation only) 152
- 149. Aspidosomal reticulation vast: three pairs of setae stick in reticulated cuticle – thus, area A(ro)(la)(bo) occurs. Striae transverse anterior of section d1-d1. Dorsal idiosomal setae slender and apparently nude *chiapensis* BAKER, 1968
- Reticulation limited to very front of aspidosoma and none of setae stick in reticulated cuticle – thus, area AA0 occurs only. Anterior of section d1-d1 the striae form an “U”- or “V”-shaped pattern. Dorsal idiosomal setae narrowly lanceolate and serrate 150
- 150. Cheliceral stilettos equal in length to palpal tarsi. Ventral striae longitudinal between metasternal setae. Solenidion ω l (14) as long as width of tarsus I *praeftata* (KUZNETZOV & ZAPLETINA, 1973) comb. n.
- Stilettos shorter than palpal tarsi. Ventral striae arranged in “V” between metasternal setae. Solenidion ω l much shorter (ca 6): at least as long as 1/2 width of tarsus I 151
- 151. Empodial hooks (om) present. Setae f1 distinctly shorter than 1/2 distance f1-h1. *matura* (LIVSHITZ, 1973) comb. n.
- Empodial hooks (om) absent. Setae f1 about as long as 1/2 distance f1-h1 *opima* (KUZNETZOV & ZAPLETINA, 1973) comb. n.
- 152. Palpal tarsal eupathidium thorn-like, acute. Striae with strong, rectangular tubercles. Dorsal body setae of medium length, strong, serrated and sharply ended *manitobensis* (MOMEN & SINHA, 1991) comb. n.
- Another combination of characters 153
- 153. Cheliceral stilettos distinctly shorter than palpal tarsus 154
- Cheliceral stilettos not shorter than palpal tarsus. 163
- 154. Dorsal idiosomal setae unequal in shape: aspidosomal setae, as well as setae c1, c2 and d1 spindle-like, sharp; remaining ones – club-like, rounded distally (all setae serrated). *elinguis* (KUZNETZOV, 1973) comb. n.
- Dorsal idiosomal setae equally shaped 155
- 155. Dorsal idiosomal setae smooth (these are short, narrowly lanceolate and sharp). Empodial hooks (om) extremely big and strong) 156
- Dorsal idiosomal setae not smooth 157
- 156. Body elongated (240/110): proportion coefficient ca 2.2. Setae f1 15 long, as long as 1/3 distance f1-h1. Bothridial setae about three times longer than remaining dorsal idiosomal setae. *tridactyla* (WEISS-FOGH, 1948) comb. n.
- Body shorter, but broader (210/135): proportion coefficient ca 1.5. Setae f1 at least 10 long and not longer than 1/4 distance f1-h1. Bothridial setae about four times longer than remaining dorsal idiosomal setae *devexa* (KUZNETZOV, 1973) comb. n.
- 157. Palpal tarsal eupathidium (p ζ) acute. Striae in “U”-pattern between setae d1 extremely narrow and elongated *triloba* (KARG, 1992) comb. n.
- Eupathidium (p ζ) cleft or broadened distally (goblet-shape), not acute. Striae in “U” or “V” pattern between setae d1 more obtuse 158
- 158. Lack of empodial hooks (om) 159
- Empodial hooks occur 160
- 159. Body elongated. Ventral striae between metasternal setae lie longitudinally. Dorsal setae slender and relatively long: setae f1 distinctly longer than 1/2 distance fi-h1. Bothridial setae slightly serrate. Solenidion ω l long: not shorter than the width of tarsus I *oregonensis* (BAKER, 1970) comb. n.

- Body broadened. Ventral striae between metasternal setae lie transversely. Dorsal setae lanceolate, short: setae fl about as long as 1/2 section fl-h1. Bothridial setae smooth. Solenidion ω l short: shorter than 1/2 width of tarsus I *obnoxia* (KUZNETZOV & ZAPLETINA, 1972) comb. n.
- 160. Dorsal idiosomal setae narrow and not subequal in length: setae h1 and h2 about two times longer than aspidosomal ones. Setae fl longer than distance fl-h1. Solenidion ω l much longer than 1/2 width of segment *obstinata* (LIVSHITZ, 1973) comb. n.
junior synonym: *Tydeus magnanus* KARG, 1975 syn. n.
- Dorsal idiosomal setae subequal in length, strong and short: setae h1 and h2 at least subtly longer than aspidosomal ones. Seta fl at least not longer than distance fl-h1. Solenidion ω l at least not longer than 1/2 width of segment. 161
- 161. Dorsal idiosomal setae of equal thickness throughout their length, pointed on very ends and “rough” only (inconspicuously serrated). Ventral striae between metasternal setae almost transverse (an obtuse “U”) *zebramontana* (MEYER, 1988) comb. n.
- Dorsal idiosomal setae lanceolate and strongly serrate. Ventral striae between (mt) “V”-shapedly 162
- 162. Body small: dimensions of female holotype – 191/140. Longitudinal striae between setae fl. The latter ones are as long as 1/2 distance fl-h1. Solenidion ω l three times shorter than the width of tarsus I. Six pairs of genital setae (ge) in adults *georgiensis* (BAKER, 1970) comb. n.
- Body large: dimensions of female holotype – 504/306. Almost transverse striae between setae fl. The latter ones are very short: clearly shorter than 1/2 distance fl-h1. Solenidion ω l two times shorter than width of tarsus I. Holotype female with five pairs of ge *tuttlei* (BAKER, 1965) comb. n.
- 163. Cheliceral stiletto shorter than combined length of palpal tarsus and its terminal eupathidium (p ζ) 164
- Stiletto longer than combined length of palpal tarsus and (p ζ) 170
- 164. Stiletto as long as palpal tarsus 165
- Stiletto distinctly longer than palpal tarsus 167
- 165. A few striae on very front of aspidosoma lie transversely, i. e. parallel to anterior projection of aspidosoma. Dorsal idiosomal setae narrowly aciculate and nude. Solenidion ω l very short: about 1/3 as long as width of tarsus I. Holotype female and all the paratypes with two pairs of genital setae ge only – thus, genital pattern (ge-ag) is (2-4), although female genital chaetotaxy variable, e.g.: (2-3), (3-3), (3-4) *mirabila* (KUZNETZOV, 1973)
junior synonym: *unguis* (KARG, 1975)
- Aspidosomal surface completely covered with longitudinal striation. Dorsal idiosomal setae lanceolate and serrate. Solenidion ω l not shorter than 1/2 width of tarsus I. Genital chaetotaxy of females typical: (0-6-4) (variability not observed) 166
- 166. Ventral striae between metasternal setae arranged in “V”. Setae fl longer than 1/2 distance fl-h1. Solenidion ω l as long as 1/2 width of its segment. *australensis* (BAKER, 1970)
- Ventral striae between (mt) lie longitudinally. Dorsal idiosomal setae shorter: fl shorter than 1/2 distance fl-h1. Solenidion ω l longer than 1/2 width of segment *wainsteini* (KUZNETZOV, 1973)
- 167. Dorsal idiosomal setae aciculate, nude 168
- Dorsal idiosomal setae serrated. 169
- 168. Palpal tarsal eupathidium (p ζ) sharply ended, in shape of spire. Palpal tarsus elongate (ratio of length to width – 4:1). Empodial hooks (om) well developed, distinctly curved. Ventral striae between metasternal setae form “V”-letter pattern. Holotype female, as well as paratypes (adults) with five pairs of genital setae *schusteri* (ANDRÉ & NAUDO, 1965) comb. n.
- Palpal tarsal eupathidium with semi-moon cross-piece on the tip. Palpal tarsus dumpy (ratio 3:1). Empodial hooks weakly developed, in form of triangular tooth. Longitudinal ventral striae between (mt). Six pairs of ge in adults *nuda* (KARG, 1992) comb. n.
- 169. Ventral striae between metasternal setae arranged in “V”. Empodial hooks (om) present *placita* (LIVSHITZ, 1973)
- Ventral striae between (mt) somewhat irregular, transverse. Lack of empodial hooks *jacula* (KUZNETZOV, 1973) comb. n.

170. Dorsal idiosomal setae long, slender and nude. Setae h and ps1 at least 1/3 longer than other ones and nearly as long as bothridial setae. Tarsi of legs and palpal tarsus elongated.
A pair of oval "swirls" occurs between c1 and c2 setae . . . *argentinensis* (BAKER, 1970) comb. n.
junior homonym of *L. argentinensis* (BAKER, 1968)
- Dorsal idiosomal setae much shorter: h and ps1 a few times shorter than bothridial ones. All setae subequal in length. At least opisthosomal setae serrated. Tarsi relatively short.
Lack of "swirls" 171
171. Body rather broadened: proportion coefficient -1.35. Dorsal setae unequal in shape: aspidosomal setae thin and smooth, c1 and c2 ciliated and slightly serrated, d1 thicker and serrated, the remaining ones – strong and serrated, with exception of ps1, which are acciculate and smooth. Solenidion ω l distinctly shorter than width of tarsus I. Genital chaetotaxy of holotype female: (0-4-4), although inconsistency or asymmetry (e. g. : five ge on one side) were observed *sleipneri* (MOMEN & LUNDQVIST, 1996) comb. n.
- Body elongate: proportion coefficient – 1.9. Dorsal setae equal in shape: very short, sharp and serrate. Solenidion ω l long: indistinctly longer than the width of tarsus I. Genital chaetotaxy of holotype female: (0-6-4), although aberrations of this pattern (seven ge on one side) were observed *kattai* (MOMEN, 1994) comb. n.
172. Gnathosoma dorsally covered by aspidosoma. Longitudinal arrangement of striae in dorso-central part of opisthosoma. Basketweave pattern covers entire venter and occurs around the anal flaps *granulosa* (CANESTRINI, 1886)
- Gnathosoma visible from above. Transverse arrangement of striae in dorso-central part of opisthosoma. Basketweave pattern covers only a small posterior marginal portion of the opisthosomal venter and not reaches to anal flaps 173
173. Dorsal idiosomal setae relatively long, straight and strongly serrated. Setae d1 as long as distance d1-d1. Setae f1 as long as distance f1-f1 and longer than distance f1-h1. Ventral striae arranged in "V" between metasternal setae. Cheliceral stilettos as long as palpal tarsus. Fastigial setae on tarsus I unequal in length (ft' much shorter than ft'' ζ)
. *dumosa* (KUZNETZOV, 1973) comb. n.
- Dorsal idiosomal setae short, curved and only slightly serrated. Setae d1 shorter than 1/2 distance d1-d1. Setae f1 about as long as 1/3 distance f1-h1. Ventral striae lie longitudinally between (mt). Stilettos slightly longer than palpal tarsus. Fastigial setae on tarsus I subequal in length *visenda* (KUZNETZOV, 1973) comb. n.

Generic Unit cf. *Lorryia*

It differs from *Lorryia* OUDEMANS, 1925 sensu KĄŻMIERSKI (1989) only by the absence of seta trIII (trochanter formula for adults: 1-0-0-0).

"*Tydeus*" *lundqvisti* MOMEN & SOLHØY, 1996

Body broadly oval (333-345/230-236), completely striated: striation subtype "Mesoparalorryia-incerta". Dorsal setae acciculate, smooth and not long (16-19): f1 shorter than 1/2 of distance f1-h1. Bothridial setae filiform (56). Palpal tarsus dumpy and short: as long as its double width. Palpal eupathidium (p ζ) with "T"-shaped tip. Cheliceral styletto about as long as palpal tarsus combined with (p ζ). Genital chaetotaxy typical for the genus *Lorryia*: female (0-6-4), TN (4-4), independently of variable number of setae ge in a few paratypes of females (seven ge on one side).

Generic Unit TY1 (see ANDRÉ 1980)

Leg chaetotaxy as in *Lorryia* sensu KĄŻMIERSKI (1989) except the absence of seta trIII. This Unit differs from that mentioned above by absence of setae ps1 and by presence of four eupathidia on tarsus I only: (tc) and (p) (ANDRÉ studied four undescribed females found in the previous Belgian Congo, from BAKER's collection).

Genus: *Nudilorryia* KAŻMIERSKI, 1996

Description: as in KAŻMIERSKI (1996b)

Type-species: *Nudilorryia paraferula* KAŻMIERSKI, 1996Remaining species: *N. schotiae* (UECKERMANN, 1988), *N. obsequens* KAŻMIERSKI, 1996, *N. mariae* KAŻMIERSKI, 1996 and *N. virginia* KAŻMIERSKI, 1996.Key to the species of *Nudilorryia*

1. Dorsum reticulated (ornamentation type "Lorryia"). All common dorsal idiosomal setae stick-like and blunt. *virginia* KAŻMIERSKI, 1996
- Dorsum striated. At least not all dorsal idiosomal setae stick-like and blunt. 2
2. Striation type "Tydeus" (between setae d1 striae lie transversely). Cheliceral stiletto distinctly longer than palpal tarsus including terminal eupathidium (p ζ). *schotiae* (UECKERMANN, 1988)
- Striation type "Paralorryia" (between setae d1 striae lie longitudinally). Cheliceral stiletto distinctly shorter than palpal tarsus including (p ζ). 3
3. Dorsal idiosomal setae equal in type, sharp, short (not longer than 18) and strongly serrated. Bothridial setae (bo) whiplike, flabby and sharply ended, about three times longer than remaining setae. *mariae* KAŻMIERSKI, 1996
- Dorsal idiosomal setae different in type, totally longer (20-43) and "rough" only. Bothridial setae not whiplike: stout and blunt, shorter than the double length of remaining setae. 4
4. Paraxial dorsal setae on genu II forked distally. Setae ro, la, ex, c1, c2 and d1 – sharply ended. *paraferula* KAŻMIERSKI, 1996
- Paraxial dorsal setae on genu II not forked. Only setae ro sharply ended. *obsequens* KAŻMIERSKI, 1996

Generic Unit cf. *Nudilorryia*

According to FLECHTMANN's figures, the Unit differs from *Nudilorryia* only by the presence of second seta on coxa II (therefore, atypical epimeric formula: 3-2-4-2 is characteristic for this Unit).

"*Tydeus (Tydeus)*" *mali* FLECHTMANN, 1971

Body broadly oval, less than medium-sized (208/156) and completely striated. Striation type "Tydeus". Dorsal setae strong, curved, serrated and rather short. Bothridial setae significantly longer and nude. Palpal tarsus elongate: longer than cheliceral stiletto. Genital chaetotaxy: female (0-6-4).

Generic Unit TY2 (see ANDRÉ, 1980)

Leg chaetotaxy as in *Nudilorryia*, but the lack of solenidion ω II and palpal chaetotaxy 6-1-2 (single seta on palpal tibia only) are distinctive for this Unit. ANDRÉ studied one female and one male from Oregon (SANDERS' collection) having a combination of the characters mentioned above.

Genus: *Pseudolorryia* KAŻMIERSKI, 1989

Synonyms: see KAŻMIERSKI (1989b), also *Tydeus* in BAKER (1970) (in part) and in SMITH MEYER & UECKERMANN (1988) (in part).

Description: as in KAŻMIERSKI (1989b)

Type-species: *Pseudolorryia edwardbakeri* KAŻMIERSKI, 1989

Remaining species: *P. starri* (BAKER, 1944) comb. n., *P. nicaraguensis* (BAKER, 1970) comb. n., *P. mumai* (BAKER, 1970) comb. n., *P. turrialbensis* (BAKER, 1970) comb. n., *P. taurica* (KUZNETZOV, 1971), *P. spinea* (LIVSHITZ, 1973), *P. nikitensis* (LIVSHITZ, 1973), *P. andreae* (UECKERMANN & SMITH MEYER, 1979), *P. fustis* (UECKERMANN, 1988) comb. n. and *P. striata* (MOMEN & LUNDQVIST, 1996).

Key to the species of *Pseudolorryia*

1. Palpal tarsal eupathidium (p ζ) simple, rod- or thumb-like, rounded distally. Seta d on palpal tarsus simple, not forked. Ornamentation variable in type 2
- Palpal tarsal eupathidium (p ζ) not simple, with goblet-shape or “T”-shape tip, or cleft distally. Seta d forked. Ornamentation type “Tydeus” 5
2. Dorsum of opisthosoma reticulated 3
- Dorsum of opisthosoma striated 4
3. “Mountains-shaped” reticulation grouped into regular regions. Dorsal idiosomal setae “rough” only *edwardbakeri* KAŻMIERSKI, 1989
- Dorsal reticulation flat. No separate regions. Dorsal setae with small, but distinct serration *taurica* (KUZNETZOV, 1971)
4. Cheliceral stilettos (ca 23) longer than palpal tarsus (ca 18), but shorter than combined length of palpal tarsus and its rod-like terminal eupathidium (18+14). Striation type “Paralorryia”, subtype “Biparalorryia”. Dorsal idiosomal setae sickle-like, serrate, subequal in length *nikitensis* (LIVSHITZ, 1973)
- Cheliceral stilettos not shorter than 40, i. e. significantly longer than combined length of palpal tarsus and its thumb-like terminal eupathidium (14+6). Striation type “Tydeus”. Dorsal idiosomal setae acciculate, smooth. Setae ps1 and especially h2 distinctly longer than others *striata* (MOMEN & LUNDQVIST, 1996)
5. Reticulation occurs in aspidosoma and forms area A(ro)(bo) *andreae* (UECKERMAN & SMITH MEYER, 1979)
- Lack of reticulation 6
6. Palpal tarsus short and dumpy. Cheliceral stilettos distinctly longer than combined length of palpal tarsus and its terminal eupathidium. All dorsal idiosomal setae sharply ended. 7
- Palpal tarsus elongated. Cheliceral stilettos distinctly shorter than combined length of palpal tarsus and its terminal eupathidium. At least a part of dorsal idiosomal setae bluntly ended 9
7. Opisthosomal dorsal setae extremely strongly spined, with a few branches on the very bases. Dorsal striae strong, with rectangular tubercles *spinea* (LIVSHITZ, 1973)
- All dorsal idiosomal setae “rough” only, without distinct serration. Dorsal striae subtle, close, with small rods or “I”-shaped costulae 8
8. Tectal setae on tarsus I inserted in tubercle-like convexities. Lack of empodial hooks (only a short thorn in very base of empodium occurs). No “swirls” in dorsal ornament. Lyrifissura *ia* lies typically, i. e. closer to c2 than c1 *starri* (BAKER, 1944) comb. n.
- No tubercle-like tectal convexities. Empodial hooks well developed, curved. A pair of “swirls” occur between setae c1 and c2 on both sides. Lyrifissures *ia* lie in range of “swirls”, closer to c1 than to c2 *nicaraguensis* (BAKER, 1970) comb. n.
9. Dorsal idiosomal setae subequal in shape, club-like and nude. Cheliceral stilettos shorter than palpal tarsus. Longitudinal ventral striation between metasternal setae *fustis* (UECKERMAN, 1988) comb. n.
- Dorsal idiosomal setae unequal in shape, distinctly serrated. Stilettos as long as palpal tarsus. Ventrally, between metasternal setae the striae form “V” pattern or lie transversely 10
10. Body large (dimensions of holotype female: 447 / 338). Dorsal setae extremely vary in length. Setae ro and fl short, sharply ended. Setae c1 and d1 longer, stick-like. Setae la, ex, c2, e1 and f2 very long (longer than bothridial ones), club-like. Setae h1 short, club-like. Setae h2 and ps1 very short, broadly club-like, situated ventrally and very closely to each other. Solenidion ω l short. Hooks (om) very small, near by empodial base. Ventral striation transverse between metasternal setae *turrialbensis* (BAKER, 1970) comb. n.
- Body medium-sized (Holotype male: 255 / 160). Dorsal setae subequal in length, distinctly shorter than bothridial ones. Aspidosomal setae, as well as setae c lanceolate, curved and almost sharp. Setae d1 and e1 lanceolate, but rounded distally. Setae f spatulate. Setae h and ps1 broader and spatulate distally (h2 situated dorsally, ps1 situated terminally). Solenidion ω l long. Empodial hooks thick and strong. Ventral striation “V”-shaped between (mt α). *mumai* (BAKER, 1970) comb. n.

Genus: *Paralorryia* BAKER, 1965 sensu KAŻMIERSKI (1989)

Synonyms: see KAŻMIERSKI (1989b)

Description: as in KAŻMIERSKI (1989b)

Type - species: *Lorryia cumbrensis* BAKER, 1944

Remaining species: *P. shawi* (BAKER, 1943), *P. arthurbakeri* (BAKER, 1944), *P. costaricensis* (BAKER, 1970) comb. n., *P. bipilis* (ANDRÉ, 1984) and *P. formosa* (ANDRÉ, 1984).

Key to the species of *Paralorryia*

1. Ornamentation type "Paralorryia" (longitudinal striation between setae d1) 2
- Ornamentation type "Tydeus" (transverse striation between setae d1) 3
2. Reticulation occurs in aspidosoma, as well as in opisthosoma. Aspidosoma with vast area A(ro)(la). Opisthosoma with three large areas: Af2fl, Af1f2 and A(h1)(h2)(ps1). In addition, four pairs of small areas occur (each with one seta): Ac1, Ac2, Ad1 and Ae1. Gnathosoma visible from above. Striation subtype "Biparalorryia". Dorsal idiosomal setae rod-like and long: not shorter than bothridial ones – with exception of ro. Setae fl longer than distance fl-h1 *arthurbakeri* (BAKER, 1944)
- Reticulation occurs in aspidosoma only (AA0). Gnathosoma invisible from above. Striation subtype "Paralorryia s. str.". Dorsal idiosomal setae narrowly lanceolate and significantly shorter: two or three times shorter than bothridial ones. Setae fl shorter than distance fl-h1 *cumbrensis* (BAKER, 1944)
3. Reticulation forms relatively vast, rectangular aspidosomal area AA0. Dorsal idiosomal setae subequal in size, short, serrated and sharply ended *formosa* (ANDRÉ, 1984)
- Lack of reticulation. Dorsal idiosomal setae of another type and unequal in length. 4
4. Dorsal idiosomal setae blunt, club-like (mildly clavate) and serrate. Posterior idiosomal setae are broader, but shorter than anterior ones *costaricensis* (BAKER, 1970) comb. n.
- Dorsal idiosomal setae slender, nude and sharply ended. 5
5. Setae ro, la, c1, d1, e1, fl, h1 and ps1 – very short: a few times shorter than bothridial ones. Setae ex, c2 and f2 are of medium length. Setae h2 characteristically long (ca 50): distinctly longer than remaining ones and similar in length to (bo). No "swirls" between setae c1 and c2 *bipilis* (ANDRÉ, 1984)
- None of setae very short. Moderately long setae are: ro, la, c1, d1, e1 and fl. These are at least 1/2 as long as (bo). Setae ex, c2, f2, h1, h2 and ps1 are distinctly longer: nearly as long as (bo). "Swirls" between setae c1 and c2 present *shawi* (BAKER, 1943)

Genus: *Tydeus* KOCH, 1835 sensu KAŻMIERSKI (1989)

Synonyms: see KAŻMIERSKI (1989b)

Description: as in KAŻMIERSKI (1989b)

Type - species: *Tydeus kochi* OUDEMANS, 1928

Remaining species: *T. caudatus* (DUGÈS, 1834), *T. gloveri* (ASHMEAD, 1879), *T. californicus* (BANKS, 1904), *T. grabouwi* MEYER & RYKE, 1959, *T. munsteri* MEYER & RYKE, 1959, *T. lolitae* (BAKER, 1965), *T. spathatus* MEYER & RODRIGUES, 1966, *T. mississippiensis* BAKER, 1970, *T. africanus* BAKER, 1970, *T. taiwanensis* BAKER, 1970, *T. lambi* BAKER, 1970, *T. costensis* BAKER, 1970, *T. chilensis* BAKER, 1970, *T. lindquisti* (MARSHALL, 1970), *T. goetzi* SCHRUF, 1972, *T. praeditus* LIVSHITZ & ZAPLETINA, 1972, *T. longisetosus* LIVSHITZ & ZAPLETINA, 1972, *T. inclutus* LIVSHITZ, 1973, *T. dignus* LIVSHITZ, 1973, *T. electus* KUZNETZOV, 1973, *T. diversus* KUZNETZOV, 1973, *T. plumosus* KARG, 1975, *T. linarocatus* (SCHIESS, 1981), *T. quadrisetosus* (SCHIESS, 1981), *T. calabrus* (CASTAGNOLI, 1984), *T. bkaasifrini* (BAYAN, 1986) comb. n., *T. reticoxus* UECKERMAN, 1988, *T. rhusi* UECKERMAN, 1988, *T. longisetosus* (EL BAGOURY & MOMEN, 1988), *T. bohemiensis* KAŻMIERSKI, 1989, *T. maculatus* (MOMEN & LUNDQVIST, 1996), *rafalskii* KAŻMIERSKI, 1997 and *T. helenipanoue* sp. n.

Tydeus helenipanoue sp. n.

(Fig. 69)

L o c u s t y p i c u s. Zaïre (previous Belgian Congo): Beni. From *Tithonia speciosa* leaf. 07.05.1955, E. W. BAKER leg.

T y p e r e p o s i t o r y. Slide N° 3192, USNM, from BAKER's collection (Beltsville, Maryland). Holotype female prepared along with holotype of *Lorryia benensis* BAKER, 1968.

E t y m o l o g y. The new species is named in honour of Dr. Heleni N. PANOU (Athens).

Body oval, less than medium-sized.

I d i o s o m a. Dimensions: 222/141. Ornamentation: striation type "Tydeus". Striae with small rods only. Eyes not observed. Bothridial setae whiplike and nude, more than twice as long as ordinary dorsal setae. The latter ones are lanceolate, serrate and relatively short. "Caudal" setae (f, h, ps1) are slightly longer. Length of setae: bo – 38, ro, ex, c1, d1 and e1 – 11-12, la and c2 – 13, f, h, ps1 – 15. Setae ps2 acciculate, smooth and short (9). Distances: c1-c1: 34, d1-d1: 31, e1-e1: 70, fl-fl: 23, h1-h1: 17, ps1-ps1: 17, fl-h1: 23. Lyrifissura *ia* located posteriorly to c2 in a distance equal to 2/5 of section c2-e1 and medially to this section. Lyrifissura *im* anterior of the e1 base at the distance equal to 1/4 c2-e1 and distinctly laterally to c2-e1 line. Ventral striation longitudinal between metasternal setae. Female genital chaetotaxy poorer than typical one: (0-4-4).

G n a t h o s o m a. Visible from above. Cheliceral stilettos shorter than palpal tarsus. Eupathidium (pç) subtly bent, gradually narrowed to the extremity, with "T"-shaped tip. Palpal tarsal seta d subtly forked on very end. Seta ba nearly as long as 1/2 of width of palpal tarsus. Measurements: stilettos – 16, palpal femurogenu – 24/12, df and dg – 15, t' – 14, t'' – 7, palpal tarsus – 24/7, (pç) – 12.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 39, width – 9.5, height – 11. Solenidion ωI thin, 5.5 long. Slender seta ft' – 13, seta ft''ζ – 22. Famulus k'', as well as ωII – 2.8 long. No empodial hooks. Claws (ol) apparently nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *Tydeus helenipanoue* sp. n. is the third of known *Tydeus* species described as having four pairs of genital setae in the mature stage. It can be distinguished from *T. munsteri* MEYER & RYKE, 1959 by its narrower, longer dorsal idiosomal setae, from *T. quadrisetosus* (SCHIESS, 1981) by serration of the setae. Other distinguishing characters are as follows:

Tydeus munsteri MEYER & RYKE, 1959

1. Dorsal idiosomal setae serrate, equal in length, but unequal in shape: setae ro, la, ex and c2 broadly lanceolate (taper to a point distally). The remaining dorsal setae are spatulate-clavate.
2. Setae fl as long as 1/3 of distance fl-h1.
3. Setae ps1 situated ventrally.
4. Between setae mt ventral striae lie transversely.

Tydeus quadrisetosus (SCHIESS, 1981)

1. Dorsal idiosomal setae acciculate, nude, equal in length and shape.
2. Setae fl at least as long as distance fl-h1.
3. Setae ps1 situated ventrally.
- 4 ?

Tydeus helenipanoue sp. n.

1. Dorsal idiosomal setae equal in shape: narrowly lanceolate and serrate, but unequal in length ("caudal" ones are slightly longer).
2. Setae fl longer than 1/2 of distance fl-h1.
3. Setae ps1 situated dorsally.
4. Between (mt) ventral striae lie longitudinally.

(See also differences between *T. helenipanoue* sp. n. and *T. reticoxus* UECKERMANN, 1988 given in the key – couplet 18.)

Key to the species of *Tydeus*

1. Dorsal ornamentation type "Basketweave" (body covered with granulation) 32
- No "Basketweave" pattern in ornament (body covered with striation) 2
2. Dorsal idiosomal setae similar in shape 3
- Dorsal idiosomal setae different in shape 19
3. Cheliceral stiletos as long as palpal tarsus 4
- Stiletos distinctly shorter than palpal tarsus 5
4. Dorsal idiosomal setae narrowly spindle-like, slightly serrated and relatively long (especially "caudal" ones, for example: fl and h1 – ca 38). Seta fl nearly as long as section fl-h1.
Solenidion ω l short: significantly shorter than 1/2 distance ft-tc ζ *electus* KUZNETZOV, 1973
- Dorsal idiosomal setae broader and lanceolate, strongly serrated and short (for example fl and h1 – 18-22). Setae fl not longer than 1/2 of section fl-h1. Solenidion ω l longer than 1/2 of distance ft-tc ζ : its tip almost reaches with the bases of tectals *diversus* KUZNETZOV, 1973
5. Dorsal idiosomal setae smooth 6
- Dorsal idiosomal setae not smooth 7
6. Six pairs of genital setae (ge) in adults. Fastigial setae on tarsus I distinctly different in length. Palpal tarsal eupathidium (p ζ) distinctly cleft distally *linarocatus* (SCHIESS, 1981)
- Four pairs of genital setae (ge) in adults observed. Fastigials subequal in length. Palpal eupathidium only subtly cleft *quadrisetosus* (SCHIESS, 1981)
7. Dorsal striae broad and widely separated, connected in some places. No more than twenty striae lie between bothridial setae (bo). *lindquisti* (MARSHALL, 1970)
- Dorsal striae more subtle and placed close to each other. Several tens of striae between (bo) 8
8. Dorsal idiosomal setae long, especially "caudal" ones. Setae f, h and ps1 nearly as long as trichobothrials. Seta fl reaches with its peak the base of h1
 *longisetosus* (EL BAGOURY & MOMEN, 1988)
 junior homonym of *longisetosus* KUZNETZOV & ZAPLETINA, 1972
- Dorsal idiosomal setae not so long. Seta fl does not reaches the base of h1. 9
9. Ventral striae between setae mt α lie transversely. Setae on dorsal sides of genua and tibiae III and IV stout and blunt. *costensis* BAKER, 1970
- Ventral striation between (mt α) "V"-shaped or longitudinal. Dorsal setae of genua and tibiae III and IV similar to other dorsal leg setae 10
10. Ventrally, between setae mt α the striae form "V"-pattern 11
- Ventrally, between (mt α) striae run longitudinally 15
11. Dorsal idiosomal setae relatively broadly lanceolate and stout: setae fl as long as 1/3 distance fl-h1 (trichobothrials short, thickened and serrated) *gloveri* (ASHMEAD, 1879)
- Dorsal idiosomal setae at least narrowly lanceolate and longer: setae fl as long as 1/2 of distance fl-h1, or longer. 12
12. Bothridial setae (bo) short: subequal in length with common dorsal idiosomal setae.
Solenidion ω l as long as 2/3 of width of tarsus I. Ventral edges of claws visibly serrated
 *rhysi* UECKERMANN, 1988

- . Bothridial setae (bo) normally long: longer than common dorsal idiosomal setae. Solenidion ω l short: at least as long as 1/2 of width of tarsus I. Claws (ol) apparently nude 13
- 13. Dorsal idiosomal setae of moderate length: fl as long as 1/2 of distance fl-h1. They are rather scarcely serrated, with no more than twelve teeth in one longitudinal row. Bothridial setae (bo) nude. Solenidion ω l as long as 1/2 of width of tarsus I. *kochi* OUDEMANS, 1928
- . Dorsal idiosomal setae long: fl longer than 1/2 of distance fl-h1. One longitudinal row on each seta with about twenty or more teeth. Bothridial setae “rough” or simply serrate. Solenidion ω l shorter than 1/2 of width of tarsus I. 14
- 14. Gnathosoma almost hidden under aspidosoma and only its very distal part visible from above. Ventral striae between setae mt β arranged in “U”-shape pattern. Bothridial setae (bo) “rough” only *inclutus* LIVSHITZ, 1973
- . Gnathosoma strongly protrudes before anterior projection of aspidosoma. Ventral striae between (mt) form narrow “V”-pattern. Bothridial setae serrated *mississippiensis* BAKER, 1970
- 15. Body exceptionally elongated: ratio of length to width of idiosoma – 2:1. Bothridial setae (bo). slightly serrate *praeditus* LIVSHITZ & ZAPLETINA, 1972
- . Body more broad. Bothridial setae nude 16
- 16. Common dorsal idiosomal setae strongly haired (plumose) and relatively long: setae h about as long as 1/2 length of bothridial setae. 17
- . Common dorsal idiosomal setae lanceolate, serrate and relatively short: setae h distinctly shorter than 1/2 length of bothridial setae. 18
- 17. Striation type “Tydeus”. Bothridial setae stout and stiff. Ventral edges of claws (ol) not corrugated (nude) *plumosus* KARG, 1975
- . Striation subtype “Paralorryia-incerta”. Bothridial setae with flabby distal part. Claws with strongly corrugated ventral edges *bohemiensis* KAŹMIERSKI, 1989
- 18. Body large (length of holotype male – 372). Claws (ol) serrated on their ventral edges. Setae fl as long as 1/3 of distance fl-h1. Typical number of genital setae (six pairs). Coxae with clearly visible subcuticular fillets, which form a special kind of reticulation *reticoxus* UECKERMANN, 1988
- . Body less than medium-sized (length of holotype female – 222). Setae fl slightly longer than 1/2 of distance fl-h1. Holotype with four pairs of setae ge only. Coxal reticulation not observed. *helenipanoue* sp. n.
- 19. Palpal tarsus short: ratio of length to width – 3:1. Cheliceral stilettos longer than palpal tarsus (all dorsal idiosomal setae serrate, short; setae e1, f, h and ps1 spatulate-clavate, remaining ones – narrowly lanceolate). *dignus* LIVSHITZ, 1973
- . Palpal tarsus more elongated. Stilettos at least as long as palpal tarsus, or shorter. 20
- 20. Dorsal idiosomal setae narrowly lanceolate and sharply ended, with the exception of h1, h2 and ps1, which are broadened distally, without sharp tips (spatulate type: spatulate-clavate or simply spatulate) 21
- . More than three pairs of dorsal idiosomal setae represent spatulate type. 22
- 21. Spatulate setae strongly broadened on distal 1/3, rounded distally (subtype spatulate s. str.) *goetzi* SCHRUFF, 1972
- . Spatulate setae moderately broadened from at least 1/2 of length, narrowed distally, but not tapered (subtype spatulate-clavate) *caudatus* (DUGÈS, 1834)
- 22. Setae c2 slender, or narrowly lanceolate, tapering distally 23
- . Setae c2 spatulate 29
- 23. Ventral striae between metasternal setae lie longitudinally. Dorsal idiosomal setae moderately long or long: fl as long as distance fl-h1 or at least longer than 1/2 of distance fl-h1 24
- . Ventral striae between metasternal setae form an obtuse “V” pattern or lie transversely. Dorsal body setae short: fl as long as 1/3 of distance fl-h1 28
- 24. Only setae f2, h1, h2 and ps1 spatulate 25
- . Besides mentioned above some other dorsal setae are spatulate (fl, or fl and e1). 26
- 25. Spatulate setae strongly broadened on distal one-thirds, rounded distally (subtype spatulate s. str.) *lambi* BAKER, 1970

- . Spatulate setae moderately broadened from the very bases to about 3/4 of length, narrowed distally, but not sharply ended (narrowly spatulate-clavate) *grabouwi* MEYER & RYKE, 1959
- 26. Setae e1 spatulate (subtype spatulate-clavate) *calabrus* (CASTAGNOLI, 1984)
- . Setae e1 narrowly lanceolate, not spatulate 27
- 27. Dorsal idiosomal setae long: setae f1 reach with their tips the bases of setae h1, bothridial setae as long as ordinary ones. Between setae d1 dorsal striae arranged in narrow “U”. Solenidion ω I slightly longer than 1/2 of width of tarsus I. Dorsal setae on genu III, tibia III and IV slender, sharp *longisetosus* KUZNETZOV & ZAPLETINA, 1972
- . Dorsal idiosomal setae of medium length: setae f1 do not reach the bases of h1, bothridial setae slightly longer than remaining dorsal ones. Between setae d1 dorsal striae arranged in obtuse “U”. Solenidion ω I about 1/3 as long as width of tarsus I. Dorsal setae on genu III, tibia III and IV stout, blunt *californicus* (BANKS, 1904)
- 28. Ventral striae between metasternal setae form an obtuse “V” pattern. All common dorsal body setae stout and tapering distally with exception of f2, h1, h2 and ps1, which are spatulate-clavate. Bothridial setae “rough”, short (only slightly longer than remaining ones), stout, blunt, slightly enlarged terminally. Adults with six pairs of genital setae (ge) *africanus* BAKER, 1970
- . Ventral striae between metasternal setae lie transversely. Only setae ro, la, ex and c2 lanceolate, taper to a point distally. The rest (eight pairs) are spatulate-clavate. Bothridial setae nude, commonly long (distinctly longer than remaining ones), relatively slender and not enlarged terminally. Four pairs of (ge) in adults only. *munsteri* MEYER & RYKE, 1959
- 29. Only setae c2, f2, h1, h2 and ps1 spatulate. Stout and blunt bothridial setae (bo) shorter than common dorsal setae. *spathatus* MEYER & RODRIGUES, 1966
- . Besides mentioned above setae at least f1 spatulate additionally (more than five pairs of spatulate setae). Bothridial setae not so stout but longer than common dorsal setae 30
- 30. Dorsal idiosomal setae short: setae f1 about as long as 1/4 of distance f1-h1. Setae ro, la, c1 and d1 slender, very slightly lanceolate. Setae ex broadly lanceolate. Remaining ones – spatulate-clavate. Solenidion ω I longer than 1/2 of width of tarsus I *taiwanensis* BAKER, 1970
- . Dorsal idiosomal setae moderately long: setae f1 distinctly longer than 1/2 of distance f1-h1. Spatulate setae in other combination. Solenidion ω I not longer than 1/2 of width of tarsus I 31
- 31. Setae ro, la, ex, c1, d1 and e1 slender, pilose. Setae c2, f1, f2, h1, h2 and ps1 spatulate, strongly broadened on distal 1/3, but tapering on the very ends. Bothridial setae slightly longer than other dorsal setae. Solenidion ω I as long as 1/2 of width of its segment. *bkaasifrini* (BAYAN, 1986) comb. n.
- . Only setae ro and la slender, tapering distally: remaining ones are spatulate-clavate. Bothridial setae as long as common dorsal idiosomal setae. Solenidion ω I shorter than 1/2 of width of tarsus I *chilensis* BAKER, 1970
- 32. Dorsal idiosomal setae smooth, lanceolate, similar in type. Palpal tarsal eupathidium (p ζ) rod-like, without goblet-shape or “T”-shape tip *lolitae* (BAKER, 1965)
- . Dorsal idiosomal setae serrate and of varied type: “caudal” ones are spatulate, the remaining are narrowly lanceolate. Eupathidium (p ζ) narrowed distally, but with goblet-shape or “T”-shape tip 33
- 33. Setae e1, f1, f2, h1, h2 and ps1 spatulate. Empodial hooks absent. Seta d on palpal tarsus simple. Palpal tarsal eupathidium (p ζ) with distinct “T”-shape tip *maculatus* (MOMEN & LUNDQVIST, 1996)
- . Setae h1, h2 and ps1 spatulate only. Empodial hooks present. Seta d on palpal tarsus forked distally. Palpal tarsal eupathidium (p ζ) with goblet-shape tip. *rafalskii* KAŻMIERSKI, 1997

Genus: *Acanthotydes* KAŻMIERSKI, 1996

Description: as in KAŻMIERSKI (1996b)

Type-species: *Acanthotydes jarema* KAŻMIERSKI, 1996

Remaining species: none

R e m a r k s. Monospecific genus. *Acanthotydidides jarema* was found in Świętokrzyskie (Holy Cross) Mountains (Poland).

Genus: *Tydides* KUZNETZOV, 1975

D e s c r i p t i o n: as in KUZNETZOV (1975b), ANDRÉ (1980)

T y p e - s p e c i e s: *Tydides ulter* KUZNETZOV, 1975

R e m a i n i n g s p e c i e s: none

R e m a r k s. *Tydides ulter* was described from Crimea and subsequently recorded from Poland (KAŻMIERSKI 1990), however, it seems to be a relatively common species judging from the author's observation.

Genus: *Momenia* KAŻMIERSKI, 1996

Synonym: *Tydeus*: MOMEN & EL BAGOURY 1989

D e s c r i p t i o n: as in KAŻMIERSKI (1996b)

T y p e - s p e c i e s: *Tydeus longichelus* MOMEN & EL BAGOURY, 1989

R e m a i n i n g s p e c i e s: none

R e m a r k s. Monospecific genus. *Momenia longichela* (MOMEN & EL BAGOURY) was recorded from Egypt.

Genus: *Kenlorryia* KAŻMIERSKI, 1996

D e s c r i p t i o n: as in KAŻMIERSKI (1996b)

T y p e - s p e c i e s: *Kenlorryia masaii* KAŻMIERSKI, 1996

R e m a i n i n g s p e c i e s: none

R e m a r k s. Monospecific genus. *Kenlorryia masaii* was found in Kenya.

Genus: *Edlorryia* KAŻMIERSKI, 1996

Synonym: *Lorryia*: BAKER 1968a (in part)

D e s c r i p t i o n: as in KAŻMIERSKI (1996b)

T y p e - s p e c i e s: *Lorryia fundadorensis* BAKER, 1968

R e m a i n i n g s p e c i e s: none

R e m a r k s. Monospecific genus. *Edlorryia fundadorensis* (BAKER) is known from Nicaragua.

Genus: *Krantzlorryia* ANDRÉ, 1980

Synonym: *Lorryia*: BAKER 1968a (in part); UECKERMANN & SMITH MEYER (1979a) (in part)

D e s c r i p t i o n: as in ANDRÉ (1980)

T y p e - s p e c i e s: *Lorryia grewia* BAKER, 1969

R e m a i n i n g s p e c i e s: none

R e m a r k s. Monospecific genus. *Krantzlorryia grewia* (BAKER) was described from Zaïre (former Belgian Congo).

Genus: *Metalorryia* ANDRÉ, 1980

Synonym: *Lorryia*: BAKER 1968b (in part); GERSON 1968; KUZNETZOV 1971 (in part); KARG 1975 (in part)

D e s c r i p t i o n: as in ANDRÉ (1980)

Type - species: *Lorryia armaghensis* BAKER, 1968

Remaining species: *M. magdalenae* (GERSON, 1968), *M. insignita* (KUZNETZOV, 1971) n. comb, *M. delicata* (KUZNETZOV, 1971) (junior synonym: *M. cristata* (KARG, 1975) syn. n., *M. palpsetosa* (KARG, 1975) comb. n. and *M. foliata* sp. n.

***Metalorryia foliata* sp. n.**

(Figs 70-72, 73G)

Locus typicus. Slovakia: vicinity of Sekulé town, near the Czech boundary. Mixed forest with birches, pines and aspens. From soil, grass, moss and ferns. 14.05.1979, A. KAŻMIERSKI leg.

Other locality. Poland: Chełm province, Okuninka village close to Włodawa town, near Glinki lake. From association *Sperulo-Corynephoretum*. 21.07.1978, J. BŁOSZYK leg.

Type repository. Holotype female (Slide CS-003/P-10) is deposited in ZMH along with paratype male of *Lorryia danhidalgoi*. The remaining specimens (larva: CS-003/P-16 and seven females: T-0152/P-2, /P-3, /P-5, /P-6, /P-7, /P-8, /P-19) are in DAM.

Etymology. The name of species indicates the form of setae which are leaf-shaped.

Body medium-sized, oval, green.

Idiosoma. Holotype female: length 265 / width 174, paratype female (T-0152/P-19): 246/157, larva: 100/63. Dorsal ornamentation type "Lorryia" with regular reticulate areas separated by striated integument. On the aspidosoma only setae ex occur in separate areas, thus, Aex, A(ro)(la)(bo) and Aex are present. On the opisthosoma are the following areas: Ac2, A(c1), Ac2, A[c2]0[e1], A[c2]0[e1], Ae1, A(d1), Ae1, A(f2)(f1) and A(h2)(h1)(ps1) (see Fig. 70). The cells of ornamentation are multiangular and connected by triangular cross-ties. Dorsal striae have square-shaped tubercles. Eyes invisible. Bothridial setae (length 32) slightly bent, relatively strong, nude and acute, without flimsy distal part. Dorsal idiosomal setae in form of pilose leaves provided with "nerves". Setae ps2 (14.5) simple, setiform. All ordinary dorsal idiosomal setae equal in length (about 13), with exception of slightly smaller ps1 (11). Distances: c1-c1: 39, d1-d1: 30, e1-e1: 106, f1-f1: 28, h1-h1: 42, ps1-ps1: 22, f1-h1: 24. Lyrifissura *ia* located posteriorly to c2 at a distance subequal to 2/5 of section c2-e1, medially to c2-e1. Lyrifissura *im* situated anteriorly to e1 at a distance subequal to 1/5 of c2-e1, distinctly laterally to c2-e1 line. Ventral striae relatively strong, with vast, flattened hemispheric tubercles. Striation forms "V" pattern between (mt α) and inverted "V" pattern between (mt β).

Gnathosoma. Completely covered with aspidosoma. Cheliceral stilettos distinctly curved, slightly longer than palpal tarsus. Palpal tarsal eupathidium (p ζ) small, insignificantly bent, with a wedge-like cross-piece on the tip. Seta d forked on its tip, seta ba thin. Measurements: stilettos - 17, palpal femurogenu - 20/12, setae df and dg - 15, t' - 16, palpal tarsus - 14/4, (p ζ) - 5.2.

Legs. Coxal organ "8"-shaped. Tarsus+apotele I: length - 26, width - 7.5, height - 9. Length of ω I - 4, leaf-shaped ft' - 9, nude and spike-like ft'' ζ - 23. Stout famulus k' and thumb-like solenidion ω II 2.9 long. Empodial hooks (om) present, although not strongly developed.

Larva. Typical double anabasis on tarsus I (Fig. 72I). Dorsal idiosomal setae narrower than in female.

Differentiating diagnosis. *Metalorryia foliata* sp. n. differs from the most closely related species, *Metalorryia delicata* (KUZNETZOV, 1971) by the presence of broad, leaf-shaped dorsal setae in adults.

***Metalorryia delicata* (KUZNETZOV, 1971)**

Lorryia delicata KUZNETZOV, 1971

Lorryia cristata KARG, 1975 syn. n.

Metalorryia cristata: BŁOSZYK et al. 1994; KAŻMIERSKI 1997b

Metalorryia delicata: PANOU & EMMANOUEL 1995c; KAŻMIERSKI 1997b

Examined specimens of *M. delicata* from Poland and Greece correspond in all details with KUZNETZOV's description and drawings of the holotype.

The holotype of *L. cristata* from Bliesendorf is a tritonymph (genital region, dehiscence line). Specimen is in a bad condition and lies laterally. Chaetotaxy is typical for the genus *Metalorryia*. Gnathosoma is hidden under aspidosoma and not protrudes in front. Cheliceral stilettos are equal in length to palpal tarsus. The empodial hook reduced to tiny thorn and situated closely to base of empodium. Whiplike and flabby bothridial setae are about three times longer than normal dorsal idiosomal setae. The latter ones are curved, serrate and narrowly lanceolate. Setae ps1 are straight and situated ventro-terminally.

The examination of the holotype of *M. cristata* revealed that it does not differ in any important feature from *M. delicata* (KUZNETZOV, 1971). Although the holotype of *M. delicata* is inaccessible to study, nevertheless the descriptions and figures of this species done by KUZNETZOV are sufficient to state that *M. delicata* and *M. cristata* are conspecific. What's more, the study of the specimens from Poland and Greece did not allow to find any constant differences. The location of setae ps1: terminal – slightly dorsal (as in KUZNETZOV's figure) or terminal – slightly ventral (as in KARG's holotype) depends on placement of a specimen in the slide. These setae are straight in KARG's specimen and slightly bent in KUZNETZOV's drawing and in the majority of the specimens investigated. Moreover, all dorsal setae in the figure of *M. delicata* seem to be a little wider than in the holotype of *M. cristata* and in the specimens from Poland, but whether a lanceolate seta is in lateral position – it seems to be narrower. These three differences fall within the domain of differences caused by a subjective interpretation of the investigator-illustrator. The remaining features are identically described.

Examined material of *M. delicata* (= *cristata*):

Poland: Szczecin province, Wolin Island, West of Grodno. Moss and mould from 40-yr. old pine forest with *Vaccinium myrtillus* and moss. 24.04.1968, J. RAFALSKI leg. Slide N° T-0228/P-9, one male.

Poznań province, Młodasko near Pniewy town. Deciduous forest with hornbeam, south of village. Sifted from litter under *Larix polonica*. 17.05.1978, I. CHOJNACKI leg. T-0107/P-4, one female.

Piła province, Stary Załom sedge-reserve. Clumps of sedge and grass with roots and soil. 13.09.1979, A. KAŻMIERSKI, M. KALISZEWSKI & W. NIEDBAŁA leg. T-0184/P-7, one tritonymph.

Tarnobrzeg province, 7 km north-east of Janów Lubelski town. Forest swamps. Clumps of moist mosses. 22.09.1981, A. KAŻMIERSKI & W. NIEDBAŁA leg. T-0266/P-3, one tritonymph.

Krosno province, Dąbrówka Starzeńska near Dynów town. Old park with old deciduous trees with poor grasses undergrowth. Lawn, moss and detritus from the ruins of castle, also leaves and detritus from hollow scooped out in a tree trunk. 23.09.81, A. KAŻMIERSKI & W. NIEDBAŁA leg. T-0267/P-7, one tritonymph.

Kielce province, Świętokrzyskie (Holy Cross) Mountains. Świętokrzyski National Park. Bielnik. District 114, ryegrass meadow *Arrhenatheretum medioeuropaeum*. 25.09.1981, A. KAŻMIERSKI leg. Slide N° 7B/J-81/P-4, one tritonymph.

Poznań province, Jakubowo reserve near Pniewy town. Locality J-I: southern edge of the reserve area. Beech forest with small fraction of hornbeam and oak. Undergrowth with grass. Litter composed mainly with fallen leaves and sedges. J. BŁOSZYK leg. 26.10.81: Slide N° J-I-5(8)/P-3, one tritonymph. 15.01.83: Slide N° J-I-10(1)/P-1, one female.

Greece: Rodopi Mountain, on Graminae (1992). Oeti Mountain, on unidentified plant (1993). Arkadia, in moss (1994) (in PANOU & EMMANOUEL collection).

Metalorryia palpsetosa (KARG, 1975) comb. n.*Lorryia palpsetosa* KARG, 1975

Species similar to *M. armaghensis* (BAKER, 1968). The holotype female from the vicinity of Potsdam has the chaetotaxy typical for the genus *Metalorryia*, the cheliceral stilettos longer than palpal tarsus combined with terminal eupathidium (p ζ), which is rod-like and rounded distally. The aspidosomal setae ro and la are longer and narrower than the other dorsal setae. Setae ex lie latero-ventrally on a single, small reticulate areas (thus, the areas Aex, A(ro)(la)(bo), Aex on aspidosoma are present, although Aex are invisible dorsally). Trichobothrials (bo) are nearly two times longer than normal dorsal setae and they have a slender and feeble distal part. Small, clearly well visible empodial hooks (om) are present. The dorso-central rectangular reticulate area A(d1) is distinctly broader than long. Serration of the setae (Fig. 73C) is more distinctly developed than in *M. armaghensis* (Fig. 73B).

The specimen from Greece, kindly sent by Dr. H. PANOU, is identical with the holotype from Germany.

Metalorryia insignita (KUZNETZOV, 1971) comb. n.*Lorryia insignita* KUZNETZOV, 1971

Judging from KUZNETZOV's drawings and description, no substantial differences between the Polish specimen and the holotype from Crimea are observed. Female from Poland is 291 long and 203 broad.

New locality:

Poland: Krosno province, Dąbrowka Starzeńska near Dynów town. Old park with old deciduous trees with poor grass undergrowth. Lawn, moss and detritus from the ruins of castle, also leaves and detritus from hollow scooped out in a tree trunk. 23.09.1981, A. KAŻMIERSKI & W. NIEDBAŁA leg. One female on the slide N° T-0267/P-9 (DAM).

Key to the species of *Metalorryia*

1. Dorsal idiosomal setae nude (Fig. 73A). Palpal tibial seta short: not longer than 1/3 of length of palpal tarsus *magdalenae* (GERSON, 1968)
- Dorsal idiosomal setae serrate. Palpal tibial seta long: nearly as long as the palpal tarsus 2
2. Dorsal opisthosomal setae club-like (broedened distally) 3
- Dorsal opisthosomal setae lanceolate or leaf-shaped (sharply ended) 5
3. Palpal terminal eupathidium (p ζ) rod-like: not broadened, but rounded distally. Bothridial setae (bo) long, with slender and feeble distal part. Dorsal idiosomal setae as in Fig. 73C. *palpsetosa* (KARG, 1975) comb. n.
- Palpal terminal eupathidium (p ζ) not rod-like: broadened or cleft; not rounded distally. Bothridial setae (bo) without slender and feeble distal part 4
4. Dorsal idiosomal setae strongly serrated (Fig. 73D). Gnathosoma covered with aspidosoma. Bothridial setae (bo) twice as long as the other dorsal setae. *insignita* (KUZNETZOV, 1971) comb. n.
- Dorsal idiosomal setae slightly serrated (Fig. 73B). Gnathosoma may be visible from above. Setae (bo) at least slightly longer than other dorsal setae *armaghensis* (BAKER, 1968)
5. Dorsal setae leaf-shaped: ratio of length to width of each seta – about 3:1 (Fig. 73G). *foliata* sp. n.
- Dorsal setae lanceolate, much narrower (Figs 73F, E). *delicata* (KUZNETZOV, 1971)
junior synonym: *cristata* (KARG, 1975) syn. n.

Genus: *Idiolorryia* ANDRÉ, 1980

Synonym: *Lorryia*: BAKER 1968a (in part)

Description: as in ANDRÉ (1980)

Type-species: *Lorryia macquillani* BAKER, 1968

Remaining species: *Idiolorryia marci* ANDRÉ, 1987

Remarks. Two very similar species belonging to this genus are known: *I. macquillani* from Ireland and *I. marci* from Belgium. Both have the characteristic, strongly lobed dorsal idiosomal setae, the narrow and elongated gnathosoma and palpi, as well as an identical dorsal ornamentation. According to ANDRÉ (1987) they differ in two details: in the length of dorsal idiosomal setae and in the number of setae on tibia II (two setae in *macquillani* and one seta in *marci*). However, in BAKER's (1968a) description of *I. macquillani* setal pattern of legs is equal to that of *I. marci* (single seta on tibia II). Moreover, after studying a specimen from Greece (PANOU collection), the differences in the length of setae indicated by ANDRÉ (1987) appeared to be insignificant. This specimen (*macquillani*? *marci*?) has dorsal idiosomal setae of medium length, and tibiae II with one seta.

Key to the species of *Idiolorryia*

- Dorsal idiosomal setae short: ratio of length to width – ca 2:1 *macquillani* (BAKER, 1968)
- Dorsal idiosomal setae longer: ratio of length to width – ca 4:1 *marci* ANDRÉ, 1987

Genus: *Afridiolorryia* KAŻMIERSKI, 1996

Synonym: *Lorryia*: BAKER 1965 (in part); BAKER 1968a (in part)

Description: as in KAŻMIERSKI (1996b)

Type-species: *Lorryia africanus* BAKER, 1965

Remaining species: none

Remarks. Monospecific genus. *Afridiolorryia africana* (BAKER) was described from Zaïre (former Belgian Congo).

Genus: *Neolorryia* ANDRÉ, 1980

Synonym: *Retetydeus*: BAKER 1944b (in part); *Lorryia*: BAKER 1968a (in part)

Description: as in ANDRÉ (1980)

Type-species: *Retetydeus boycei* BAKER, 1944

Remaining species: *Neolorryia pandana* (BAKER, 1968), *N. americana* sp. n.

Remarks. Three species hitherto representing this genus are known from Mexico (*N. boycei*), Hawaii (*N. pandana*) and Virginia, USA (*N. americana* sp. n.)

Neolorryia americana sp. n.

(Figs 74, 75)

Locus typicus: USA: Virginia, Blue Ridge Parkway. From pine litter. 07.07.1972, D. NORTON leg.

Type repository. The slide with holotype female (N° A 33/96 = USA 005) is deposited in ZMH, along with the holotype of *Nudilorryia virginia* KAŻMIERSKI, 1996.

Body medium-sized, broadly oval, light green, richly ornamented.

Idiosoma. Dimensions of female: 247/176. Dorsal ornamentation type "Lorryia". Reticulation divided into nine discrete areas. These are: AA, Ac2, A(c1), Ac2, Ae1, A(d1), Ae1, A(f1)(f2) and A(h1)(h2). Each of the three neighbouring cells of ornamentation connected with triangular cross-ties. Between neighbouring triangles two or three rods occur. Separate cells with rich dotting and with a few rounded small holes present (Fig. 75I). Eyes not observed. Bothridial setae (46) whiplike, flabby and smooth. Normal dorsal idiosomal setae (about 35) sabre-shaped, bent,

narrowly lanceolate, and strongly serrate. There are no less than ten teeth in one longitudinal row on each seta. Setae fl longer than 1/2 of distance fl-h1. Setae ps2 (10) acciculate, nude – similarly to other idiosomal setae on the ventral side. Distances: c1-c1: 58, d1-d1: 47, e1-e1: 119, fl-fl: 31, h1-h1: 29, fl-h1: 42. Lyrifissures invisible. Ventral side covered with bent striae, which lie longitudinally between metasternal setae. Genital chaetotaxy of female: 0-6-4.

G n a t h o s o m a. Completely covered with aspidosoma. Cheliceral stilettos slightly longer than palpal tarsus combined with terminal eupathidium (pč). The eupathidium is short, straight and with broadened tip. The remaining palpal tarsal setae are simple. Palpal solenidion ω invisible. Measurements: stilettos – 28, palpal femurogenu – 18/9, seta df – 19, dg – 16, t' – 9, palpal tarsus – 19/4, (pč) – 6.4.

L e g s. Coxal organ (cg) oval. Tarsus+apotele I: length – 30, width and height – 9. Solenidion ωI – 4.3. Seta ft' strongly serrated, 12 long. Nude ft''ζ – 19. Famulus k'' cleft distally, 2.9 long. Solenidion ωI dumpy and very small (1.7). Empodial hooks (om) typically developed. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. The differences between *N. americana* sp. n. and *N. boycei* (BAKER, 1944) are as follows:

Neolorryia boycei (BAKER, 1944)

1. Gnathosoma not covered dorsally with aspidosoma.
2. Dorsal idiosomal setae relatively broad (ratio of length to width – ca 4:1).
3. Single seta with about five teeth in one longitudinal row.
4. Setae tc on tarsus I nude.

Neolorryia americana sp. n.

1. Gnathosoma covered dorsally with aspidosoma.
2. Dorsal idiosomal setae distinctly narrower.
3. Single setae with not less than ten teeth in one longitudinal row.
4. Setae tc on tarsus I serrate.

Key to the species of *Neolorryia*

1. Dorsal idiosomal setae lanceolate, slightly serrate. Setae fl shorter than 1/2 of distance fl-h1. Female with four pairs of genital setae (ge) only. Reticulate area A(d1)(e1)(f1)(f2) occurs *pandana* (BAKER, 1968)
- Dorsal idiosomal setae broadly serrate (spined). Setae fl longer than 1/2 of distance fl-h1. Six pairs of genital setae in females. Instead of A(d1)(e1)(f1)(f2) the following areas occur: Ae1, A(d1), Ae1, A(f1)(f2) 2
2. Gnathosoma visible from above. Dorsal idiosomal setae relatively broad: ratio of length to width – ca 4:1. Each seta with about five teeth in one longitudinal row. Seta tc' on tarsus I nude *boycei* (BAKER, 1944)
- Gnathosoma invisible from above. Dorsal idiosomal setae significantly narrower. Each seta at least with ten teeth in one longitudinal row. Seta tc' on tarsus I serrate *americana* sp. n.

Genus: *Neoapolorryia* EL BAGOURY & MOMEN, 1990

Synonym: *Lorryia*: KUZNETZOV 1973 (in part)

D e s c r i p t i o n: as in EL BAGOURY & MOMEN (1990)

T y p e - s p e c i e s: *Neoapolorryia aegyptiaca* EL BAGOURY & MOMEN, 1990

R e m a i n i n g s p e c i e s: *N. regia* (KUZNETZOV, 1973), *N. kristinae* MOMEN & LUNDQVIST, 1996, *N. hellenica* PANOU & EMMANOUEL, 1997 and *N. hippocastani* sp. n.

Neoapolorryia aegyptiaca* EL BAGOURY & MOMEN, 1990Neoapolorryia aegyptica* (sic!): MOMEN & LUNDQVIST 1996c*Neoapolorryia aegyptiaca*: PANOU & EMMANOUËL 1995a, 1997

This species was described from a sandy soil with roots of tomato, *Lycopersicum esculentum* (Tahrir province, Egypt), as well as from sandy soil with roots of the egg plant, *Solanum melongena* (South Sinai, Egypt). The gnathosoma of the paratype female deposited in Hamburg is more distinctly visible from above than in the holotype.

***Neoapolorryia regia* (KUZNETZOV, 1973)**

(Fig. 76)

Lorryia regia KUZNETZOV, 1973a*Neoapolorryia regia*: KAŹMIERSKI 1997b; PANOU & EMMANOUËL 1997

Species found for the first time on *Euphorbia myrsinites* (Crimea). The new localities (all from Poland) are as follows:

Kielce province: Szydłów town. Mosses from sandstones near the church. 13.08.1973, J. RAFALSKI leg. Slide N° T-0147/P-7. One tritonymph.

Chełm province: Okuninka village close to Włodawa town, near Glinki lake. From association *Sperulo-corynephoretum*. 21.07.1978, J. BŁOSZYK leg. T-0152, serie of slides P-1 - P-10, P-14 - P-18. Eleven females, four males and two tritonymphs.

Kraków province: Brzostkwinia (Popówka) dale near Kraków. Calcareous rocks. South-east and east exposition. Moss, grass, detritus and soil. 30.09.1978, J. RAFALSKI leg. T-0209, serie of slides P2 - P-16, P18, P-19, P-21, P-24. Two females, eight males, forty three tritonymphs, fifteen deutonymphs, three protonymphs and one larva.

Szczecin province: Grądziec steppe reserve. A slope with *Stipa capillata*. 15.09.79, A. KAŹMIERSKI leg. T-0203/P-3. One female.

L a r v a. Dimensions: 108/91. Reticulation in initial stage. Simple anabasis on tarsus I.

***Neoapolorryia hippocastani* sp. n.**

(Figs 77, 78)

L o c u s t y p i c u s. Poland: Skierniewice province, Skierniewice town. From leaf of *Prunus divaricata* and from algae on bark of horse-chestnut (*Aesculus hippocastanum*). 11.09.1987, Z. SUSKI leg. Slide N° T-0300, female holotype and female paratype.

O t h e r l o c a l i t i e s. Poland: Skierniewice province, Skierniewice town. City green area. On bark of horse-chestnut covered with algae. The height of about a half metre above ground. 31.07.1989, Z. SUSKI leg. T-0305/P-1 - P-10: Thirty two tritonymphs, thirteen deutonymphs and one protonymph.

Skierniewice province, Skierniewice town. City green area. On bark of horse-chestnut covered with algae. 07.08.1989, Z. SUSKI leg. T-0306/P-1 - P-4: five tritonymphs and one deutonymph.

Iran: Sari, area of Caspian Sea. From citrus tree. 28.04.1991, F. FARAJI leg. Slide N° 5: female, slide N° 6: female.

T y p e r e p o s i t o r y. Holotype female (T-0300) and all paratypes are deposited in DAM (author's collection), with exception of one female from Iran (slide N° 6), which is in Prof. H. Sepasgosarian's collection in Hamburg.

Body medium-sized, green, with rich ornamentation of surface.

I d i o s o m a. Total dimensions: holotype female - 243/187, paratype female - 240/183, female from Iran (N° 5) - 224/176, nymphs from slide T-0305/P-5: TN - 214/155, TN - 208/159, DN

– 150/112, PN – 142/107. Dorsal ornamentation type “Lorryia” with seventeen discrete reticulate areas: Aex, A(ro)(la)(bo), Aex, A0[c2], Ac2, A(c1), Ac2, A[c2]0, A[c2]0[e1], A[c2]0[e1], Ae1, A(d1), Ae1, Af2f1, A[f1]0[f1], Af1f2, A(h1)(h2). The latter area is partially divided by wedge with meshes strongly elongated according to main body axis (Fig. 77). Reticulate areas A(c1) and A(d1) with distinct central swelling. Between setae c1 the meshes on central swelling are smaller (about 5 μ m) than in the other places (about 10 μ m). In the holotype, between (d1) the meshes on central swelling are longitudinally elongated. The remaining meshes are polygonal, about as long as broad. Cross-ties “Y”-shaped, costulae narrowly rectangular, or most often in shape of thick “I” letter. Eyes not observed. Bothridial setae (35) whiplike, flimsy, with flabby distal part. Other dorsal idiosomal setae 19-23 long, bent, lanceolate, serrate and sharply ended. Setae ps2 (15) whiplike and nude. Distances: c1-c1: 50, d1-d1: 40, e1-e1: 120, f1-f1: 35, h1-h1: 33, f1-h1: 47. Lyrifissures invisible: probably hidden between the elements of ornamentation. Ventral side strongly striated. Striae broad, lying broadly to each other and longitudinally between metasternal setae. Genital chaetotaxy typical: female (0-6-4), TN (4-4), DN (2-2), PN (0-1).

G n a t h o s o m a. Visible from above. Cheliceral stilettos insignificantly longer than palpal tarsus. Palpal tarsal eupathidium (p ζ) straight, with terminal cross-piece in shape of flattened triangle. Seta l’ slender and forked. Seta d stout, cleft distally. Measurements: stilettos – 17, palpal femurogenu – 23/11, seta df – 13, dg – 11, t’ – 9. Palpal tarsus – 15/3, (p ζ) – 7.

L e g s. Coxal organ (cg) oval, with internal cross-piece. Tarsus+apotele I: length – 25, width – 8, height – 9. Solenidion ω I short (2.7). Fastigial setae on tarsus I smooth; ft’-14, ft’’ ζ – 21. Famulus k’’ small (2.4), widened and cleft distally. Solenidion ω II very small (1.2). Empodial hooks (om) present, although very poorly developed. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *Neoapolorryia hippocastani* sp. n. resembles *N. aegyptiaca* and *N. hellenica* by the type and shape of the dorsal idiosomal setae, as well as by the general appearance, however, it differs from both species in some other important details. The differences between *N. hippocastani* and *N. aegyptiaca* are as follows:

Neoapolorryia aegyptiaca EL BAGOURY & MOMEN, 1990

1. Palpal tarsal eupathidium (p ζ) simple, rod-like, with rounded tip.
2. Empodial hooks absent.
3. Cross-ties in form of triangles with cut angles.
4. Coalescent reticulate area A(f1)(f2) occurs.
5. Lack of central swellings on A(c1) and A(d1).
6. All meshes of reticulation similar in shape (multiangular) and size (ca 10/10).
7. “Caudal” area A(h1)(h2) not divided, compact, semi-oval in shape.
8. Tarsus+apotele I about four times longer than its width.

Neoapolorryia hippocastani sp. n.

1. Palpal tarsal eupathidium (p ζ) not rod-like, with cross-piece on the tip.
2. Empodial hooks (om) present.
3. Cross-ties “Y”-shaped.
4. Area A(f1)(f2) divided into three parts: Af2f1, A[f1]0[f1] and Af1f2.
5. Presence of central swellings on A(c1) and A(d1).
6. Meshes of reticulum unequal in shape and in size.
7. “Caudal” area A(h1)(h2) “cleft” centrally, i.e. partially divided into left and right half.
8. Tarsus+apotele I at least about three times longer than its width.

The following features distinguish *N. hippocastani* from *N. hellenica*:

Neoapolorryia hellenica PANOU & EMMANOUEL, 1997

1. Cross-ties and tubercles multiangular, square-shaped, in shape of thick triangles, or simply rounded in outline, irregular.
2. Meshes between (c1) similar to others.
3. Lack of reticulate areas laterally to setae c2.
4. Apparently no central swelling on A(c1) area.
5. Setae d and l'' on palpal tarsus simple.

Neoapolorryia hippocastani sp. n.

1. Cross-ties "Y"-shaped, tubercles "I"-shaped.
2. Meshes between (c1) smaller than the other ones.
3. Small reticulate areas laterally to setae c2 present.
4. A distinct central swelling on A(c1) occurs.
5. Seta d cleft, seta l'' forked distally.

Key to the species of *Neoapolorryia*

1. Dorsal idiosomal setae plumose. Cheliceral stilettos slightly shorter than palpal tarsus.
In natural position gnathosoma completely hidden under aspidosoma 2
- Dorsal idiosomal setae lanceolate-serrate. Cheliceral stilettos slightly longer than palpal tarsus.
In natural position gnathosoma partially visible from above. 3
2. Dorsal side of idiosoma with thirteen reticulate areas. These are: Aex, A(ro)(la)(bo), Aex, Ac2, A(c1), Ac2, A[c2]0[e1], A[c2]0[e1], Ae1, A(d1), Ae1, A(f1)(f2), A(h1)(h2)
. *regia* (KUZNETZOV, 1973)
- Dorsal side of idiosoma with nine reticulate areas. These are: AA, Ac2, A(c1), Ac2, Ae1, A(d1), Ae1, A(f1)(f2), A(h1)(h2). *kristinae* MOMEN & LUNDQVIST, 1996
3. Palpal eupathidium (p ζ) simple, rod-like, with rounded tip. Empodial hooks (om) absent.
No central swellings on A(c1) and A(d1) regions *aegyptiaca* EL BAGOURY & MOMEN, 1990
- Palpal eupathidium narrowed distally, with "T"-shaped tip. Empodial hooks (om) present.
Central swelling occurs at least on A(d1) 4
4. Cross ties rounded, multiangular, or in shape of thick triangles. Tubercles on the frames of meshes of reticulum triangular, square-shaped or irregular in shape. Meshes between the setae c1 similar to the other ones. Lack of reticulate areas laterally to setae c2. Setae d and l'' on palpal tarsus simple (not cleft or forked) *hellenica* PANOU & EMMANOUEL, 1997
- Cross-ties "Y"-shaped. Tubercles scattered on the frames of meshes in shape of thick "I" or narrow rectangles. Meshes between setae c1 smaller than the other ones. Small reticulate areas occur laterally to the setae c2. Cleft seta d and forked seta l'' on palpal tarsus.
. *hippocastani* sp. n.

Genus: *Apolorryia* ANDRÉ, 1980

Synonym: *Lorryia*: BAKER 1968a (in part)

Description: as in ANDRÉ (1980)

Type-species: *Lorryia congoensis* BAKER, 1968

Other species: none

Remark s. Monospecific genus. *Apolorryia congoensis* (BAKER, 1968) was found in Zaïre, Stanleyville (former Belgian Congo).

Genus: *Quasitydeus* KAŻMIERSKI, 1996

Synonym: *Tydeus* (*Tydeus*): BAKER 1970 (in part)

Description: as in KAŻMIERSKI (1996b)

Type species: *Tydeus (Tydeus) ricensis* BAKER, 1970

Other species: none

Remarks. Monospecific genus. *Quasitydeus ricensis* (BAKER, 1970) was recorded from Costa Rica.

Genus: *Afrotydeus* BAKER, 1970 sensu ANDRÉ (1980)

Synonym: *Tydeus (Afrotydeus)*: BAKER 1970 (in part)

Description: as in ANDRÉ (1980)

Type-species: *Tydeus (Afrotydeus) kenyensis* BAKER, 1970

Other species: *A. novaezealandiae* sp. n., *A. smileyi* sp. n. and *A. zairensis* sp. n.

Remarks. In contrast to the meaning of the generic name, the distribution of the *Afrotydeus* species is not only limited to Africa. *A. smileyi* derives from Costa Rica, and *A. novaezealandiae* from New Zealand.

Afrotydeus novaezealandiae sp. n.

(Figs 79, 80)

Locus typicus. New Zealand: Cascade C. K. From moss. 16.02.1966, C. FOSTER leg.

Type repository. Holotype tritonymph (Slide NZ-007) is deposited in DAM (author's collection).

Body medium-sized, oval, green.

Idiosoma. Dimensions: 248/167. Ornamentation: striation type "Tydeus". Striae with rods. Eyes not observed. Bothridial setae (bo) stout, nude, narrowly lanceolate, relatively thick and short: only slightly longer than setae ro. All the common dorsal idiosomal setae with serration, but unequal in shape. Aspidosomal setae, as well as setae c2 lanceolate and sharply ended. Setae c1 subequal in thickness throughout their length and rounded distally. The remaining setae are spatulate. Lengths: bo-32, ro-28, la-21, ex-21, c1-28, c2-26, d1-19, e1-19, f1-22, f2-20, h1-22, h2-22, ps1-20. Ventrally situated setae ps2 (11) are slender, sharp, lanceolate, and lie in front of strongly developed anal flaps (Fig. 80B). Distances: c1-c1: 57, d1-d1: 51, e1-e1: 76, f1-f1: 37, h1-h1: 23, ps1-ps1: 17, f1-h1: 32. Lyrifissura *ia* located posteriorly to c2 in a distance nearly equal to 2/5 of section c2-e1, very closely but medially to c2-e1 line. Lyrifissura *im* lies anteriorly and distinctly laterally to e1, at a distance smaller than 1/5 of section c2-e1. Ventral striation more delicate. The striae between metasternal setae lie almost transversely. Genital chaetotaxy: TN (2-4).

Gnathosoma. Protrudes in front of the anterior projection of aspidosoma. Cheliceral stiletts subtly developed and very short: as long as 1/2 length of palpal tarsus. Palpal tarsal eupathidium bent, short, with "T"-shaped tip. Setae d and l' terminally forked. Seta ba very thin. Measurements: stiletts-9, palpal femurogenu-23/9, seta df-14, dg-12, t'-11, t''-8, palpal tarsus-18/4.8, (pζ)-5.3.

Legs. Coxal organ "8"-shaped. Tarsus+apotele I: length-40, width-12, height-14. Solenidion ωI relatively long (9.7). Both fastigial setae on tarsus I are nude: ft' 18 long, ft''ζ-31. Tibial seta l' normally developed, without small root. Famulus k'' (2.8) widened and cleft distally. Solenidion ωII (2.8) a few times shorter than ωI. No empodial hooks. Nude claws (ol).

Differentiating diagnosis. *Afrotydeus novaezealandiae* sp. n. differs from the remaining *Afrotydeus* species by the shape of bothridial setae, the relative length of the other setae and by length of ωI (see key, couplet 1).

Afrotydeus smileyi sp. n.

(Figs 81, 82)

L o c u s t y p i c u s. Costa Rica: Turrialba. From undetermined tree. 03.04.1959, E. W. BAKER leg.

T y p e r e p o s i t o r y. Holotype female and paratype female on the same slide with holotype of *Lorryia turrialbensis* (USNM N° 3189) from BAKER's collection (Beltsville, Maryland, USA).

E t y m o l o g y. This species is dedicated to Dr. Robert L. SMILEY (USDA, Beltsville, Maryland).

Body medium-sized, broadly oval.

I d i o s o m a. Holotype female: 265/202, paratype female: 268/203. Dorsal ornamentation: striation type "Tydeus", which forms an obtuse "U"-pattern between d1 setae. Striae with rods and subtle "I"- or "X"-shaped costulae. Eyes not observed. Bothridial setae typical: whiplike and nude, distinctly longer than the other dorsal idiosomal setae. The latter ones are serrated, although different in type: setae ro, la and ex – narrowly lanceolate and sharp, while the remaining ones are flat and broadened distally (spatulate). In fact, they have a central pith with lateral, relatively long teeth, surrounded by a smooth frame. Setae ps2 are setiform. Lengths: bo – 40, ro – 20, la – 22, ex – 22, c1 – 17, c2 – 14, d1 – 18, e1 – 14, fl – 16, f2 – 16, h1 – 15, h2 – 14, ps1 – 15, ps2 – 11. Distances: c1 – c1: 59, d1 – d1: 60, e1 – e1: 119, fl – fl: 35, h1 – h1: 26, ps1 – ps1: 24, fl – h1: 32. Lyrifissures located as in *A. novaezealandiae* (see above). Ventral striation between metasternal setae arranged in "U". Genital chaetotaxy of female: (0-4-4), although one aggenital seta on the right side of the holotype is lacking (0-4-4/3).

G n a t h o s o m a. Hidden under aspidosoma with exception of very distal part. Palpal tarsi visible from above. Cheliceral stilettos distinctly shorter than the distal palpal segment. Palpal eupathidium (pζ) subtly bent, with "T"-shape tip. The remaining palpal tarsal setae apparently simple. Seta l' lanceolate. Seta ba very short and thin. Measurements: stilettos – 12, palpal femurogenu – 23/13, df – 16, dg – 15, t' – 14, t'' – 6.5, palpal tarsus – 18/4.8, (pζ) – 6.3.

L e g s. Coxal organ oval with internal cross-piece. Tarsus+apotele I: length – 37, width – 12.5, height – 14. Solenidion ωI – 5 (with its tip reaches at least 1/2 of distance ft-tc). Fastigial setae nude. Seta ft' – 17, ft''ζ – 21, famulus k'' (1.7) cleft, solenidion ωII (2) very small. Empodial hooks (om) short and squat, lying at the very base of empodium. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. The presence of empodial hooks and arrangement of dorsal striae on the central part of opisthosoma distinguish *A. smileyi* from *A. kenyensis* BAKER and *A. zairensis* sp. n. (see key, couplet 2). Moreover, *A. smileyi* has the setae ex similar to the other aspidosomal setae (narrowly lanceolate), while in *A. kenyensis* and *A. zairensis* setae ex are spatulate, different in shape than the remaining setae on the aspidosoma.

Afrotydeus zairensis sp. n.

(Figs 83, 84)

L o c u s t y p i c u s. Zaïre (former Belgian Congo): Lubero. From *Podocarpus usamburensis*. 05.09.1955, E. W. BAKER leg.

T y p e r e p o s i t o r y. Holotype female, two paratypes of females and paratype male are prepared in one slide along with the holotype of *Lorryia podocarpa* BAKER, 1968 (USNM N° 3190) from BAKER's collection (Beltsville, Maryland, USA).

Body broadly oval, more than medium-sized.

I d i o s o m a. Holotype female: 328/150. Paratypes (two females and male) similar in size. One female with pear-shaped egg inside. The male is recorded in this genus for the first time.

Dorsal ornamentation: striation type "Tydeus". A distinct "V"-shape pattern occurs centrally between the sections c1-c1 and d1-d1. Striae supplied with rods. Eyes not observed. Bothridial setae nude, whiplike and flabby, 54 long; more than twice as long as the normal dorsal idiosomal setae. The latter ones are unequal in type (two types and three subtypes of the shape can be distinguished). Setae ro and la are composed of broadly lanceolate proximal part ("pedicellum") and flabby, almost filiform distal part ("flagellum"). Setae: ex, c1, c2, d1, e1, f1 and h1 are spatulate-clavate, i.e. flat, gradually broadened and rounded distally. Finally, setae f2, h2 and ps1 are also of a spatulate type, but with more broad, leaf-shape distal part. Aspidosomal setae are about 20 long, opisthosomal ones are slightly shorter (16-18). All setae have a central pith with long and slender teeth, surrounded by a smooth frame. Setae ps2 flimsy, nude and short (5.8). Lyrifissura *ia* located posteriorly to c2 in a distance equal to 3/10 of section c2-e1 and slightly medially to c2-e1 line. Lyrifissura *im* situated antero-laterally to e1 in the distance subequal to 1/5 of section c2-e1. Ventral striation more subtle than dorsal one. Between the metasternal setae striae lie transversely. Genital chaetotaxy of adults: (0,4-4-4), however the paratype female has only three setae *ge* on one side (Fig. 84B).

G n a t h o s o m a. Almost completely covered dorsally with aspidosoma. Cheliceral stiletos distinctly shorter than palpal tarsus. Palpal eupathidium (p ζ) with "T"-shaped tip. Seta d forked distally. Seta ba relatively well developed. Measurements: Stiletos – 13, palpal femurogenu – 24/12, df – 18, dg – 16, t' – 14, t'' – 7, palpal tarsus – 19/6.4, (p ζ) – 7.

L e g s. Coxal organ "8"-shaped. Tarsus+apotele I: length – 29, width – 12, height – 13. Solenidion ω I short (4). Fastigials nude; ft' – 13, ft'' ζ – 22. Famulus k'' – 3, solenidion ω II – 2.9. Empodial hooks absent. Claws (ol) nude.

D i f f e r e n t i a t i n g d i a g n o s i s. *Afrotydeus zairensis* sp. n. seems to be very closely related to *A. kenyensis* BAKER, 1970 by an arrangement of dorsal striae (distinct "V"), and by the presence of two different types of setae on aspidosoma (ro and la narrow, sharply ended, ex – spatulate). However, all the opisthosomal setae in *A. kenyensis* represent the same subtype (spatulate, but not expanded distally), while in *A. zairensis* two different subtypes of opisthosomal dorsal setae occur (setae f2, h2 and ps1 are more broadened distally than the remaining ones). Moreover, the gnathosoma of *T. kenyensis* is more distinctly visible from above in dorsal aspect and not hidden as in *T. zairensis*.

Key to the species *Afrotydeus*

1. Bothridial setae (bo) narrowly lanceolate, relatively thick and short: only slightly longer than setae ro. Setae f1 significantly longer than 1/2 of distance between f1 and h1. Solenidion ω I distinctly longer than 1/2 of width of tarsus I *novaezealandiae* sp. n.
- Bothridial setae whiplike and slender, about twice as long as setae ro, or longer. Setae f1 not longer than 1/2 of distance f1-h1. Solenidion ω I not longer than 1/2 of width of tarsus I 2
2. Empodiae with small hook (om) situated near the base. Centrally, between the rows of c1 setae and d1 setae the striae form an opened "U"-pattern. Setae ex narrowly lanceolate *smileyi* sp. n.
- Empodiae without hooks. Centrally, between c1-c1 and d1-d1 sections the striae form a distinct "V"-pattern. Setae ex spatulate. 3
3. All the opisthosomal dorsal setae similar in shape: flat, spatulate, but not expanded distally *kenyensis* BAKER, 1970
- Opisthosomal dorsal setae flat and spatulate, but differing in shape: c1, c2, d1, e1, and f1 – narrow; f2, h1, h2 and ps1 – distinctly broadened distally *zairensis* sp. N.

Genus: *Perafrotydeus* ANDRÉ, 1980

Synonym: *Tydeus* (*Afrotydeus*): BAKER 1970 (in part)

D e s c r i p t i o n: as in ANDRÉ (1980)

T y p e - s p e c i e s: *Tydeus* (*Afrotydeus*) *meyerae* BAKER, 1970

O t h e r s p e c i e s: none

R e m a r k s. Monospecific genus. *Perafrotydeus meyeræ* (BAKER, 1970) was described from Kenya, found on citrus.

V. "ANCIENT" SPECIES

The genus *Tydeus*, a nominative for the family Tydeidae and subfamily Tydeinae was established by KOCH in 1835. Since that time many species have been described by him, as well as by other authors. These species were classified mainly as a *Tydeus*, but also in genera and subgenera created later, such as: *Brachytydeus*, *Melanotydaeus* (subgenera *Melanotydaeus* s. str. and *Stylotydeus*), *Retetydeus*, and *Lorryia* (subgenera *Lorryia* s. str. and *Raphitydeus*). Successive generic revisions led to rejection of the above mentioned taxa with the exception of *Tydeus* and *Lorryia*. Some of the earlier species turned out in reality to be representatives of other subfamilies or even families but the majority of them nevertheless still belong undoubtedly to the subfamily Tydeinae in contemporary understanding. Some of the "ancient" species became synonymized already by THOR (1933) and later by BAKER (1947, 1965, 1970). Others were sufficiently redescribed, but the greater part of them still require redescription. Nevertheless, the majority of type-species were lost and those which remain are no longer suitable for identification on account of their bad condition. Therefore there is little chance of reinstating their systematic status. The list of references for the greater part of this species is in THOR 1933. Given below is a list in chronological order of those species which the present author describes as "ancient".

Tydeus croceus (LINNÉ, 1746), *Tydeus foliorum* (SCHRANK, 1781), *T. celer* (HERMANN, 1804) (transferred by BAKER in 1970 to *Triophytydeus* -*Triophytydeinae*), *T. socius* (HERMANN, 1804), *T. tiliarum* (HERMANN, 1804), *T. velox* KOCH, 1835, *T. albellus* KOCH, 1838, *T. albofaciatus* KOCH, 1838, *T. celeripes* KOCH, 1838, *T. cruciatus* KOCH, 1838, *T. melanchlaenus* KOCH, 1838, *T. mutabilis* KOCH, 1838, *T. olivaceus* KOCH, 1838, *T. polymitus* KOCH, 1838, *T. salicis* (KOCH, 1838), *T. striatellus* (KOCH, 1838), *T. viburni* (KOCH, 1838), *T. parabolicus* KOCH, 1844, *T. mori* (RONDANI, 1870), *T. pellucidus* (TARGIONI-TOZETTI, 1876), *T. tetranemus* (CANESTRINI & FANZAGO, 1876), *T. aurantii* TARGIONI-TOZETTI, 1878, *T. molestus* MONIEZ, 1889, *T. granosus* (BERLESE, 1893), *T. sulcatus* KARPELLES, 1893, *T. granulatus* MONIEZ, 1894, *Tydaeus mammillaris* BERLESE, 1908 (= *Retetydeus mammillaris* (BERLESE) in THOR 1933), *T. acutus* (BERLESE, 1910), *T. curtus* (BERLESE, 1910) (junior synonym of *Lorryia brevicula* (KOCH, 1838)), *Lasiotydaeus (Melanotydaeus) humeralis* BERLESE, 1910 (= *Melanotydaeus (M.) humeralis* (BERLESE) in THOR 1933), *T. ovatus* (BERLESE, 1910), *T. rectangulus* BERLESE, 1910, *T. sarekensis* TRÄGARDH, 1910, *T. setosulus* (BERLESE, 1910), *Lasiotydaeus (Melanotydaeus) simplex* BERLESE, 1910 (= *Melanotydaeus (M.) simplex* (BERLESE) in THOR 1933), *T. styliger* (BERLESE, 1910), *Lasiotydaeus (Melanotydaeus) venustulus* BERLESE, 1910 (= *Lorryia (Raphitydeus) venustula* (BERLESE) in THOR 1933), *T. cocco-phagus* EWING, 1911 (transferred by BAKER in 1970 to *Triophytydeus* -*Triophytydeinae*), *T. roseus* HULL, 1918, *T. brevistylus* (HALBERT, 1920), *T. citri* TUCKER, 1926, *T. xylocopae* (OUDEMANS, 1926), *T. claviger* OUDEMANS, 1928 (transferred by THOR to *Coccotydeus* THOR, 1931), *T. spathulatus* OUDEMANS, 1928 (junior synonym of *T. caudatus* (DUGÈS, 1834)), *T. alni* OUDEMANS, 1929, *T. bavaricus* OUDEMANS, 1929, *T. boicus* OUDEMANS, 1929, *T. commutabilis* OUDEMANS, 1929, *T. demeyerei* OUDEMANS, 1929, *T. subterraneus* OUDEMANS, 1929, *T. tiliae* OUDEMANS, 1929, *T. thori* OUDEMANS, 1931, *Retetydeus viviparus* THOR, 1931, *T. hyacinthi* OUDEMANS, 1932, *T. interruptus* THOR, 1932, *T. subalpinus* THOR, 1932, *T. svalbardensis* THOR, 1932, *T. totensis* THOR, 1932, *T. womersleyi* THOR, 1932, *T. domesticus* THOR, 1933, *T. antipodus* WOMERSLEY, 1937 (transferred by BAKER in 1970 to *Eupodes* -*Eupodidae*), *Lorryia leptonychotes* WOMERSLEY, 1937, *Lorryia polaris* WOMERSLEY, 1937 (perhaps a synonym of *Lorryia reticulata* (OUDEMANS, 1928)), *T. mildredae* BAKER, 1943 (transferred by BAKER in 1970 to *Triophytydeus* -*Triophytydeinae*), *T. plummeri* BAKER, 1943 (transferred by BAKER in 1965 to *Paratriophytydeus* -*Tydaeolinae*), *T. popo-*

catepetlensis BAKER, 1943 (junior synonym of *T. kochi* OUDEMANS, 1928), *T. protydeus* BAKER, 1943 (transferred by BAKER in 1965 to *Paratriophydeus* -Tydaeolinae), *T. zempoalensis* BAKER, 1943 (junior synonym of *T. kochi* OUDEMANS, 1928), *Lorryia balocki* BAKER, 1944 (junior synonym of *Pretydeus doddsi* (BAKER, 1944) -Pretydeinae), *T. bifurcatus* BAKER, 1944 (= *Meyerella bifurcata* (BAKER) – Meyerellinae), *Melanotydaeus brachypalpus* BAKER, 1944 (junior synonym of *Paralorryia shawi* (BAKER, 1943)), *Melanotydaeus dyfrigi* BAKER, 1944 (junior synonym of *Paralorryia shawi*), *Melanotydaeus leorae* BAKER, 1944 (junior synonym of *Paralorryia shawi*), *T. hanseni* BAKER, 1946 (transferred by BAKER in 1970 to *Triophydeus* -Triophydeinae), *T. duanei* BAKER, 1946, *T. sampsoni* BAKER, 1946 (transferred by BAKER in 1970 to *Triophydeus* -Triophydeinae), *T. ellipticus* LOMBARDINI, 1949, *T. halophilus* WILLMANN, 1952, *T. marinus* WILLMANN, 1952, *T. maximus* WILLMANN, 1952, *T. bakeri* BRICKHILL, 1958 (transferred by BAKER in 1970 to *Triophydeus* -Triophydeinae), *T. eriophyes* MEYER & RYKE, 1959 (junior synonym of *Lorryia ferula* BAKER, 1944).

STRANDTMANN (1967) described five species from Antarctica under the generic name *Tydeus*. These species belong in fact to the subfamilies *Triophydeinae* and *Tydaeolinae*. These are: *T. erebus* STRANDTMANN, 1967 (transferred to *Triophydeus* by BAKER in 1970 and subsequently by ANDRÉ in 1980 to *Apotriophydeus* -Triophydeinae), *T. setsukoe* STRANDTMANN, 1967 (transferred by ANDRÉ in 1980 to *Aesthetys* -Tydaeolinae), *T. tilbrookii* STRANDTMANN, 1967 (transferred by BAKER in 1970 to *Triophydeus* and subsequently by ANDRÉ in 1980 to *Pretriophydeus* -Triophydeinae), *T. wadei* STRANDTMANN, 1967 (transferred by BAKER in 1970 to *Paratriophydeus* and subsequently by ANDRÉ in 1980 to *Teletriophydeus* – Triophydeinae) and *T. wilkesi* STRANDTMANN, 1967 (transferred by BAKER in 1970 to *Triophydeus* and subsequently by ANDRÉ in 1980 to *Apotriophydeus* -Triophydeinae).

VI. PHYLOGENETIC ANALYSIS

The problem of the phylogeny of *Tydeidae* and its cladistic analysis on the level of subfamilies was for the first time discussed by ANDRÉ (1979). Respecting *Tydeinae*, the author stated later (ANDRÉ 1985), that whatever the selection criterion applied in a cladistic analysis might be, the genus *Lorryia* (= *Tydeus* sensu ANDRÉ) corresponds to the most primitive state from which all the other genera of the subfamily *Tydeinae* have been derived. The lineage of *Lorryia* still remains the main trunk of the *Tydeinae* phylogenetic tree. However, the discovery of *Melissotydeus* established this genus as most closely related to a hypothetical ancestor and at the same time as a taxon which partially fills the gap between the *Tydeinae* and the older subfamilies, mainly by the presence of two setae on femur IV. In opposition to the most primitive *Melissotydeus*, the genus *Apolorryia* is the youngest. The cladistic analysis given below is the second attempt which comprises all twenty one genera of *Tydeinae* discussed in this revision (for the first attempt see KAZMIERSKI 1996b).

M e t h o d s. Cladistic analysis was conducted by Software PAUP 3.0 (SWOFFORD 1991) using branch-and-bound algorithm. Plesiomorph states are designated as “0” (Table 1). All binary characters were treated as ordered, multistage as unordered. An equal weight 1 was given to all the characters. The DELTRAN optimization method was used, thus parallelisms were accepted as more probable than reversals. The tree was rooted using the outgroup-method.

Seven most parsimonious trees (of 68 steps each) were obtained. Consistency index (CI) equals 0,588 (excluding non-informative characters: 0,548). This value exceeds the expected CI for 22 taxa: 0,519 (SANDERSON & DONOGHUE 1989) and suggests a good fit of the data to the tree topology. The 50% – Majority rule consensus tree (Fig. 85) was topologically most similar to the tree N° 1 (Fig. 86). The only difference was the trichotomy of *Krantzlorryia*, *Metalorryia* and *Apolorryia*-complex clade in the consensus tree versus *Krantzlorryia* as sister group to the clade *Metalorryia*-*Apolorryia* complex as in Fig. 86. The following discussion concerns Fig. 86 and delineated on its base Fig. 87.

D i s c u s s i o n. A hypothetical ancestor common to closely related subfamilies Pretyleinae and Tydeinae was characterized in part two of this revision (KAZMIERSKI 1996a). The Tydeinae lineage arises by loss of the third seta on epimeron IV, solenidion ω I on tibia I, and seta on trochanter II (trII), as well as by fusion of three former elements in double terminal palpal eupathidium (p ζ). The next step is associated with the loss of dorsal seta on femur IV: then, the *Melissotydeus* branch retains both setae on femur IV, while the main cluster retains the ventral seta only. Perhaps the next early branching leads to the genus *Momenia* ("broken" cheliceral stilettos, loss of ft'' on tarsus I). The line of evolution common to the genera *Tydides* and *Acanthotydides* probably also has a long history (loss of seta dg on palpal femurogenu, presence of dorso-lateral convexity on this segment, reduction in the number of pairs of the genital setae and partial reduction of bothridiae together with change of shape of bothridial setae). The two following synapomorphies provide evidence for the distinction of a *Afrotydeus* cluster (*Quasitydeus*-*Afrotydeus*-*Perafrotydeus*): strongly developed paraproctal succers and loss of setae trIII. However *Afrotydeus* and *Perafrotydeus* differ from *Quasitydeus* in poorer chaetotaxy of femora II and IV and poorer genital chaetotaxy. The appearance of dorsal reticulation was the next step in Tydeinae evolution and the branches mentioned below were born probably after this phenomenon. Reticulate ornament exists without exception in a compact cluster which comprises the genera: *Edlorryia*, *Krantzlorryia*, *Metallorryia*, *Idiolorryia*, *Afridiolorryia*, *Neolorryia*, *Neoapolorryia*, and *Apolorryia*. Reduction in the number of genual and tibial setae (always concerning geI and with some exceptions geII, III, IV and ti I-IV), as well as the presence of only one seta on palpal tibia (*Edlorryia* is an exception) strongly unite the genera mentioned above. Independently of two different versions of internal branching arrangement (comp. Figs 85 and 86), all the eight genera mentioned above derive from one root. However, five of them (*Idiolorryia*, *Afridiolorryia*, *Neolorryia*, *Neoapolorryia*, *Apolorryia*) are more closely related to each other than to the remaining three genera. It is possible to identify two pairs of "sister" group-genera: *Idiolorryia*-*Afridiolorryia* and *Neoapolorryia*-*Apolorryia*. To return back to the main stem of the tree: a thin branch leads to the genus *Kenlorryia*, which is well-defined by the linkage of a few apomorphies (lack of ft'' on tarsus I, reduced chaetotaxy of femur III, reticulation). The last mentioned cluster has a very broad base (dominating part of Tydeinae species) and contains five genera: *Tydeus*, *Lorryia*, *Nudilorryia*, *Pseudolorryia* and *Paralorryia* (i.e. *Lorryia* complex). The loss of dorsal seta on femur III together with preservation of all the three setae on femur II lie on the basis of the *Pseudolorryia*-*Paralorryia* branch. The next branch, i.e. genus *Tydeus* is well defined above all by two common apomorphies: the loss of seta db on femur II and on femur III. Genus *Nudilorryia* forms a separate lateral branch which detaches from the main stem and it is characterized mainly by the atrichosis of trochanter I. This main stem symbolizes the genus *Lorryia*, which has preserved many plesiomorphies.

The data matrix contains 34 characters for 21 genera + hypothetic ancestral taxon (Table 1). These characters are discussed below.

Character N°1 concerns the presence (0) or absence (1) of setae ps1. The apomorphy (loss of ps1) characterizes only one branch – 6C in Fig. 87.

Character N°2 concerns the presence (0) or absence (1) of seta on trochanter I (trI). The loss of trI appears independently in four branches on the tree. First of all, it makes a synapomorphy characteristic for seven genera of *Apolorryia* complex (with the exception of *Edlorryia*) (branch 6A). Moreover, the absence of tr I is typical of the genera *Nudilorryia*, *Paralorryia* and *Tydides* (i.e. branches 23, 212, and 41 respectively (parallelism).

Character N°3 is analogical but concerns tr III. In apomorphic state it well determines the *Afrotydeus* cluster (*Quasitydeus*, *Afrotydeus*, *Perafrotydeus* – i.e. branch 5), but also the *Neoapolorryia* and *Apolorryia* (branch 6E).

The next synapomorphies concern the femoral chaetotaxy.

Table 1

Phylogenetic analysis of the genera of *Tydeinae*; Data matrix

	11111111122222222233333
	1234567890123456789012345678901234
<i>Hypothetic</i>	00000000000000000000000000000000
<i>Melissotydeus</i>	000000000000000000000000000001111
<i>Lorryia</i>	00000010000000000000000110100011111
<i>Nudilorryia</i>	01000010000100000000000100000011111
<i>Pseudolorryia</i>	00000110000000000100000000100011111
<i>Paralorryia</i>	01000110000000000100000000100011111
<i>Momenia</i>	00000010000000002000000000010011111
<i>Kenlorryia</i>	000001100000000020000000000011111
<i>Quasitydeus</i>	00100110000000000000000001000001111
<i>Tydeus</i>	00001110000000000000000100100001111
<i>Acanthotydes</i>	00000010000000000011003000001011111
<i>Tydides</i>	01000010000000000001101300010101111
<i>Metalorryia</i>	01001111100100000000010000000011111
<i>Idiolorryia</i>	1100001110001110010010000000011111
<i>Afridiolorryia</i>	1100111110001110000010000000011111
<i>Edlorryia</i>	0001111101100000000000000000011111
<i>Krantzlorryia</i>	0101111111110000100010000000011111
<i>Neolorryia</i>	1101111111111110000010100000011111
<i>Neoapolorryia</i>	111111111111110000010000000011111
<i>Apolorryia</i>	1111111211111110200011310100011111
<i>Afrotydeus</i>	0010212000000001000000201000001111
<i>Perafrotydeus</i>	0010212000000001110000201000001111

Character N°4: three setae on femur I – db, vb and vt (state 0), or two setae only (loss of db – state 1). The latter case appears in three branches of the tree in *Apolorryia* complex: branches 61, 62 and 6D.

Character N°5: presence of three (state 0), two (1) or only one seta (2) on femur II. This last state represents branch 5 only (loss of both former basifemoral setae). State 1 (two setae present – loss of db) concerns branch 22 (*Tydeus*) and branch 6 (the base of *Apolorryia* complex cluster). However, *Idiolorryia* has all three setae on femur II (probably a reversal effect).

Character N°6: two setae on femur III is a plesiomorph state (0) contrary to the presence of one seta only (1). This apomorphy marks branch 2B on the main stem of the tree but there are two points of reversal of this character: branch 64I (*Idiolorryia*) and 2G.

Character N°7 has three possibilities of chaetotaxy of femur IV: two setae (state 0), one seta (1) or no setae on this segment (2). Only *Melissotydeus* retained the primitive state, hence, the state 1 characterizes branch 2, i.e. the stem of all the remaining generic lineages. The most derived apomorphy appears at the base of the bifurcate branch *Afrotydeus*-*Perafrotydeus* (51).

Characters N° 8-10 concern genual chaetotaxy.

Character N°8 appears in three variants: three, two or one seta on genu I are described as 0, 1 and 2, respectively. State 1 is characteristic of the *Apolorryia* complex cluster (branch 6). Additionally, the most derived apomorphy (state 2) is typical of *Apolorryia* genus (branch 6F).

Character N°9: two setae (0) or only one seta (1) on genu II. This latter state (synapomorphy) appears together with branch 6A and it is typical of seven closely related genera.

Character N°10: state 0 – the presence of seta on genu III, state 1 – atrichosis of this segment (branches: 61, 62 and 6D).

Identical order characterizes the apomorphic feature from character N°11 (this character concerns the chaetotaxy of genu IV).

Characters N° 12-15 concern tibial chaetotaxy.

Tibia I has four (0) or three (1) setae, including famulus k'' (character N°12). There were two independent appearances of state 1 (synapomorphies): one in branch 6A and the second in branch 23 (the latter case concerns only one, yet undescribed species of *Nudilorryia* in the author's collection). However, the reversal of this apomorphy is also characteristic of genera *Idiolorryia* and *Afridiolorryia* (branch 64).

Characters N°13, 14 and 15 have an identical appearance on the phylogenetic tree: their apomorphical status is revealed in branch 6C. These characters concern the chaetotaxy of tibia II, III and IV, respectively. State 0 means two setae, while state 1 means the presence of one seta only.

Character N°16 concerns the possibility of appearance of seta l' on tibia I in the form of a slender twig with a small base (1) instead of the normal seta (0). State 1 is characteristic of *Afrotydeus kenyensis* BAKER, 1970 and *Perafrotydeus meyeri* (BAKER, 1970). However, *Afrotydeus smileyi* sp. n., *A. zairensis* sp. n. and *A. novaezealandiae* sp. n. have a normally developed seta l'.

Character N°17: seta ft'' on tarsus I: eupathidial (ζ) – 0, not eupathidial – 1, absent – 2. State 1 evolved three times (branches 21, 62 and 512). State 2 appears in *Momenia* (branch 3), *Kenlorryia* (branch 7) and, finally, *Apolorryia* (branch 6F).

Character N°18 concerns the presence (0) or absence (1) of solenidion ω II. There are only two genera in which ω II has been lost: *Idiolorryia* and *Perafrotydeus* (branches 641 and 512).

Branch 4 reflects the apomorphic states of characters N°19 and 20. The first one relates to the presence of both (state 0), or only one seta (df) on the palpal femurogenu (state 1). The second also concerns the palpal femurogenu. State 0 means a normally shaped segment, i.e. without dorso-lateral convexity, and state 1 – the presence of convexity.

Character N°21 concerns the chaetotaxy of the palpal tibia. There are two possibilities in *Tydeinae*: the presence of two setae (plesiomorphic state), or that of a single seta (apomorphic state). The latter condition characterizes seven genera of *Apolorryia* complex (branch 6A).

Character N°22 relates to the number of setae on the palpal tarsus. A complete chaetotaxy (six setae) was marked "0", while a poorer chaetotaxy (five setae) was marked "1" and concerns the genera *Tydides* and *Apolorryia* only (branches 4A and 6F).

Character N°23 concerns the number of genital setae. This character has a limited confidence because of the individual variability observed in some species (KAŹMIERSKI 1989b). However, in some genera the poorer genital chaetotaxy is typical of some species and very constant in that respect. Hence, the following gradation was used: state 0 – always six pairs of setae ge (excluding anomalies), state 1 – nearly always six pairs of ge (sometimes fewer), state 2 – always four pairs of ge, state 3 – always three pairs of ge. State 1 relates to the branch 2F, i.e. the stem of the cluster composed by the genera *Tydeus*, *Lorryia* and *Nudilorryia*, and independently to the branch 65 (*Neolorryia*). State 2 is typical of *Afrotydeus* and *Perafrotydeus* (branch 51). State 3 characterizes another pair of closely related genera: *Acanthotydides* and *Tydides* (branch 4).

Character N°24 relates to numbers of pairs of aggenital setae (ag): always four pairs (0), or fewer (1). In *Lorryia* fewer than four pairs occur (branch 2H). *Apolorryia* has three pairs only (branch 6F).

Character N°25 concerns the paraproctal succers which are usually underdeveloped (0), or, on the contrary, strongly developed (1). The cluster formed by *Afrotydeus* complex is well defined by this apomorphy (see branch 5).

Character N°26 concerns the possibility of loss of the cross-piece on the tip of the palpal terminal eupathidium (p ζ) (state 1 – branches 2E and 6F).

Character N°27 refers to the position of the cheliceral frame, which protrudes very strongly anteriorly to the aspidosoma in the genus *Tydides* (state 1, branch 4A). Normally situated cheliceral frame is marked by 0.

Character N°28 concerns "broken" cheliceral stilettos in the genus *Momenia* (state 1, branch 3). Symbol 0 means normal stilettos.

Character N°29 distinguishes branch 4 by atypical trichobothria (similar in shape to remaining dorsal setae and with underdeveloped bothridia). State 0 relates to typical trichobothria.

Character N°30 concerns ornamentation. Reticulation (1) is regarded as younger than striation (0). The appearance of reticulum in the branch 2C suggests that the classification of this feature as apomorphy is well justified. The remaining question is whether the presence of rich and very well developed reticulate ornament in the main part of *Pretydeinae* species is a case of parallelism?

Characters N°31-34 were introduced only for the use of the outgroup. Symbols 0 (plesiomorphies) are characteristic of the hypothetic ancestor only. Character N°31 concerns the chaetotaxy of epimeron IV (state 0 – three setae, state 1 – one seta less). Character N°32 refers to triple (0), or double (1) palpal terminal eupathidium (pζ). Character N°33 determines the presence (0), or absence (1) of tibial solenidion ωI. The last character N°34 concerns the seta trII (0), which is absent (1) in all the known genera of *Tydeinae*.

C o n c l u s i o n s. With regard to the phylogenetic tree, three single branches and four more or less rich clusters assign the following seven generic groups in the subfamily *Tydeinae*:

1. *Melissotydeus*
2. *Momenia*
3. *Kenlorryia*
4. *Lorryia* complex (*Lorryia*, *Nudilorryia*, *Pseudolorryia*, *Paralorryia* and *Tydeus*)
5. *Apolorryia* complex (*Edlorryia*, *Krantzlorryia*, *Metalorryia*, *Idiolorryia*, *Afridiolorryia*, *Neolorryia*, *Neoapolorryia* and *Apolorryia*)
6. *Afrotydeus* complex (*Quasitydeus*, *Afrotydeus* and *Perafrotydeus*)
7. *Tydides* complex (*Acanthotydidies* and *Tydides*)

This concept is somewhat different from one proposed earlier (KAŻMIERSKI 1996b – six generic groups), mainly in the change of general criteria.

The final remark concerns the relationships among the subfamilies of *Tydeidae* (especially *Pretydeinae* and *Tydeinae*): although the boundaries between *Pretydeinae* and *Tydeinae* were well defined by ANDRÉ (1979, Fig. 2), the problem seems to remain open. This, however, is beyond the scope of the present study.

REFERENCES

- ALBERTI G., STORCH V., RENNER H. 1981. Über den feinstrukturellen Aufbau der Milbencuticula (*Acari*, *Arachnida*). Zool. Jb. Anat., **105**: 183-236.
- ANDRÉ H. M. 1979. A generic revision of the family *Tydeidae* (*Acari: Actinedida*). I. Introduction, paradigms and general classification. Annales Soc. r. Zool. Belg., **108**(3-4): 189-208.
- ANDRÉ H. M. 1980. A generic revision of the family *Tydeidae* (*Acari: Actinedida*). IV. Generic descriptions, keys and conclusions. Bull. Ann. Soc. R. Belge Entomol., **116**: 103-168.
- ANDRÉ H. M. 1981a. A generic revision of the family *Tydeidae* (*Acari: Actinedida*). II. Organotaxy of the idiosoma and gnathosoma. Acarologia, **22**(1): 31-46.
- ANDRÉ H. M. 1981b. A generic revision of the family *Tydeidae* (*Acari: Actinedida*). III. Organotaxy of the legs. Acarologia, **22**(2): 165-178.
- ANDRÉ H. M. 1984. *Tydeinae* (*Acari: Tydeidae*) from Belgium I. The genus *Homeotydeus*. Bull. Annl. Soc. r. belge Ent., **120**: 117-122.

- ANDRÉ H. M. 1985. Acari domum meliponinarum brasiliensium habitantes. 10. *Melissotydeus macrosolenus* gen.n., sp.n. (Acari: Tydeidae). Bull. Annl. Soc. r. belge Ent., **121**: 243-246.
- ANDRÉ H. M. 1986. Notes on the ecology of corticolous epiphyte dwellers. 4. *Actinedida* (especially Tydeidae) and Gamasida (especially Phytoseiidae). Acarologia, **27**(2): 107-115.
- ANDRÉ H. M. 1987. Tydeinae (Acari: Tydeidae) from Belgium II. The genera *Tydeus*, *Idiolorryia* and *Metalorryia*. Acarologia, **28**(2): 151-159.
- ANDRÉ H. M. 1991. The Tydeoidea: a striking exception to the OUDEMANS-GRANDJEAN rule. Modern Acarology, Academia, Prague and SPB Academic Publishing bv, The Hague (DUSBABEK & BUKVA Eds.), **2**: 293-296.
- ANDRÉ M., NAUDO H. 1965. *Pertydeus schusteri* n. gen., n. sp., nouveau *Tydeus* a griffe pulvillaire (Tydeidae). Acarologia, **7**(4): 673-682.
- ASHMEAD W. H. 1879. Injurious and beneficial insects found on the orange trees in Florida. Can. Entomol., **11**(8): 159-160.
- BAKER E. W. 1943. Nuevos Tydeidae Mexicanos (Acarina). Rev. Soc. Mex. Hist. Natur., **4**(3-4): 181-190.
- BAKER E. W. 1944a. Seis especies de Lorryia (Acarina, Tydeidae). Ann. Inst. Biol. Mex. **15**(1): 215-222.
- BAKER E. W. 1944b. Tideidos Mexicanos (Acarina, Tydeidae). Rev. Soc. Mex. Hist. Natur., **5**(1-2): 73-81.
- BAKER E. W. 1946. Some Tydeidae (Acarina) from the fig tree (*Ficus carica* L.). Ann. Esc. Nac. Cienc. Biol. Mex., **4**(2-3): 255-261.
- BAKER E. W. 1947. Notes on the mites of the family Tydeidae (Acarina) with descriptions of two new species. Proc. Entomol. Soc. Wash., **49**(5): 133-136.
- BAKER E. W. 1965. A review of the genera of the family Tydeidae (Acarina). Advances in Acarology, Cornell Univ. Press, **2**: 95-133.
- BAKER E. W. 1968a. The genus *Lorryia*. Ann. Entomol. Soc. Am., **61**(4): 986-1008.
- BAKER E. W. 1968b. The genus *Paralorryia* BAKER. Ann. Entomol. Soc. Am., **61**(5): 1097-1106.
- BAKER E. W. 1970. The genus *Tydeus*: Subgenera and species groups with a descriptions of new species (Acarina: Tydeidae). Ann. Entomol. Soc. Am., **63**(1): 163-177.
- BAKER E. W., WHARTON G. W. 1952. An introduction to Acarology. The Macmillan Co., N. Y.: 465 pp.
- BANKS N. 1904. Four new species of injurious mites. N. Y. Entomol. Soc., **12**: 54-56.
- BAYAN A. 1986. Tydeid mites associated with apples in Lebanon (Acari: Actinedida: Tydeidae). Acarologia, **27**(4): 311-316.
- BERLESE A. 1893. Acari, Myriapoda & scorpiones hucusque in Italia reperta – Ordo Prostigmata, Trombididae. Patavii: 26 pp.
- BERLESE A. 1908. Acari nuovi. Redia, **5**(1): 14.
- BERLESE A. 1910. Acari nuovi. Manipulus V. Redia, **6**: 199-346.
- BERNINI F., CASTAGNOLI M., NANNELLI R. 1995. Arachnida -Acari. [In:] A. MINELLI, S. RUFFO, S. LA POSTA (eds.) – Checklist delle specie della fauna italiana, **24**: 37-38.
- BŁOSZYK J., OLSZANOWSKI Z., KAŹMIERSKI A., BŁASZAK C. & NIEDBALA W. 1994. Checklist of mites (Acari) of oak-hornbeam natural reserves "Jakubowo" and "Las Gródowy nad Mogielnicą" in Western Great Poland. Parki Narodowe i Rezerwaty Przyrody, **13**(3): 29-49.
- BRICKHILL C. D. 1958. Biological studies of two species of tydeid mites from California. Hilgardia, **27**(20): 601-620.
- CANESTRINI G. 1886. Prospetto dell' acarofauna italiana. Atti Ist. Veneto, **6**(4): 693-734.
- CANESTRINI G., FANZAGO F. 1876. Nuovi Acari italiani. Atti Acad. sci. ven-trent. -istr., Padova, **4**: 99-111.
- CARMONA M. M. 1970. *Lorryia teresae* n. sp. (Acarina: Tydeidae) found on apple trees. Acarologia, **12**(2): 310-312.
- CARMONA M. M. 1972. *Lorryia stellata* n. sp. (Acarina: Tydeidae). Agronomia lusit., **33**: 75-80.
- CASTAGNOLI M. 1984. Contributo alla conoscenza dei tideidi (Acarina: Tydeidae) delle piante coltivate in Italia. Redia, **67**: 307-322.
- COOREMAN J. 1958. Notes et observations sur les acariens. VII. *Photia graeca* n. sp. (Acaridae, Canestrinidae) et *Lorryia formosa* n. sp. (Stomatostigmata, Tydeidae). Bull. Inst. Roy. Sci. Natur. Belg., **34**(8): 1-10.
- DUGÉS A. 1834. Recherches sur l'ordre des Acariens en général & la famille des Trombidies en particulier. Ann. Sci. Natur., Ser. 2. **1** (Zool.): 5-45.
- EL BAGOURY M. E., MOMEN F. M. 1988. Description of two new tydeid mites from Egypt (Acari, Tydeidae). Entomol. Mitt. zool. Mus. Hamburg, **9**(132): 109-113.

- EL BAGOURY M. E., MOMEN, F. M. 1989. Two new species of the genera *Metatydaeus* and *Tydeus* from Egypt (*Acari: Tydeidae*). *Acarologia*, **30**(2): 119-122.
- EL BAGOURY M. E., MOMEN F. M. 1990. *Neoapolorryia* gen. n. of the family *Tydeidae* from Egypt (*Acari: Tydeidae*). *Entomol. Mitt. zool. Mus. Hamburg*, **10**(138): 25-27.
- EVANS G. O. 1952. Terrestrial *Acari* new to Britain. II. *Ann. Mag. Natur. Hist.*, **12**(5): 660-675.
- EWING H. E. 1911. New predaceous and parasitic *Acarina*. *Psyche*, **18**(1): 37-43.
- FLECHTMANN C. H. W. 1971. Alguns *Trombidiformes* do Brasil e do Paraguai (*Acari*). Piracicaba, Estado de Sao Paulo: 63+16 pp.
- FLECHSCHNER C. A., ARAKAWA K. Y. 1953. The mite *Tydeus californicus* (BANKS) on citrus and avocado leaves. *J. Econ. Ent.*, **65**(6): 1092.
- GARMAN P. 1948. Mite species from apple trees in Connecticut. *Conn. Agr. Exp. Sta. Bull.*, **520**: 1-27.
- GERSON U. 1968. Five tydeid mites from Israel (*Acarina: Prostigmata*). *Israel J. Zoology*, **17**: 191-198.
- GRANDJEAN F. 1938a *Retetydeus* et les stigmates mandibulaires des Acariens Prostigmates. – *Bull. Mus. Hist. nat.*, **2**(10): 279-286.
- GRANDJEAN F. 1938b. Observations sur les *Tydeidae* (1^{re} série). *Bull. Mus. Hist. nat.*, **2**(10): 377-384.
- GRANDJEAN F. 1938c. Observations sur les *Tydeidae* (2^e série). *Bull. Mus. Hist. nat.*, **2**(10): 593-600.
- GRANDJEAN F. 1938d. Sur l'ontogénie des Acariens. *C. R. Séanc. Ac. Sci.*, **206**: 146-150.
- HALBERT J. N. 1920. The *Acarina* of the seashore. *Proc. Roy. Irish. Acad.*, **35**(7): 138.
- KARG W. 1973. Drei neue Tydeidenarten der Gattung *Lorryia* OUDEMANS, 1925 (*Acarina, Trombidiformes*). *Zool. Anz.*, **191**(3/4): 218-229.
- KARG W. 1975. Zur Kenntnis der Tydeiden (*Acarina, Trombidiformes*) aus Apfelanlagen. *Zool. Anz.*, **194**(1/2): 91-110.
- KARG W. 1992. Drei neue Tydeidenarten aus dem mitteldeutschen Tiefland (*Acarina, Prostigmata*). *Dtsch. ent. Z., N. F.*, **39**(4-5): 421-426.
- KAŻMIERSKI A. 1978a. *Lorryia danutae* sp. nov. (*Acari, Prostigmata*); a new species of tydeid mite from Poland. *Bull. Acad. pol. Sci.*, **26**(7): 473-478.
- KAŻMIERSKI A. 1978b. *Lorryia varsoviensis* sp. nov. (*Acari, Prostigmata*); a new species of tydeid mite from Poland. *Bull. Acad. pol. Sci.*, **26**(11): 785-790.
- KAŻMIERSKI A. 1980a. Materials to the knowledge of *Tydeidae* (*Acari, Prostigmata*) in Poland. I. The genus *Lorryia* OUDEMANS. [In:] Materials to the fauna of the Polish mites (*Acari*), *Pr. Kom. biol. Poznań*, **54**: 87-129. (In Polish).
- KAŻMIERSKI A. 1980b. Description of *Venilia longina* sp. nov. (*Acari, Actinedida: Tydeidae*) with a key to all species of the genus. *Bull. Acad. pol. Sci.*, **28**(10-11): 647-652.
- KAŻMIERSKI A. 1983. Revision of the genus *Paralorryia* BAKER, 1965 (*Acari: Actinedida: Tydeidae*). Ph. D. thesis, UAM, Poznań: 487 pp. (In Polish).
- KAŻMIERSKI A. 1989a. Morphological studies on *Tydeidae* (*Actinedida; Acari*). I. Remarks about the segmentation, chaetotaxy and poroidotaxy of idiosoma. *Acta zool. cracov.*, **32**(4): 69-83.
- KAŻMIERSKI A. 1989b. Revision of the genera *Tydeus* KOCH sensu ANDRÉ, *Homeotydeus* ANDRÉ and *Orthotydeus* ANDRÉ with description of a new genus and four new species of *Tydeinae* (*Acari: Actinedida: Tydeidae*). *Mitt. hamb. zool. Mus. Inst.*, **86**: 289-314.
- KAŻMIERSKI A. 1990. *Tydeidae* mites (*Actinedida, Acari*) of the Świętokrzyskie Mountains. *Fragmenta faunistica*, **33**(12): 181-189. (In Polish).
- KAŻMIERSKI A. 1991. Description of two new species of the genus *Lorryia* sensu KAŻMIERSKI (*Acari, Actinedida, Tydeidae*). *Bull. Acad. pol. Sci.*, **39**(3): 339-346.
- KAŻMIERSKI A. 1993. Two new *Tydeinae* mites (*Acari: Actinedida, Tydeidae*) from Kenya. *Entomol. Mitt. zool. Mus. Hamburg*, **11**(148): 65-74.
- KAŻMIERSKI A. 1996a. A revision of the subfamilies *Pretydeinae* and *Tydeinae* (*Acari: Actinedida: Tydeidae*). Part II. The subfamily *Pretydeinae* ANDRÉ, 1979 – new taxa, species review, key and considerations. *Mitt. hamb. zool. Mus. Inst.*, **93**: 171-198.
- KAŻMIERSKI A. 1996b. A revision of the subfamilies *Pretydeinae* and *Tydeinae* (*Acari: Actinedida: Tydeidae*). Part III. Seven new genera and some new species of the *Tydeinae*, with a generic key. *Mitt. hamb. zool. Mus. Inst.*, **93**: 199-227.
- KAŻMIERSKI A. 1997a. *Tydeus rafalskii* sp. n., a new tydeid mite from Poland (*Acari: Actinedida: Tydeidae*). *Genus*, **8**(1): 55-60.
- KAŻMIERSKI A. 1997b. *Penthaleidae, Tydeidae* and *Ereynetidae*. Checklist of Animals of Poland, Polish Academy of Science, **4**(1-31): 209-211.

- KĄZMIERSKI A., PANOU H. N. 1997. *Lorryia reticuloinsignia*, a new species of tydeid mite from the Balcan Peninsula (*Acarina: Prostigmata*). Genus, **8**(3-4): 727-734.
- KOCH C. L. 1835. Deutsche *Crustacea*, *Myriapoda*, *Arachnida*. **4**.
- KOCH C. L. 1838. Deutsche *Crustacea*, *Myriapoda*, *Arachnida*., **20**(11).
- KOCH C. L. 1842. Uebersicht des Arachnidensystems., **3**: 1-130.
- KOCH C. L. 1844. Deutschlands Crustaceen, Myriapoden und Arachniden. Regensburg, **39** (13).
- KRAMER P. 1877. Grundzüge zur Systematik der Milben. Arch. Naturgesch., **43**(2): 215-247.
- KRANTZ G. W., LINDQUIST E. E. 1979. Evolution of phytophagous mites (*Acarina*). Ann. Rev. Entomol., **24**: 121-158.
- KULCZYCKI A. G. 1992. Peculiarities of plant dwelling tydeid mite distribution (*Acariformes, Tydeidae*) In Kanev Nature Reserve and its buffer zone. Vestn. zool., **5**: 50-56. (In Russian).
- KUZNETZOV N. N. 1971. Seven species of the genus *Lorryia* (*Tydeidae*) from Crimea and Georgia. Zool. Zh., **50**(11): 1740-1746. (In Russian).
- KUZNETZOV N. N. 1972. Mites of the genus *Paralorryia* (*Tydeidae*) from the Crimea. Zool. Zh., **51**(1): 28-35. (In Russian).
- KUZNETZOV N. N. 1973a. Three new species of the genus *Lorryia* (*Tydeidae, Acariformes*). Zool. Zh., **52**(2): 771-773.
- KUZNETZOV N. N. 1973b. A new subgenus and two new species of the family *Tydeidae* (*Acariformes*) from Crimea. Zool. Zh., **52**(10): 1577-1579. (In Russian).
- KUZNETZOV N. N. 1974. A contribution to the fauna of the family *Tydeidae* (*Acariformes*) of the Central-Chernozem District. Zool. Zh., **53**(7): 1092-1093. (In Russian).
- KUZNETZOV N. N. 1975a. New species of the genus *Lorryia* (*Acariformes, Tydeidae*). Zool. Zh., **54**(1): 127-130 (In Russian).
- KUZNETZOV N. N. 1975b. New genus and species of *Tydeidae* (*Acariformes*) of the Crimean fauna. Zool. Zh., **54**(8): 1255-1257. (In Russian).
- KUZNETZOV N. N. 1979. On revision of the family *Tydeidae* (*Acariformes*). Zool. Zhurn., **58**(9): 1413-1415. (In Russian).
- KUZNETZOV N. N. 1980. Adaptive peculiarities of ontogenesis in the tydeid mites (*Acariformes*).— Zool. Zh., **59**(7): 1018-1024. (In Russian).
- KUZNETZOV N. N., LIVSHITZ I. Z. 1973a. Genus *Tydeus* (*Acariformes, Tydeidae*) in materials from Crimea and Caucasus. Zool. Zh., **52**(1): 45-53. (In Russian).
- KUZNETZOV N. N., LIVSHITZ I. Z. 1973b. Some new species of *Tydeidae* mites (*Acariformes, Tydeidae*) of the Crimean fauna. Nauchnye Dokl. vyssh. Shk. Biol. Nauki, **3**: 13-18. (In Russian).
- KUZNETZOV N. N., LIVSHITZ I. Z. 1973c. Three new species of the genus *Paralorryia* (*Acariformes, Tydeidae*) from the Nikitsky Botanical Gardens. Zool. Zh., **52**(4): 604-606. (In Russian).
- LINDQUIST E. E. 1998. Evolution of phytophagy in trombidiform mites. Exp. Appl. Acarol., **22**: 81-100.
- LINNAEUS C. 1746. Fauna Svecica sist. Animalia Sveciae Regni, **1**: 349.
- LIVSHITZ I. Z., KUZNETZOV N. N. 1973a. New species of mites (*Acariformes, Tydeidae*) from the Nikitsky Botanical Gardens. Zool. Zh., **52**(2): 280-282. (In Russian).
- LIVSHITZ I. Z., KUZNETZOV N. N. 1973b. Five new species of mites from the family *Tydeidae* (*Acariformes*) from Crimea and Georgia. Zool. Zh., **52**(3): 436-439. (In Russian).
- LIVSHITZ I. Z., KUZNETZOV N. N., ZAPLETINA V. P. 1972 New species of the family *Tydeidae* (*Acariformes*) from Crimea and Azerbaijan. Zool. Zh., **51**(10): 1578-1580. (In Russian).
- LIVSHITZ I. Z., KUZNETZOV N. N., ZAPLETINA V. P. 1973. New species of *Tydeidae* (*Acariformes*) in the fauna of Caucasus and Crimea. Zool. Zh., **52**(8): 1250-1252. (In Russian).
- LOMBARDINI G. 1949. *Acarina* Nuovi. Redia, **34**: 67-74.
- MARSHALL V. G. 1970. Tydeid mites (*Acarina: Prostigmata*) from Canada. I. New and redescribed species of *Lorryia*. Ann. Soc. Ent. Quebec, **15**: 17-52.
- MAYR E. 1963. Populations, species and evolution. An abridgment of animal species and evolution. — Harvard University Press, Cambridge, Massachusetts: 797 pp.
- MCCOY C. W., SELHIME A. G., KANAVEL R. F. 1969. The feeding behavior and biology of *Parapronematus acaciae* (*Acarina: Tydeidae*). Fla. Entomol., **52**(1): 13-19.
- MENDEL Z., GERSON U. 1982. Is the mite *Lorryia formosa* COOREMAN (*Prostigmata: Tydeidae*) a sanitizing agent in citrus groves? Acta Ecologica, Ecol. Applic., **3**(1): 47-51.

- MEYER M. K. P., RODRIGUES M. C. 1966. *Acari* associated with cotton in Southern Africa (reference to other plants). *García de Orta*, **13**: 1-33.
- MEYER M. K. P., RYKE P. A. J. 1959. New species of mites of the families *Tydeidae* and *Labidostommidae* (*Acarina: Prostigmata*) collected from South African plants. *Acarologia*, **1**(4): 408-420.
- MOMEN F. M. 1988. New species of mites of the family *Tydeidae* (*Acarina: Prostigmata*) collected from unsprayed apple trees in Ireland. *Acarologia*, **29**(4): 355-360.
- MOMEN F. M. 1994. A new mite of the subfamily *Tydeinae* (*Acari: Actinedida: Tydeidae*) from Ireland. *Entomol. Mitt. zool. Mus. Hamburg*, **11**(150): 133-138.
- MOMEN F. M., EL BAGOURY M. E. 1989. A new tydeid mite, *Tydeus longichelus* sp. n. from Egypt (*Acari, Tydeidae*). *Entomol. Mitt. zool. Mus. Hamburg*, **9**(135): 225-227.
- MOMEN F. M., EL BAGOURY M. E. 1994. A new tydeid mite, *Tydeus kattai* sp. n. from Egypt (*Acari, Tydeidae*). *Entomol. Mitt. zool. Mus. Hamburg*, **11**(150): 127-131.
- MOMEN F., LUNDQVIST L. 1995. The genus *Tydeus* (*Acari: Prostigmata: Tydeidae*) in Southern Sweden; six new species. *Acarologia*, **36**(1): 41-56.
- MOMEN F., LUNDQVIST L. 1996a. Corticolous mites ; new and undescribed species of the genus *Tydeus* (*Acari: Prostigmata: Tydeidae*) and a key to species of Southern Sweden. *Acarologia*, **37**(2): 83-96.
- MOMEN F., LUNDQVIST L. 1996b. A new genus *Quadrotydeus*, and three new species of the family *Tydeidae* (*Acari: Prostigmata*) from Southern Sweden. *Internat. J. Acarol.*, **22**(1): 3-10.
- MOMEN F., LUNDQVIST L. 1996c. Taxonomy of non-*Tydeus* genera of the mite family *Tydeidae* *Acari: Prostigmata*) from moss, lichens and trees in Southern Sweden. *Acarologia*, **37**(4): 281-297.
- MOMEN F. M., SINHA R. N. 1991. Tydeid mites associated with stored grain and oilseeds in Canada, with descriptions of a new genus and five new species (*Acari: Tydeidae*). *Can. J. Zool.*, **69**(5): 1226-1254.
- MOMEN F., SOLHØY T. 1996. A first record of the genus *Tydeus* in Himalaya, *Tydeus lundqvisti* nov. spec. (*Acari: Actinedida: Tydeidae*). *Acarologia*, **37**(1): 23-25.
- MONIEZ R. 1989. Comptes rendus hebdomadaires des Séances de l'Académie des Sciences, **108**: 1026.
- NATCHEV P., SIMOVA S. 1978. A new species mite of the family *Tydeidae* (*Acarina*). *Acta Zoologica Bulgarica*, **10**: 71-74.
- NIEDBALA W., BLASZAK C., BŁOSZYK J., KALISZEWSKI M., KAŻMIERSKI A. 1981. Mites (*Acari*). [In:] Bionocenotic studies on soil fauna in Białoleka Dworska. *Fragmenta faunistica*, **26**(9): 105-156. (In Polish).
- NIEDBALA W., BLASZAK C., BŁOSZYK J., KALISZEWSKI M., KAŻMIERSKI A. 1982. Soils mites (*Acari*) of Warsaw and Mazovia. *Memorabilia zool.*, **36**: 235-252.
- NIEDBALA W., BŁOSZYK J., KALISZEWSKI M., KAŻMIERSKI A., OLSZANOWSKI Z. 1990. Structure of soil mites (*Acari*) communities in urban green of Warsaw. *Fragmenta faunistica*, **33**(3): 21-44.
- OUDEMANS A. C. 1897. List of Dutch *Acari*, fourth part. *Tijdschr. Ent.*, **40**: 111-114.
- OUDEMANS A. C. 1925. *Acarologische Aanteekeningen LXXIX*. *Entomol. Ber. nederl. Ver.*, **7**: 26-34.
- OUDEMANS A. C. 1926. *Acarologische Aanteekeningen LXXX*. *Entomol. Ber. nederl. Ver.*, **7**: 72.
- OUDEMANS A. C. 1927. X. *Acari* uit Ambon. – *Leiden R. mus. Nat. Hist. Zool. Meded.*, **10**(4): 185-237.
- OUDEMANS A. C. 1928. *Acarologische Aanteekeningen XCIV*. *Entomol. Ber. nederl. Ver.*, **7**: 374-382.
- OUDEMANS A. C. 1929a. *Acarologische Aanteekeningen XCVI*. *Entomol. Ber. nederl. Ver.*, **7**: 422-429.
- OUDEMANS A. C. 1929b. *Acarologische Aanteekeningen XCVIII*. *Entomol. Ber. nederl. Ver.*, **7**: 476-485.
- OUDEMANS A. C. 1931. *Acarologische Aanteekeningen CX*. *Entomol. Ber. nederl. Ver.*, **8**: 293.
- OUDEMANS A. C. 1932. *Acarologische Aanteekeningen CXII*. *Entomol. Ber. nederl. Ver.*, **8**: 350-352.
- PANOU H. N., EMMANOUEL N. G. 1995a. New records of tydeid mites from Greece with description of *Lorryia mantiniensis* sp. nov. (*Acari: Tydeidae*). *Internat. J. Acarol.*, **21**(1): 17-21.
- PANOU H. N., EMMANOUEL N. G. 1995b. *Lorryia arkadiensis* sp. nov., a new species of tydeid mite from Greece (*Acari: Prostigmata*). *Internat. J. Acarol.*, **21**(3): 217-221.
- PANOU H. N., EMMANOUEL N. G. 1995c. New records of tydeid mites from Greece, with description of *Lorryia brachypous* sp. nov. *Entomol. Mitt. zool. Mus. Hamburg*, **11**(152): 211-220.
- PANOU H. N., EMMANOUEL N. G. 1995d. *Lorryia adamantiae*, a new species of tydeid mite from Greece (*Acari: Prostigmata*). *Biologica Gallo-hellenica*, **21**(2): 177-186.
- PANOU H. N., EMMANOUEL N. G. 1996. Two new species of *Lorryia* (*Acari: Tydeidae*) from Greece. *Entomol. Mitt. zool. Mus. Hamburg*, **12**(154): 91-103.
- PANOU H. N., EMMANOUEL N. G. 1997. A new species of *Neoapolorryia* EL-BAGOURY & MOMEN (*Acari: Prostigmata: Tydeidae*) from Greece. *Internat. J. Acarol.*, **23**(2): 113-118.

- PANOU H. N., KAŻMIERSKI A. 1996. *Lorryia epimekes*, a new species of tydeid mite from Greece (*Acari: Prostigmata*). Entomol. Mitt. zool. Mus. Hamburg, **12**(153): 7-14.
- RASMY A. H., EL BAGOURY M. E. 1979. A new species of genus *Paralorryia* from Egypt (*Acarina: Tydeidae*). Acarologia, **21**(2): 194-196.
- SALVIEJO P. B. 1969. Some Philippine tydeid mites (*Tydeidae: Acarina*). Philip. Ent., **1**: 261-277.
- SANDERSON M. J., DONOGHUE M. J. 1989. Patterns of variation in levels of homoplasy. Evolution, **43**(8): 1781-1795.
- SCHIESS T. 1981. Neue Tydeidenarten (*Acari, Actinedida, Tydeidae*) aus einem alpinen Rasen (*Caricetum firmae*, 2500 m) des Schweizer Nationalparkes. Entomol. basil., **6**: 78-107.
- SCHRUFT G. 1972. Das Vorkommen von Milben aus der Familie *Tydeidae* (*Acari*) an Reben. VI. Beitrag über Untersuchungen zur Faunistik und biologie der Milben (*Acari*) an Kulturreben (*Vitis* sp.). Z. angew. Entomol., **71**: 124-133.
- SHIBA M. 1969. Free-living mites from Shiga Heights IBP Area, II. Bull. nat. Sci. Mus. Tokyo, **12**(1): 89-91.
- SINHA R. N. 1962. A note on associations of some mites with seedborne fungi from prairie provinces. Proc. Entomol. Soc. Manit., **18**: 51-53.
- SMIRNOFF W. A. 1957. An undescribed species of *Lorryia* (*Acarina, Tydeidae*) causing injury to citrus trees in Morocco. J. Econ. Entomol., **50**: 361-362.
- SMITH MEYER M. K. P., UECKERMAN E. A. 1988. South African Acari. III. On the mites of the Mountain Zebra National Park. Koedoe, **31**: 1-29.
- STRANDTMANN R. 1967. Terrestrial *Prostigmata* (Trombidiform mites). [In:] J. L. GRESSITT (ed.) – Entomology of Antarctica. Antarctic Res., Ser.10: 51-80.
- SWOFFORD D. L. 1991. PAUP: Phylogenetic Analysis Using Parsimony, v. 3. Os. Computer program distributed by the Illionis nat Surv., Champaign, Illionis.
- THOR S. 1931. Norwegische *Tydeidae* I-VII, mit Kennzeichnung vier neuer Gattungen. Zool. Anz., **94**(3/4): 89-104.
- THOR S. 1932. Norwegische *Tydeidae* VIII-XV, mit Bemerkungen über die Gattung *Tydeus* und über Augen, Tracheen usw. Zool. Anz., **98**(3-4):69-91.
- THOR S. 1933. *Acarina – Tydeidae, Ereyneidae*. Das Tierreich, Walter de Gruyter., 60: XI + 84 pp.
- TRÄGARDH I. 1910. Acariden aus dem Sarekgebirge. Naturw. Untersuch. des Sarekgebirges, **4**: 375-586.
- TREAT A. E. 1975. Mites of moths and butterflies. Comstock Publ. Associates, Cornell University Press, Ithaca & London: 362 pp.
- TUCKER R. W. E. 1926. Some South African mites, mainly *Tetranychidae* and *Eriophyidae*. Union S. Afr. Dept. Agric. Div. Ent. Mem., **5**: 15pp+5pl.
- UECKERMAN E. A., SMITH MEYER M. K. P. 1979a. African *Tydeidae* (*Acari*). I. The genus *Lorryia* OUDEMANS 1925. Phytophylactica, **11**: 43-50.
- UECKERMAN E. A., SMITH MEYER M. K. P. 1979b. African *Tydeidae* (i). II. The genus *Paralorryia* BAKER, 1965. Phytophylactica, **11**: 117-127.
- UECKERMAN E. A., SMITH MEYER M. K. P. 1988. South African *Acari*. IV. Some mites of the Addo Elephant National Park. Koedoe, **31**: 31-51.
- UUSITALO M., HUHTA V. 1995. Soil *Prostigmata* (*Acari*) in a scots pine forest in Southern Finland. [In:] The *Acari*. Physiological and ecological aspects of Acari-host relationships (Dabor, Warszawa): 331-336.
- VAINSTEIN B. A. et al., 1978 A guide to the soil mites – *Trombidiformes*. Science, Moskva: 271 pp. (In Russian).
- WEISS-FOGH T. 1948. Ecological investigation on mites and collemboles in the soil. – Nat. Jutlandica **1**: 253-270.
- WILLMANN C. 1952. Die Milbenfauna der Nordseeinsel Wangerooge. – Veröff. des Inst. Meer in remenhaven: 139-199.
- WIŚNIEWSKI H. M., SIGUDARSON S., RUBENSTEIN R., KASCSAK R. J., CARP R.I. 1996. Mites as vectors for scrapie. Lancet, **347**: 1114.
- WOMERSLEY H. 1937. *Acarina*. Australasian Antarctic Expedition 1911-1914. Sci. Rept. Ser. C-Zool. Bot., **10**(6): 1-24.
- WOOD T. G. 1965. New and redescribed species of *Tydeidae* (*Acarina*) from moorland soils in Britain. Acarologia, **7**(4): 663-672.
- ZAHER M. A., EL BAGOURY M. E. 1981. A new mite, *Paralorryia bakeri* n. sp. from Egypt (*Prostigmata: Tydeidae*). Acarologia, **22**(2): 179-180.
- ZAHER M. A., SHEHATA K. K. 1963. Biological studies of *Tydeus californicus* (BANKS) in Egypt (A. R. E.) (*Acarina, Tydeidae*). Bull. Soc. Ent. Egypte, **67**: 297-300.

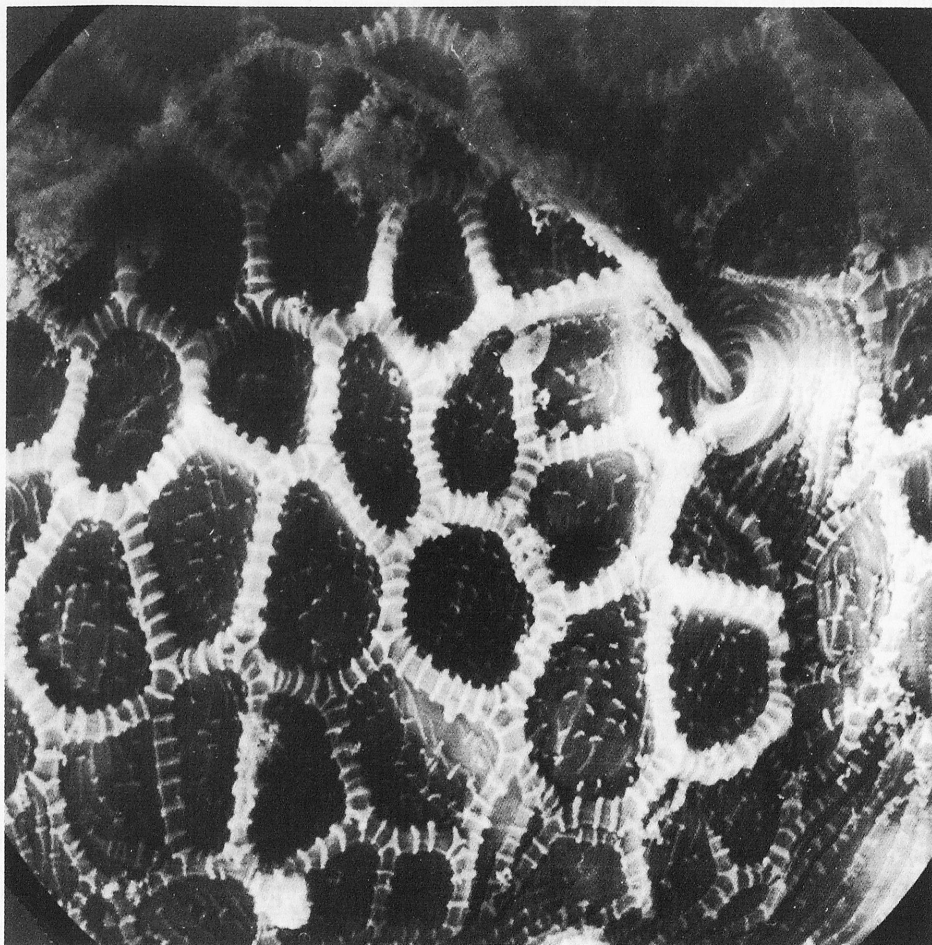


Photo 1. *Lorryia arkadiensis* PANNOU & EMMANOUEL, 1995. Female from Szydłów (Kielce province, Poland): dorsal ornamentation of aspidosoma, fragment with trichobothrium. (photo W. WITALIŃSKI).

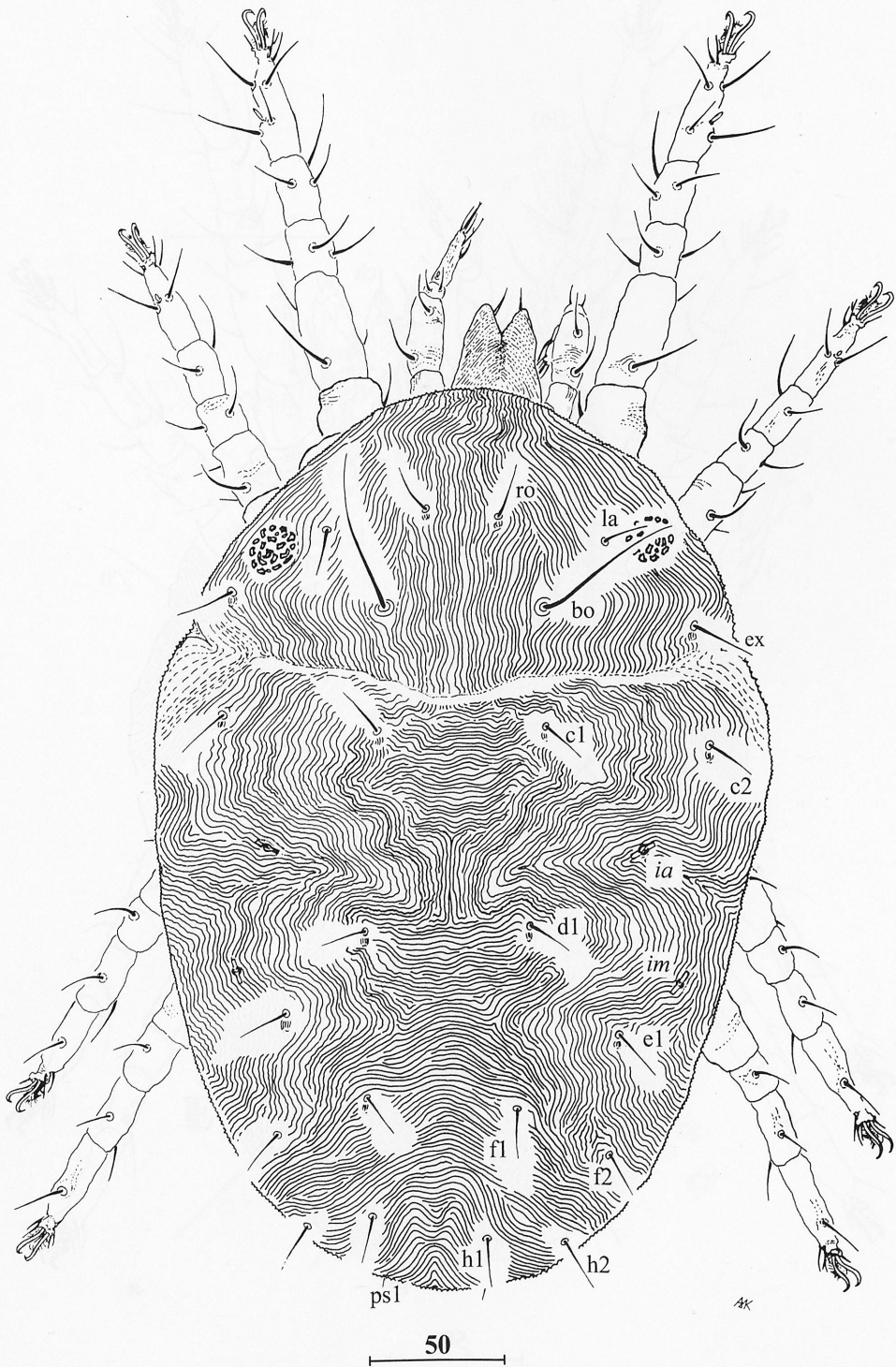


Fig. 1. Tydeinae. Dorsal side. Chaetotaxy and poroidotaxy of idiosoma (*Lorryia subularoides* KĄZMIERSKI, 1989 – para-type female from Złoty Potok, "Parkowo" reserve).

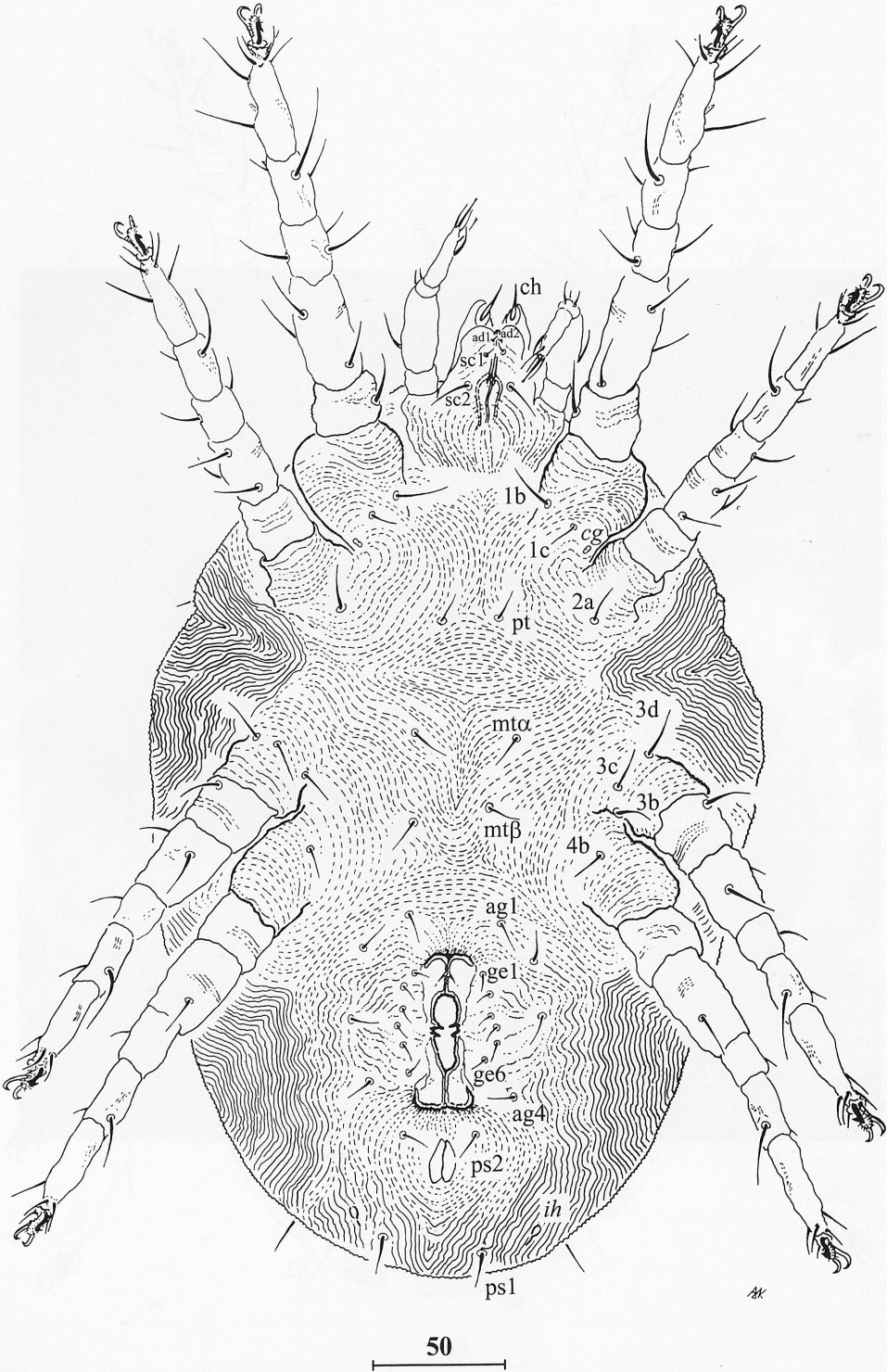


Fig. 2. Tydeinae. Ventral side. Chaetotaxy and poroidotaxy of idiosoma and gnathosoma (*Lorryia subularoides* – paratype female from Złoty Potok).

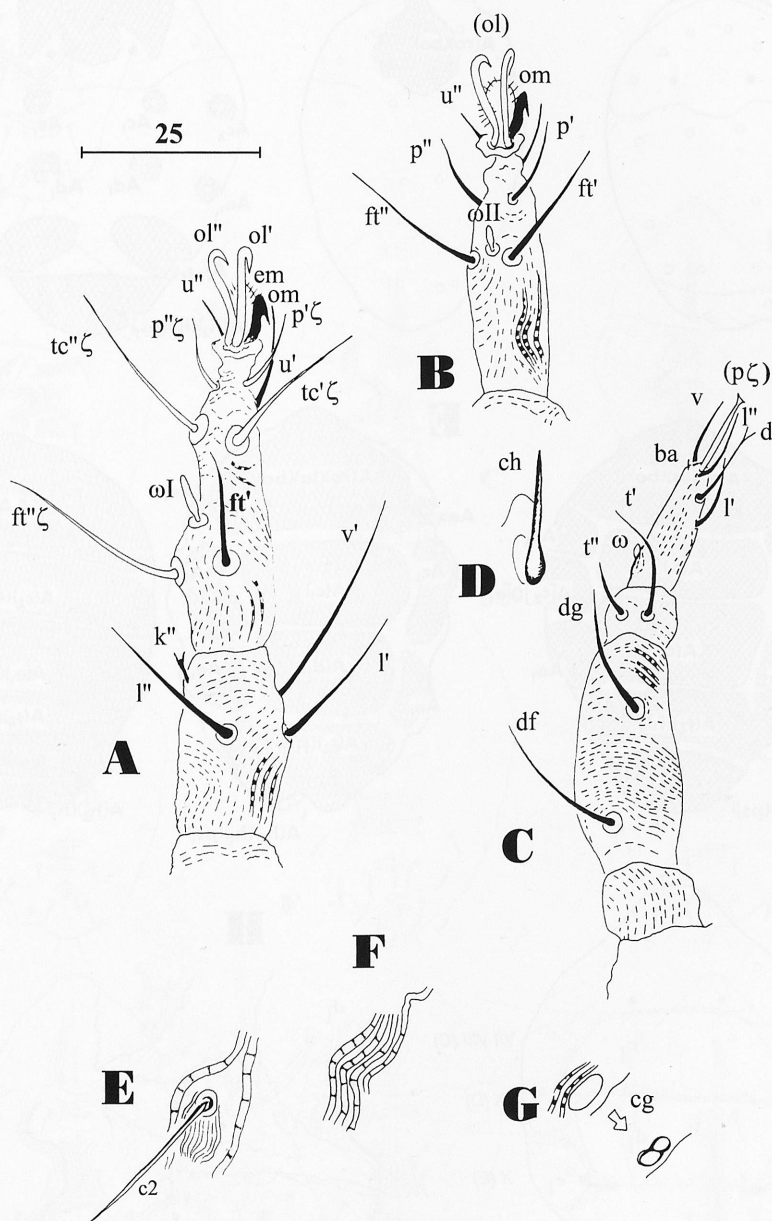


Fig. 3. Organotaxy of most important fragments of appendages and other details (*Lorryia subularoides* - paratype female from Zloty Potok). A - left tibia+tarsus+apotele I (dorsally - slightly paraxially), B - left tarsus+apotele II (dorsally - slightly paraxially), C - left palp (dorsally - tarsus slightly twisted), D - chelicerale stiletto, E - dorsal seta $c2$, F - dorsal striae, G - coxal gland opening, external and internal view.

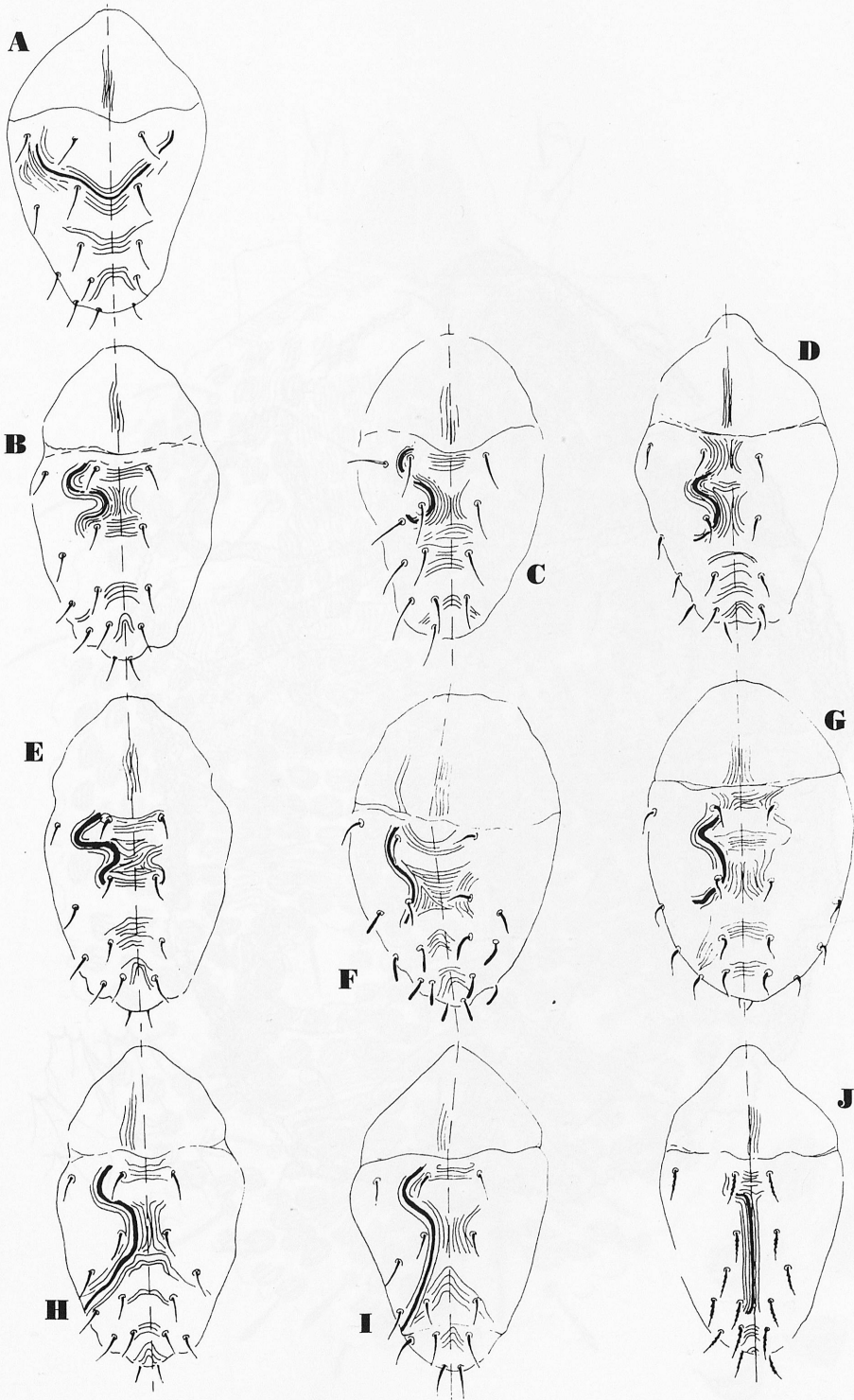


Fig. 5. Types and subtypes of dorsal striation arrangement. A – “Tydeus”, B – “Mesoparalorryia”, C – “Paralorryia s. str.”, D – “Biparalorryia”, E – “Mesoparalorryia-incerta”, F – “Paralorryia-incerta”, G – “Biparalorryia-incerta”, H – “Veniparalorryia”, I – “Paravenilia”, J – “Venilia”.



Fig. 6. Ornamentation type "Mountains" (*Pseudolorryia edwardbakeri* KAŻMIERSKI, 1989).

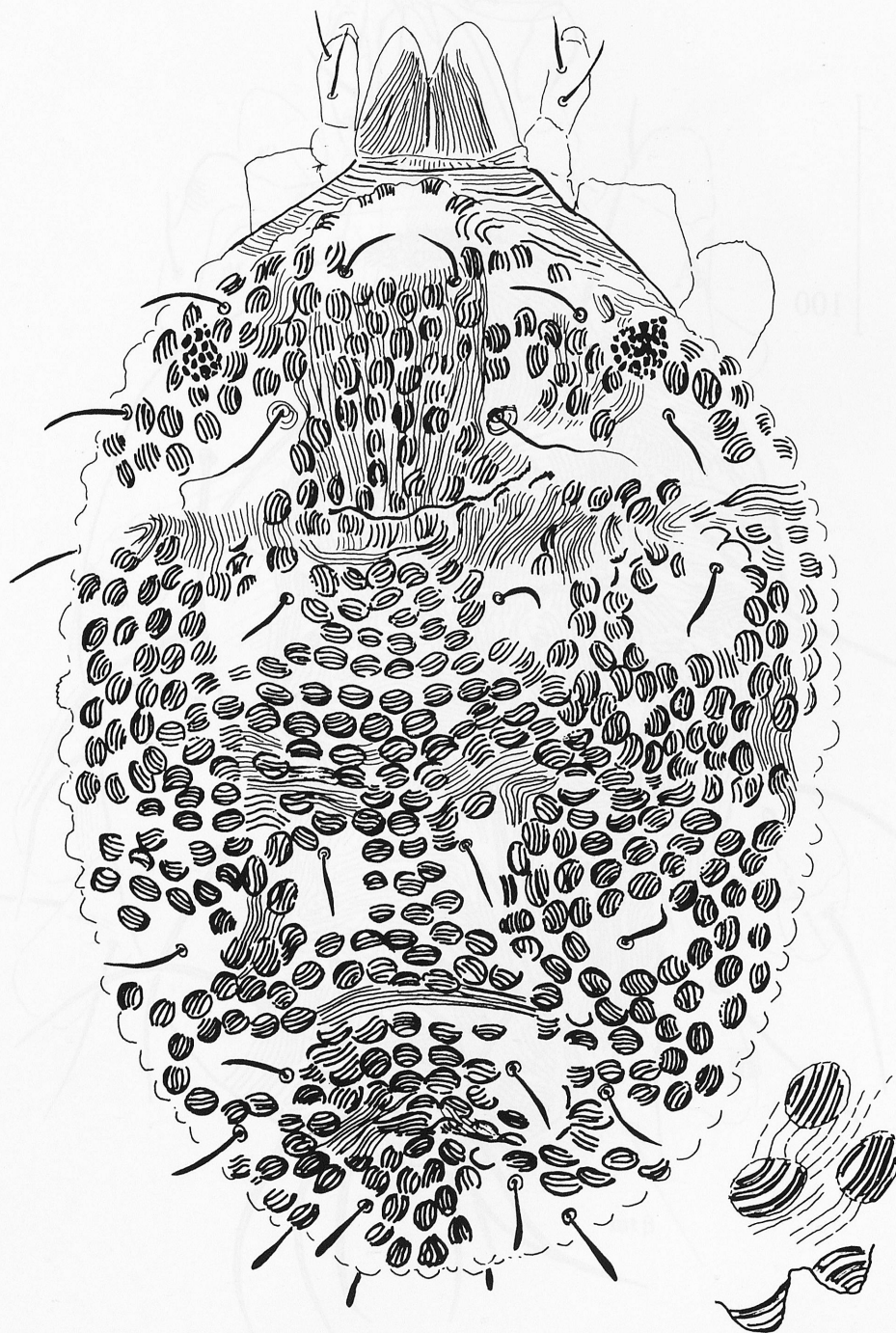


Fig. 7. Ornamentation type "Basketweave" (*Tydeus rafalskii* KAŻMIERSKI, 1997).

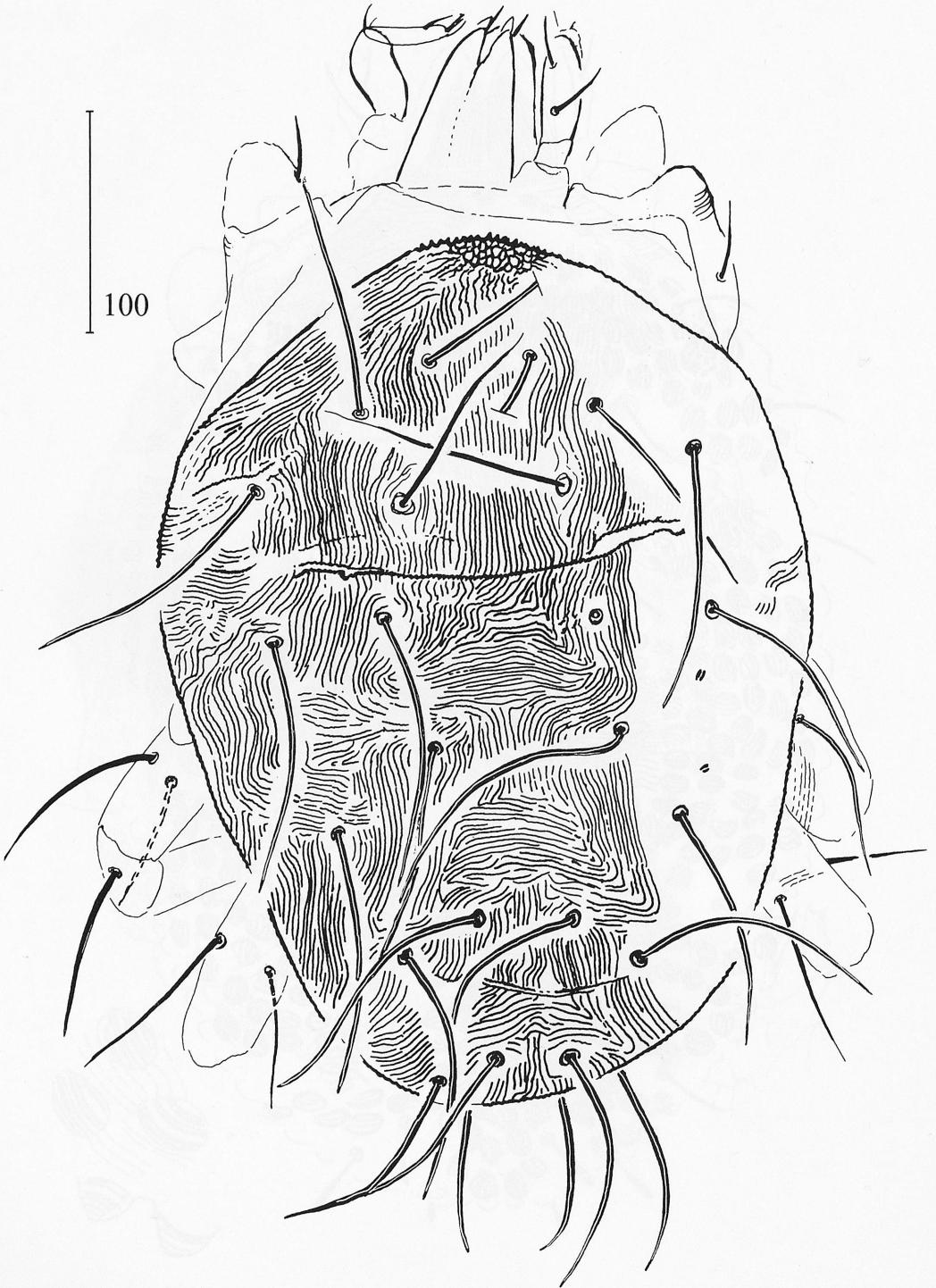


Fig. 8. *Melissotydeus incarum* sp. n., tritonymph (holotype) – dorsal view.

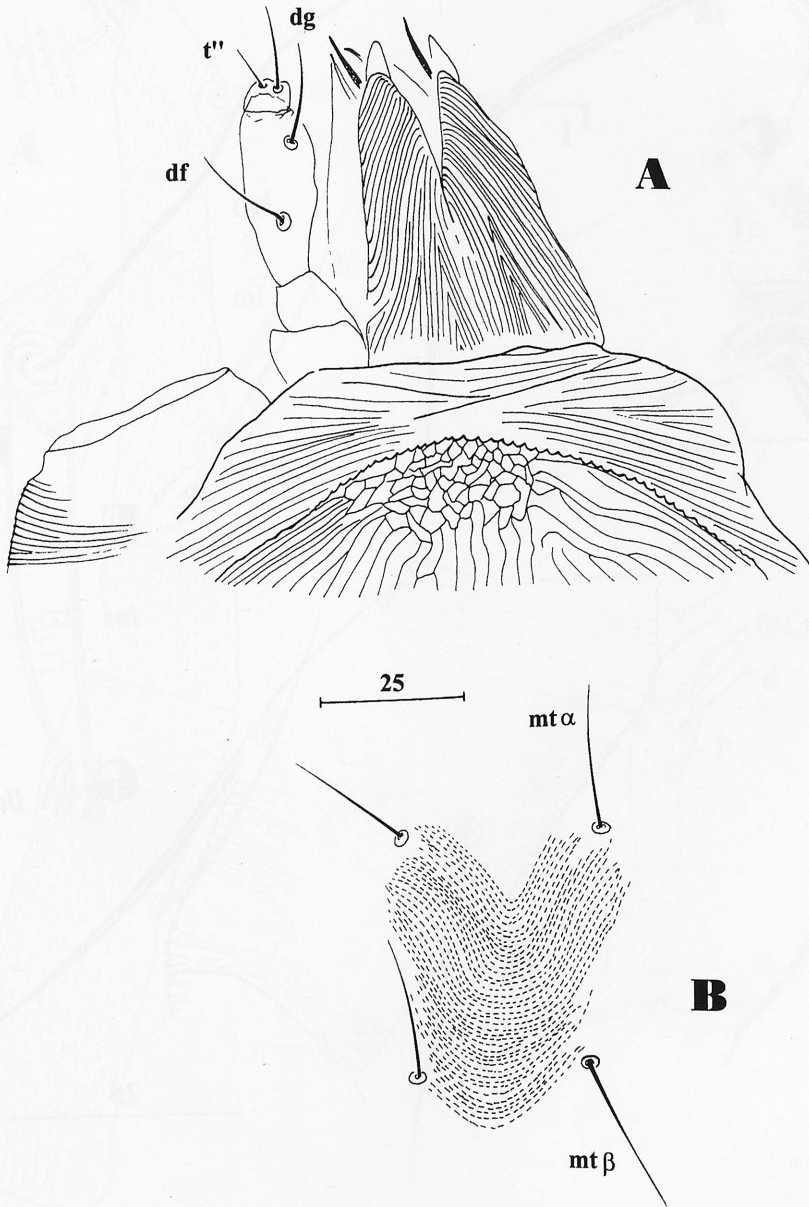


Fig. 9. *Melissotydeus incarum* sp. n., tritonymph (holotype). A – dorsal view of gnathosoma with anterior part of aspidosoma, B – ventral side: metasternal region.

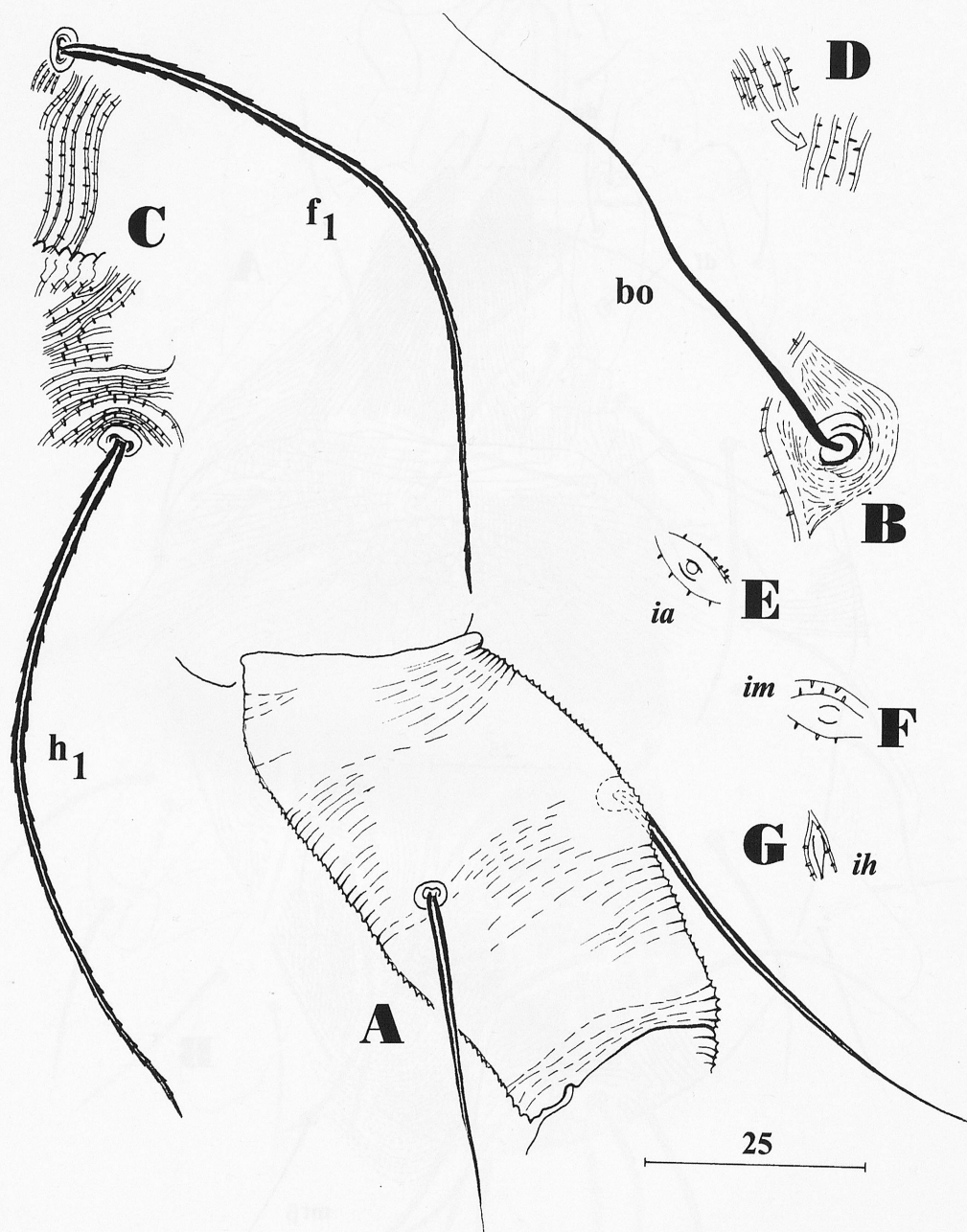


Fig. 10. *Melissotydeus incarum* sp. n., tritonymph (holotype). A – femur IV (dorsally), B – bothridial seta *bo*, C – setae f_1 and h_1 , D – dorsal striae, E – lyrifissura *ia*, F – lyrifissura *im*, G – lyrifissura *ih*.

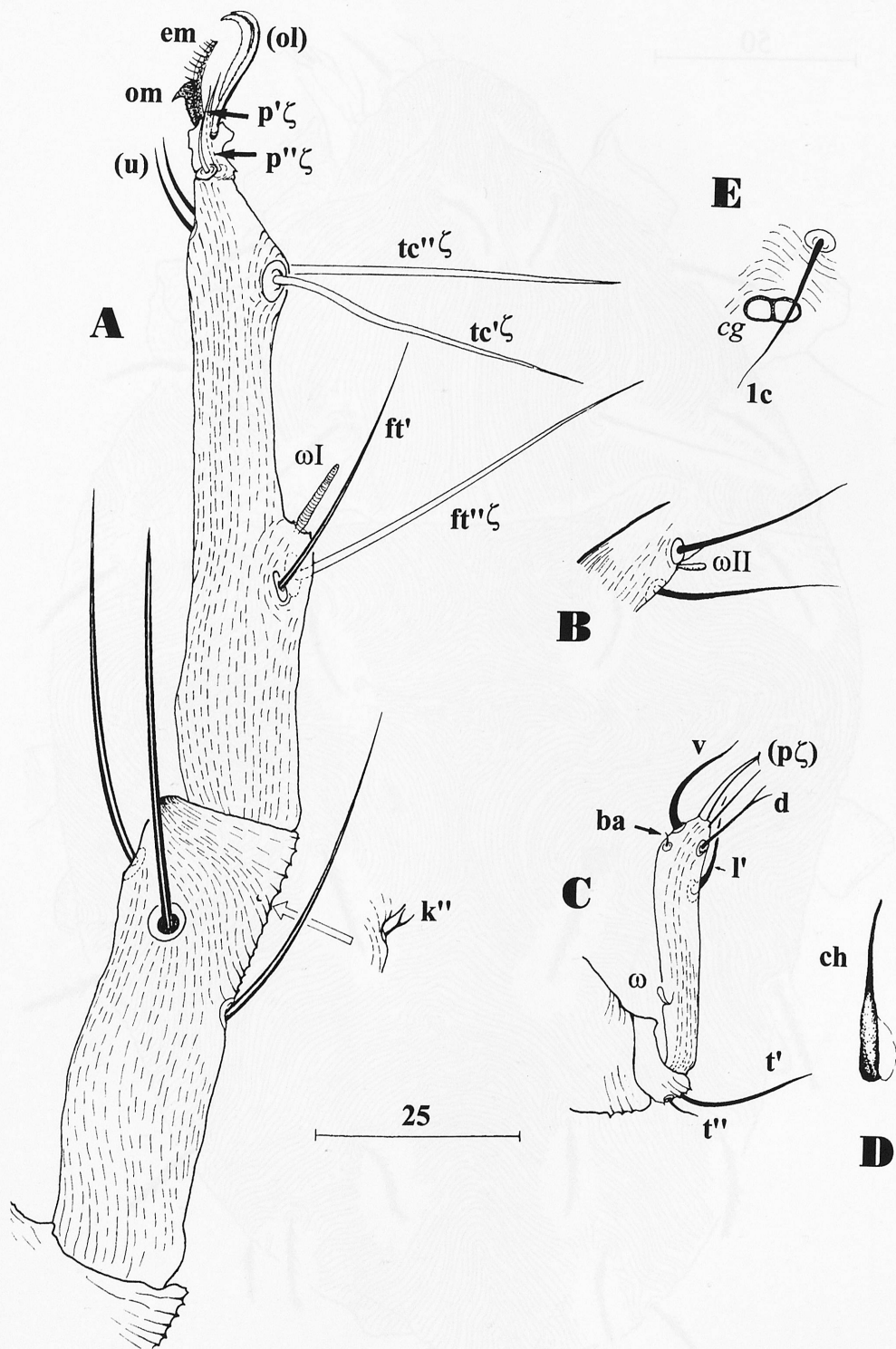


Fig. 11. *Melissotydeus incarum* sp. n., tritonymph (holotype). A – tibia+tarsus+apotele I (right, paraxial), B – tarsus II (fragment), C – palpal tibia and tarsus, D – cheliceral stiletto, E – coxal organ with seta 1c.

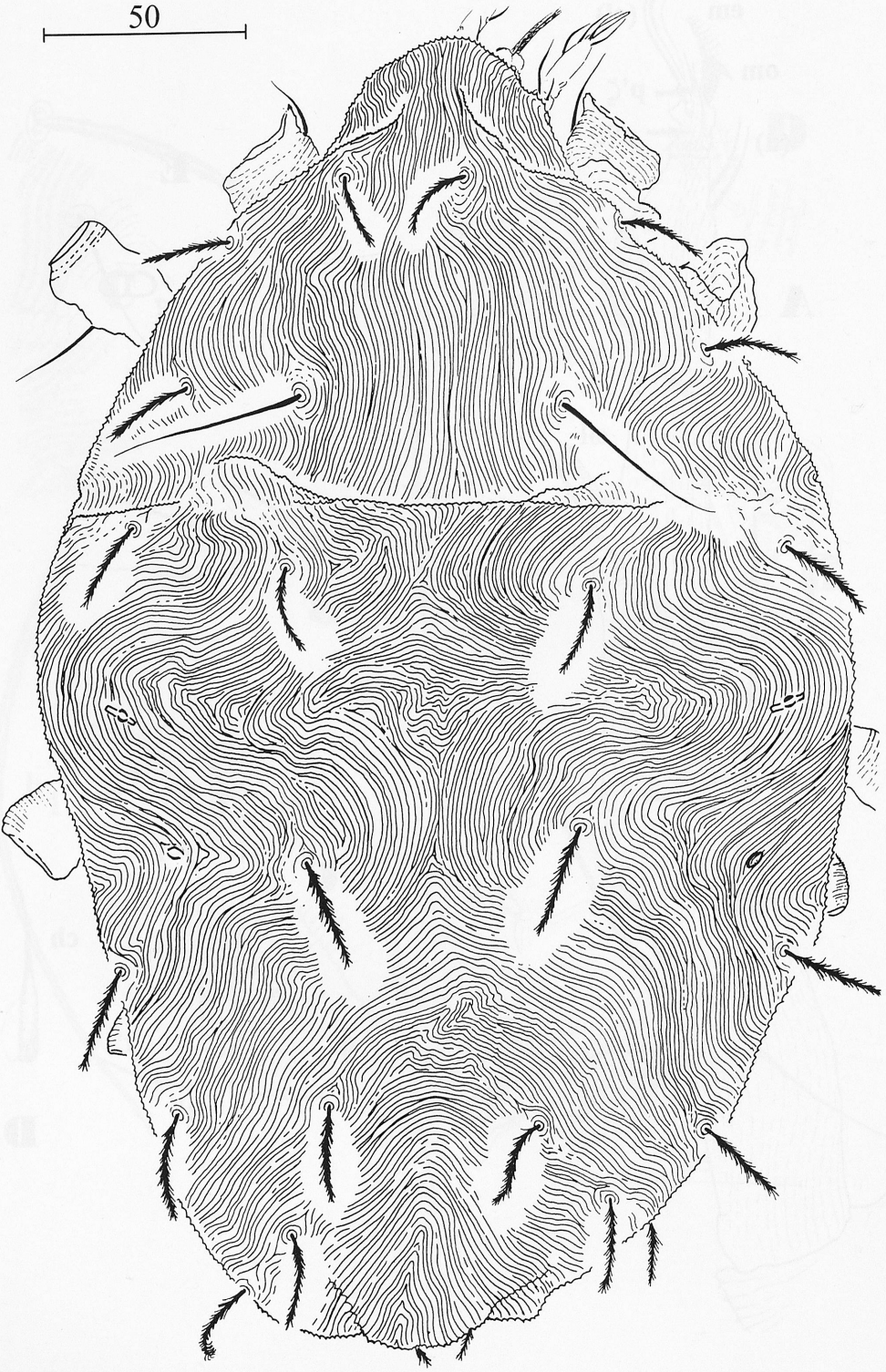


Fig. 12. *Lorryia nobila* sp. n., female (holotype) – dorsal view.

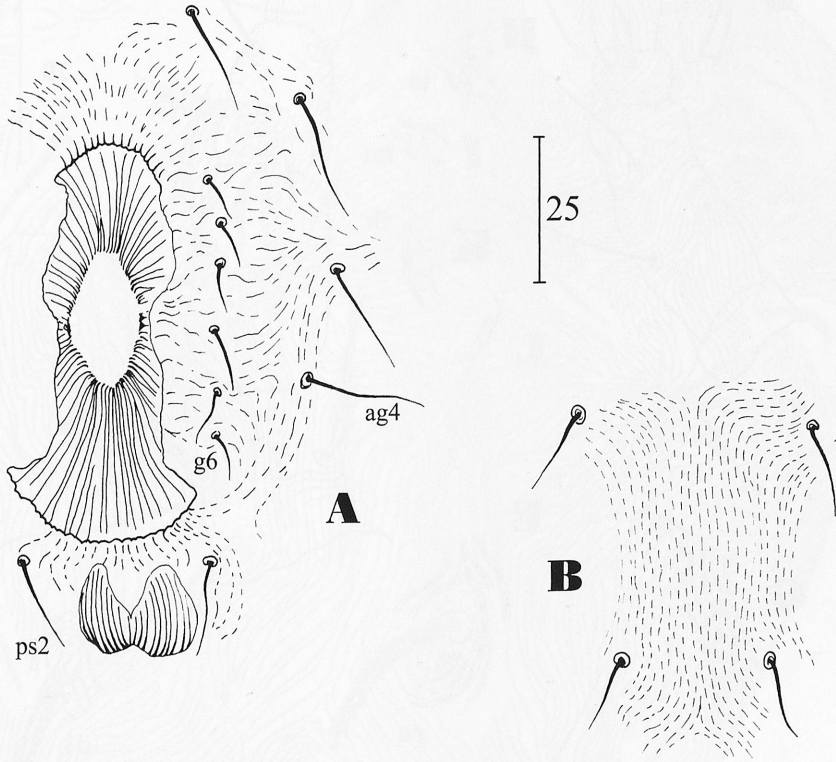


Fig. 13. *Lorryia nobila* sp. n., female (holotype). A – genital region, B – ventral striae between setae mt.

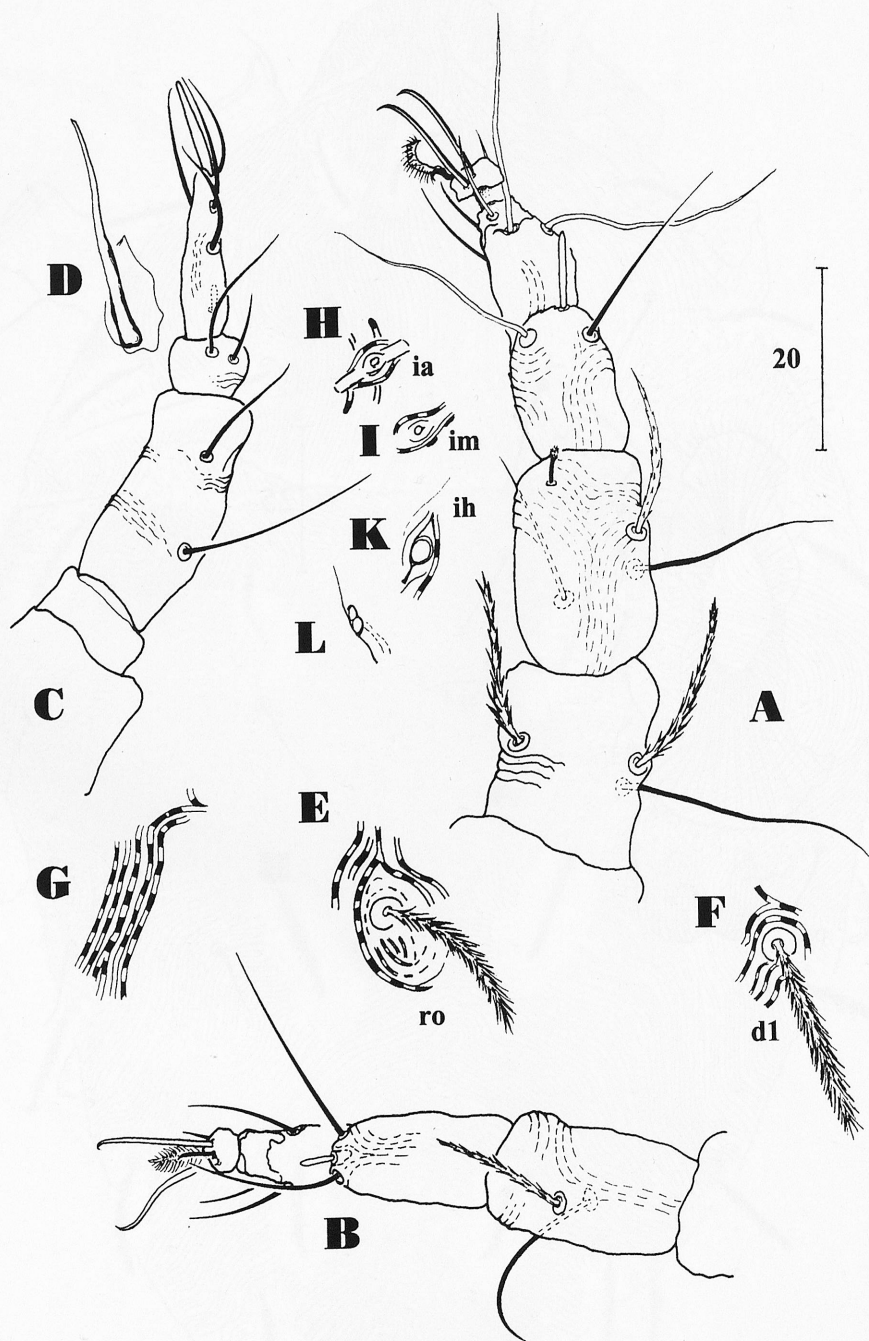


Fig. 14. *Lorryia nobila* sp. n., female (holotype). A – left genu+tibia+tarsus+apotele I (dorsal aspect), B – tibia+tarsus+apotele II (dorsal), C – palp (right, slightly twisted), D – cheliceral stiletto, E – seta ro, F – seta d1, G – dorsal striae, H, I, K – lyrifissure *ia*, *im*, *ih*, L – coxal organ.

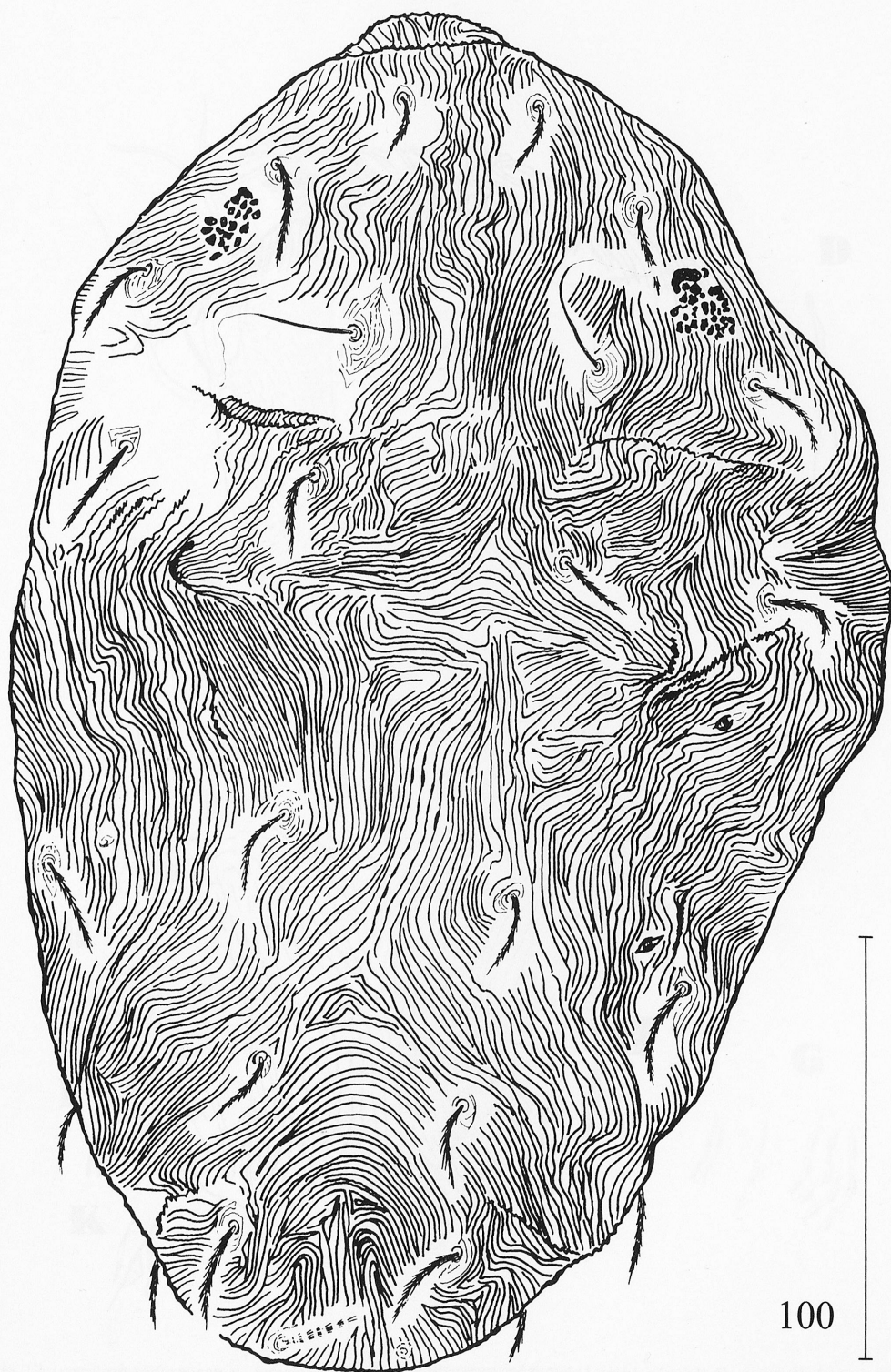


Fig. 15. *Lorryia draciformis* sp. n., female (holotype) – dorsal view.

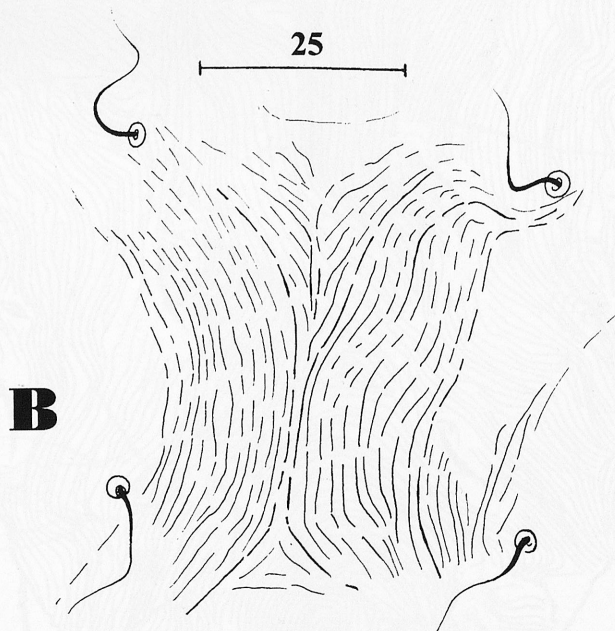
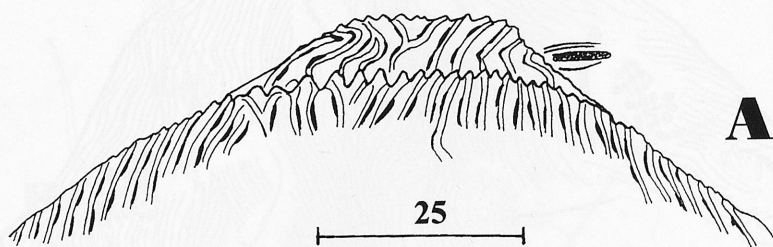


Fig. 16. *Lorryia draciformis* sp. n., female (holotype). A – anterior edge of aspidosoma, B – ventral striae between setae mt.

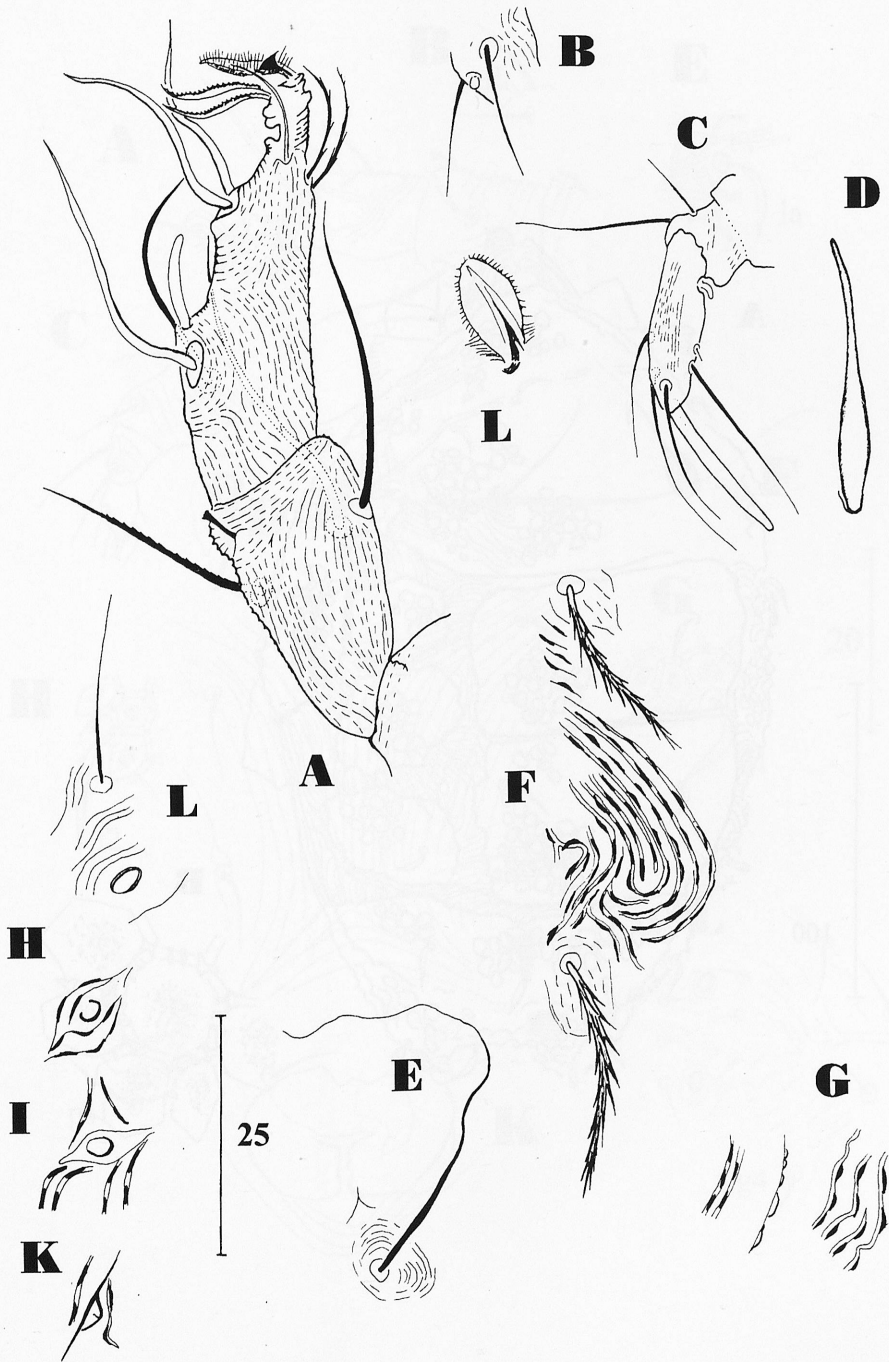


Fig. 17. *Lorryia draciformis* sp. n., female (holotype). A – tibia+tarsus+apotele I (right, adaxial), B – tarsus II (fragment), C – palpal tibia and tarsus, D – cheliceral stiletto, E – bothridial seta bo, F – setae fi and h1, G – dorsal striae, H, I, K – lyrifissures ia, im and ih, L – coxal organ and seta 1c.

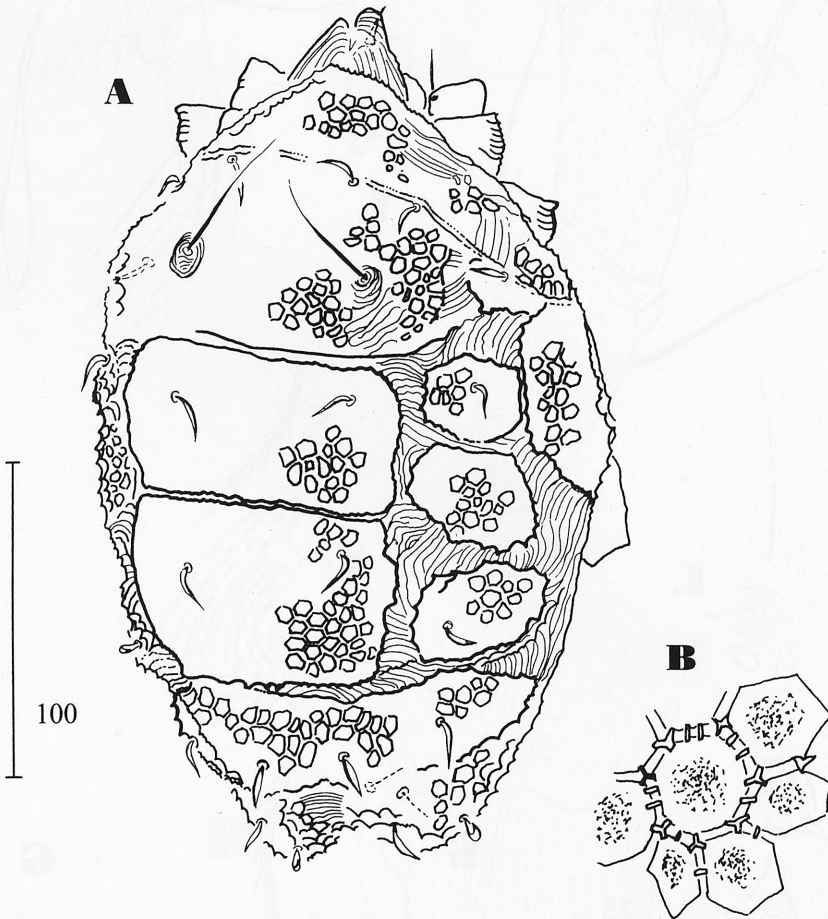


Fig. 18. *Lorryia sherekhani* sp. n., tritonymph (holotype). A – dorsal view of body, B – fragment of dorsal reticulation.

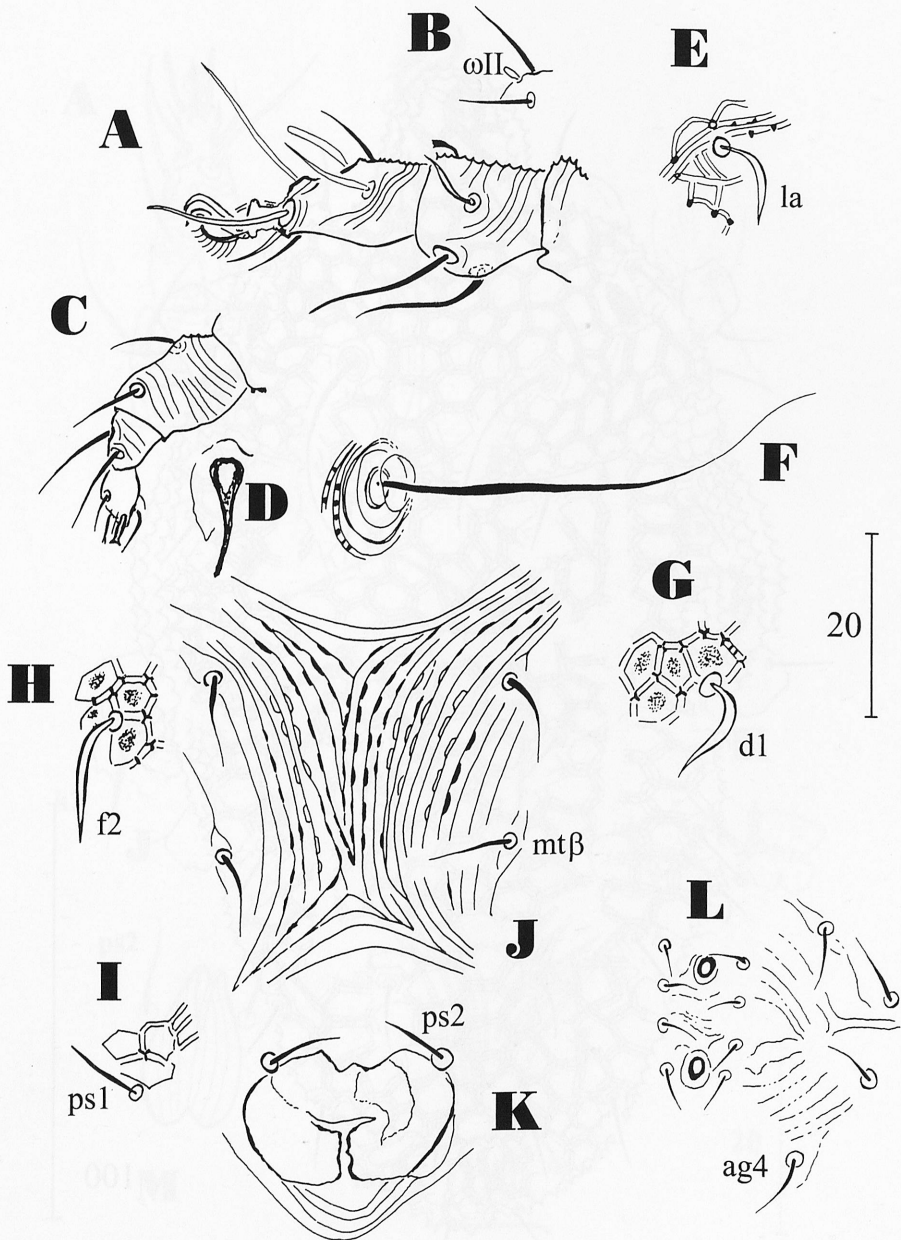


Fig. 19. *Lorryia sherekhani* sp. n., tritonymph (holotype). A – tibia+tarsus+apotele I (left, adaxial), B – tarsus II (fragment with ω II), C – palp, D – cheliceral stiletto, E – seta la, F – bothridial seta bo, G – seta d1, H – seta f2, I – seta ps1, J – ventral striation between setae setae mt, K – pseudanal region, L – genital region.

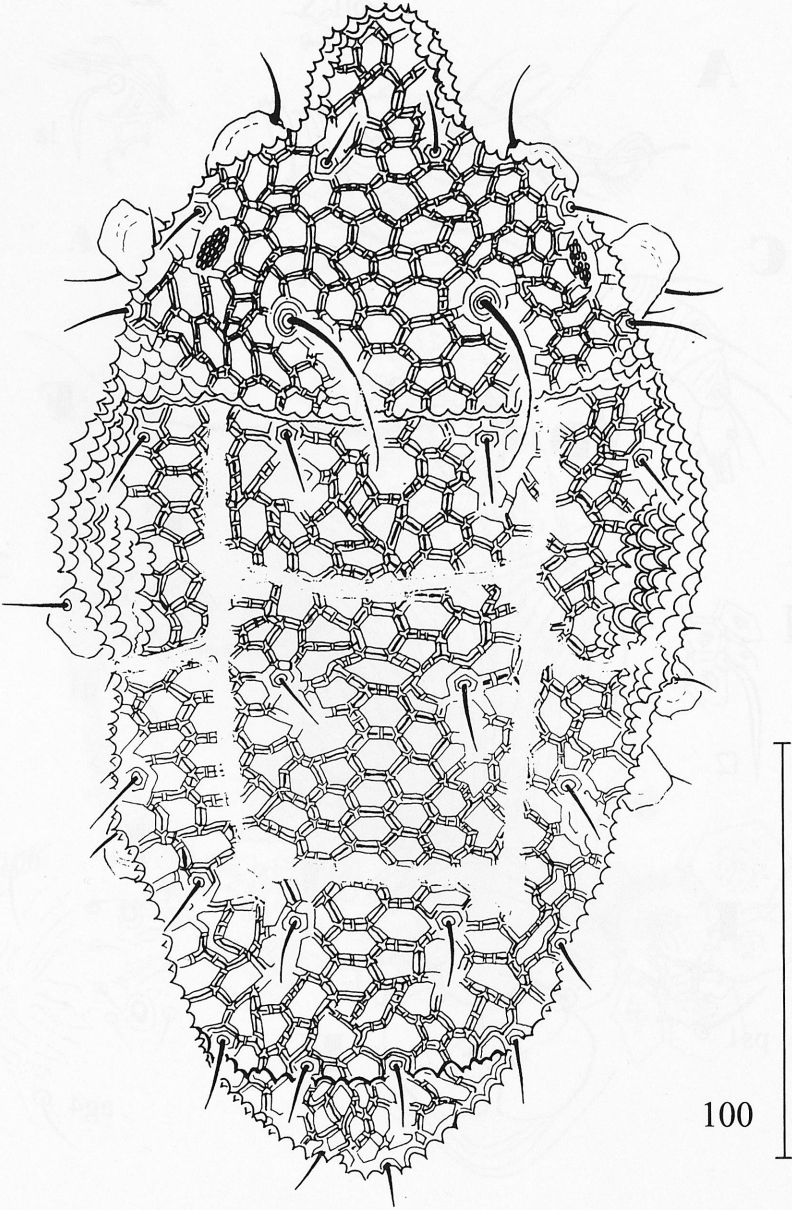


Fig. 20. *Lorryia snajperi* sp. n., female (holotype) – dorsal view of idiosoma.

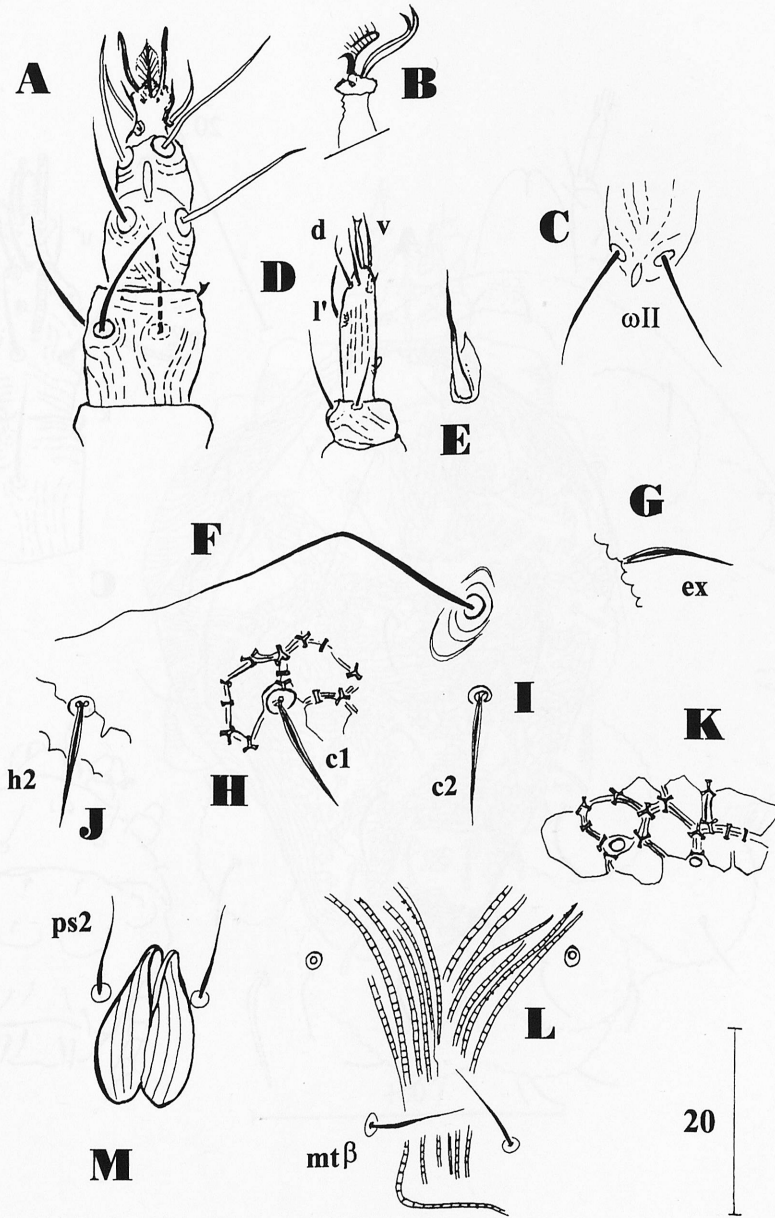


Fig. 21. *Lorryia snajperi* sp. n., tritonymph (paratype). A – tibia+tarsus+apotele I (right, dorsal), B – apotele III (lateral), C – tarsus II (dorsal fragment with ω II), D – palpal tibia and tarsus (right, dorsal -slightly twisted), E – cheliceral stiletto, F – bothridial seta bo, G – seta ex, H – seta c1, I – seta c2, J – seta h2, K – fragment of reticulation, L – ventral striae between setae mt, M – pseudanal flaps with setae ps2.

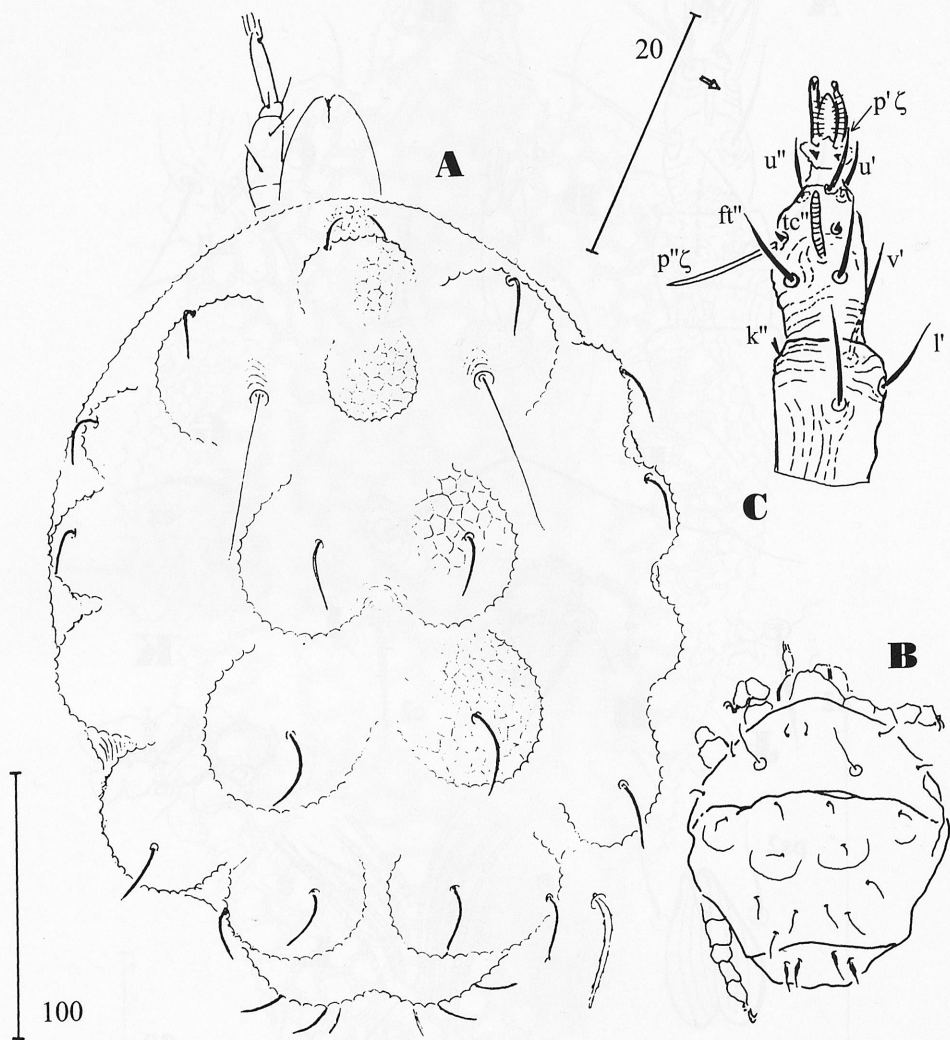


Fig. 22. *Lorryia turrialbensis* BAKER, 1968. A – female (holotype), dorsal view (after BAKER 1968), B – larva: dorsal view, C – larva: tibia+tarsus+apotele I (left, dorsal).

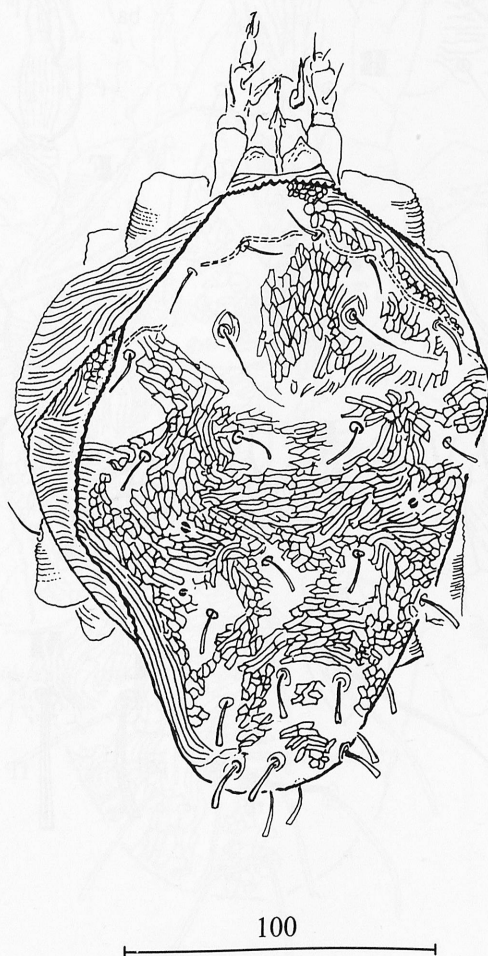


Fig. 23. *Lorryia pulchra* (OUDEMANS, 1929), deutonymph (holotype) – dorsal view.

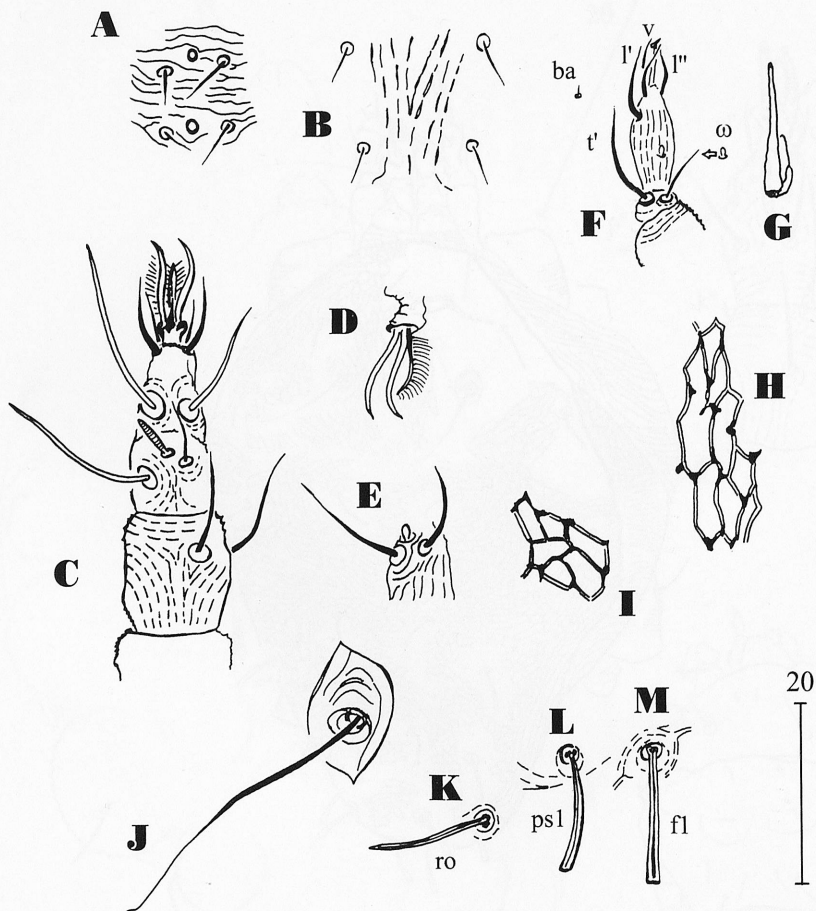


Fig. 24. *Lorryia pulchra* (OUDEMANS, 1929), deutonymph (holotype). A – genital region, B – ventral striae between setae mt, C – tibia+tarsus+apotele I (dorsal), D – apotele IV (left, paraxial), E – tarsus II (dorsal fragment with ω II), F – palpal tibia and tarsus (right, dorsal), G – cheliceral stiletto, H, I – fragment of reticulation, J – bothridial seta bo, K – seta ro, L – seta ps1, M – seta fl.

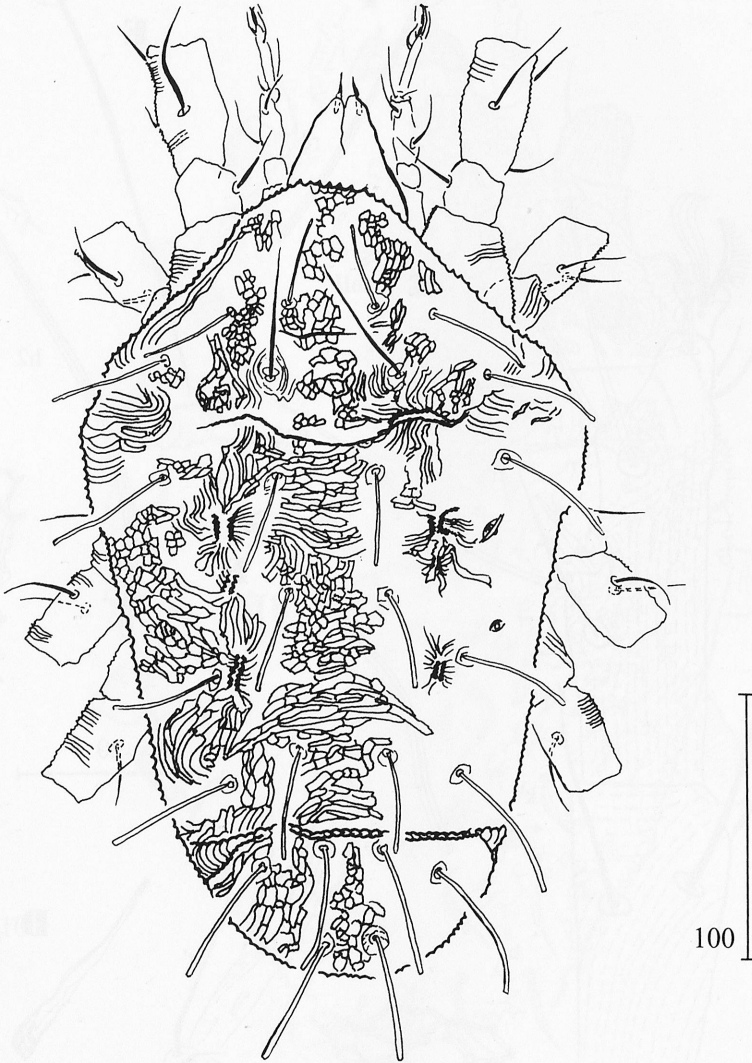


Fig. 25. *Lorryia reticulata* (OUDEMANS, 1928), female (holotype) – dorsal view.

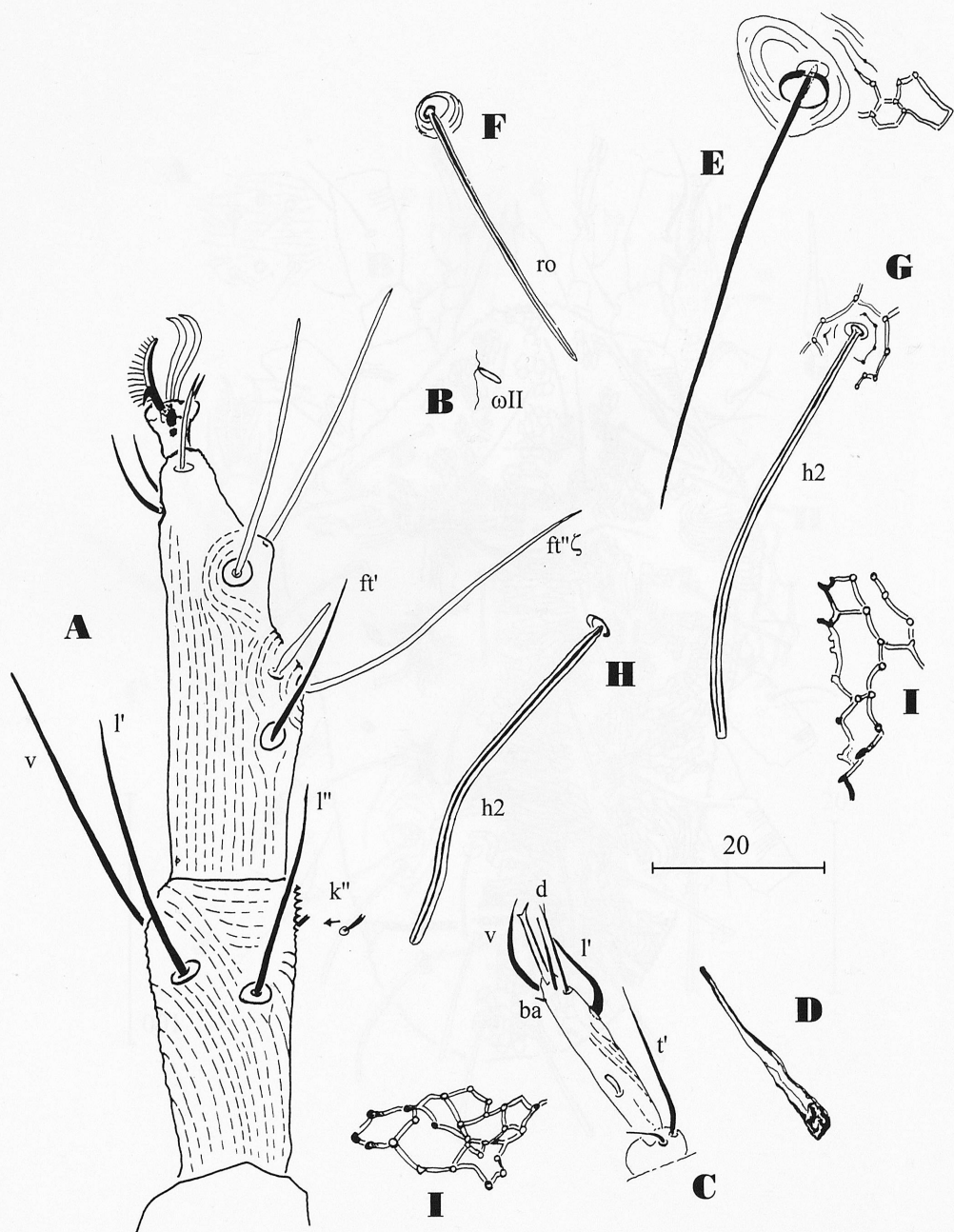


Fig. 26. *Lorryia reticulata* (OUDEMANS, 1928), female holotype (A-G, I) and tritonymph paratype (H). A – tibia+tarsus+apotele I (right, dorso-paraxial), B – solenidion ω II, C – palpal tibia and tarsus (left, dorso-adaxial), D – cheliceral stiletto, E – bothridial seta bo, F – seta ro, G – seta h2 of female (holotype), H – seta h2 of tritonymph (paratype), I – details of reticulation.

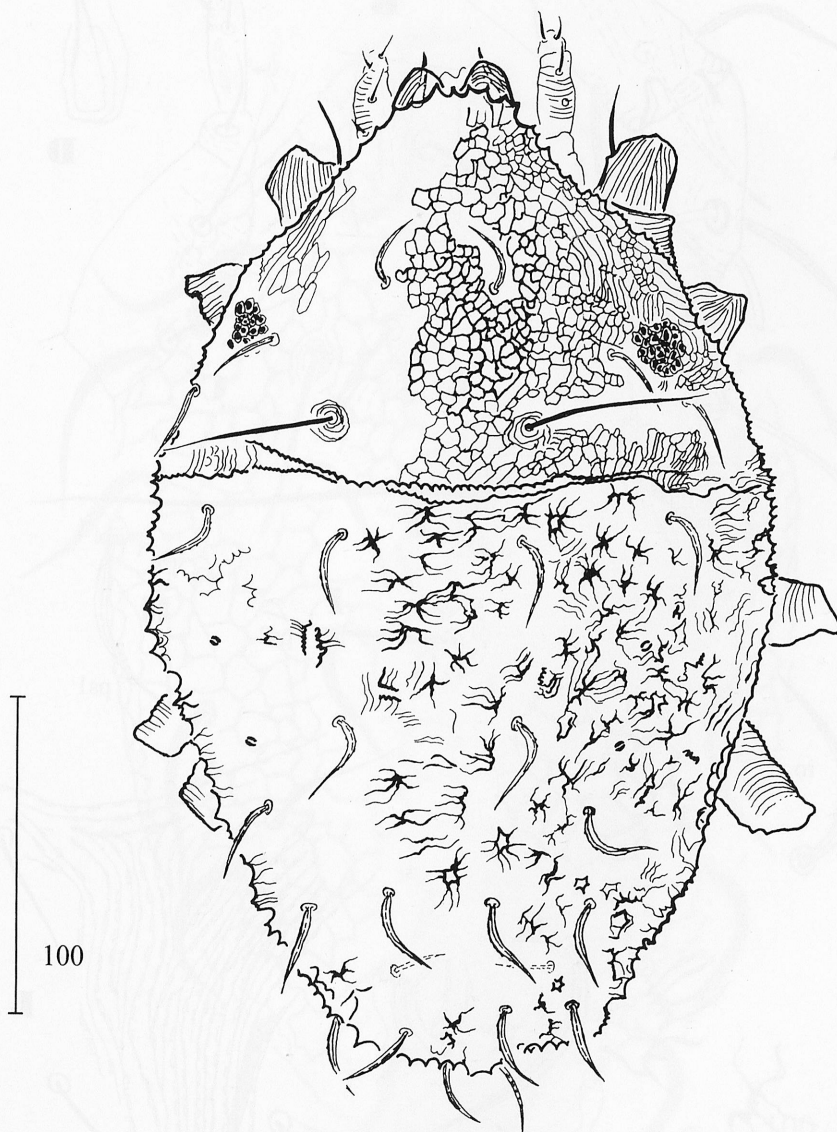


Fig. 27. *Lorryia danhidalgoi* sp. n., female (holotype) – dorsal view.

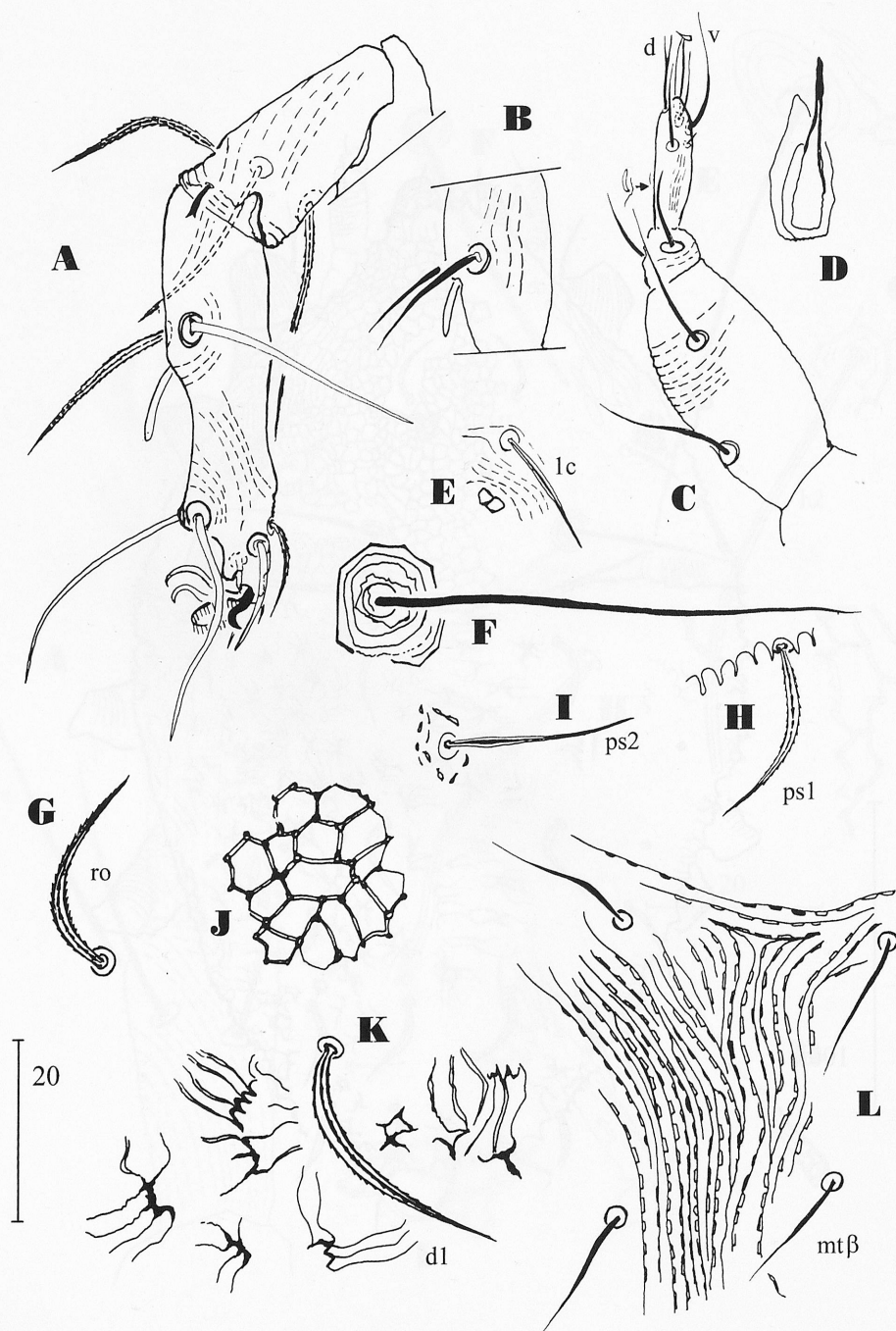


Fig. 28. *Lorryia danhidalgovi* sp. n., female (holotype). A – tibia+tarsus+apotele I (left, adaxial), B – tarsus II, fragment with ω II (lateral), C – palp (dorso-paraxial), D – cheliceral stiletto, E – coxal organ with seta lc (left), F – bothridial seta bo, G – seta ro (left), H – seta ps1 (right), I – seta ps2 (left), J – aspidosomal reticulation (fragment), K – seta d1 with fragment of opisthosomal reticulation (“Mountains” type), L – ventral striation between setae mt.

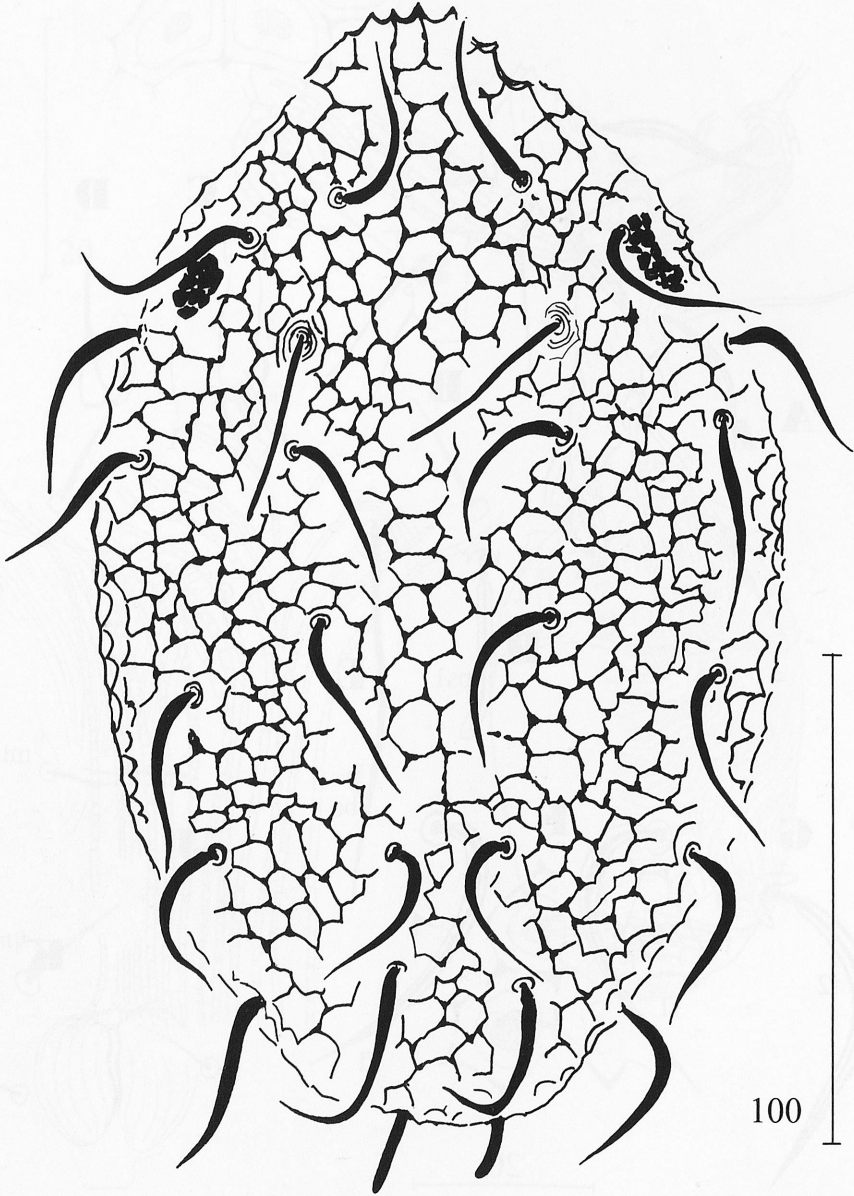


Fig. 29. *Lorryia raphignathoides* (BERLESE, 1910), female from Lommeland, Sveden – dorsal view.

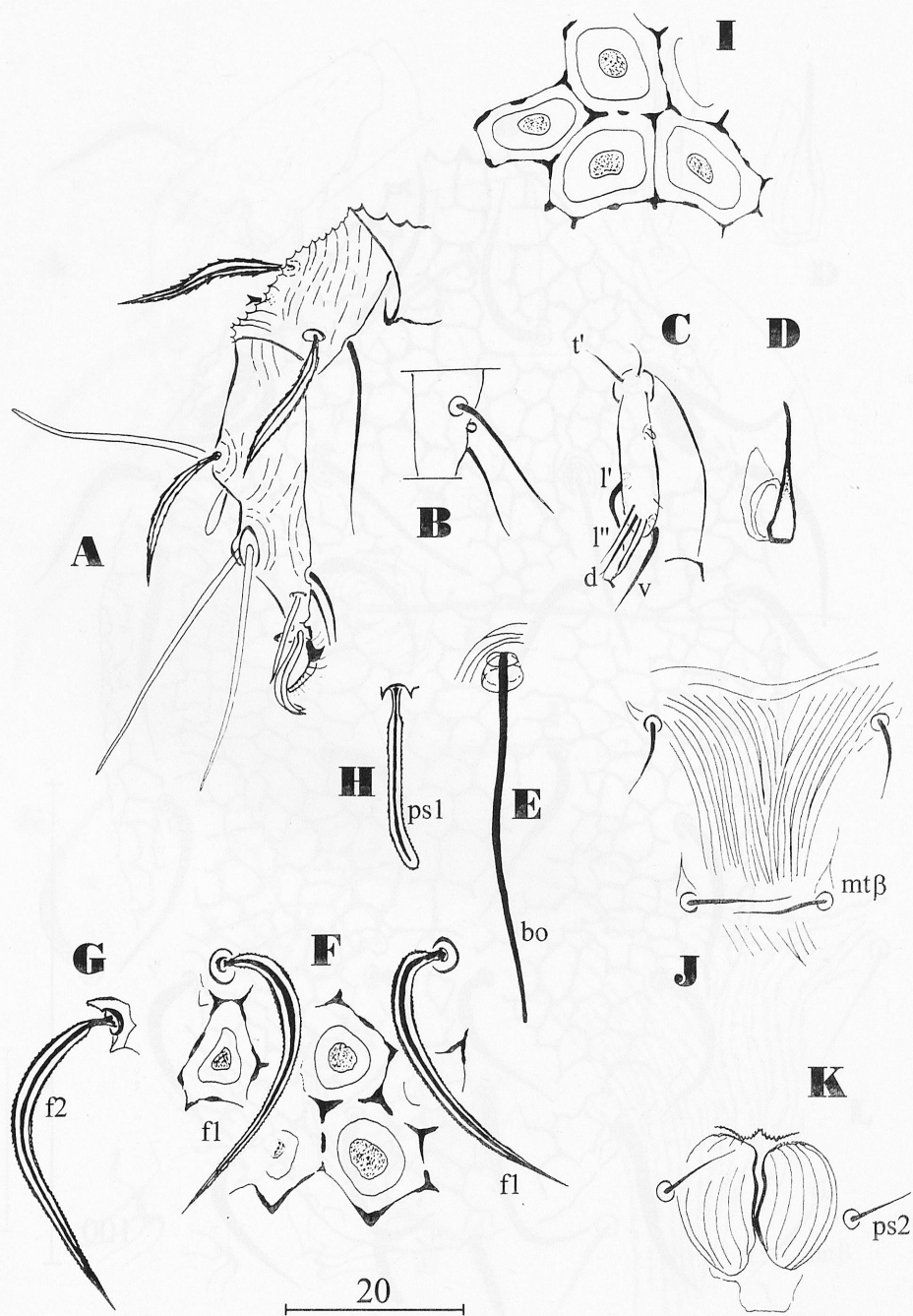


Fig. 30. *Lorryia raphignathoides* (BERLESE, 1910), female from Lommeland. A – tibia+tarsus+apotele I (right, paraxial), B – tarsus II (fragment), C – left bent palp from the ventral side (palpal tarsus in dorsal aspect), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl with fragment of cuticle reticulation, G – seta f2, H – seta ps1, I – details of reticulation, J – ventral striae between setae mt, K – pseudanal flaps with setae ps2.

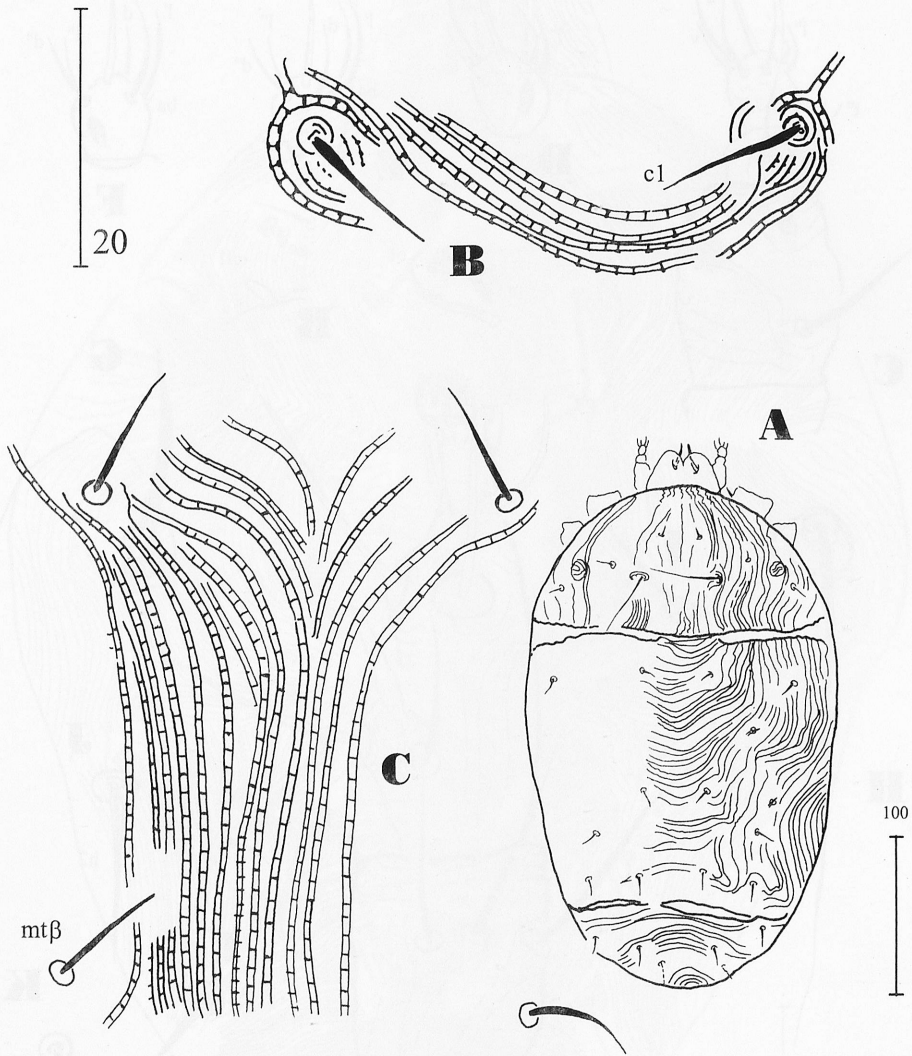


Fig. 31. *Lorryia globulipalpa* sp. n., female (holotype). A – dorsal view of idiosoma, B – dorsal striation between setae c1, C – ventral striation between setae mt.

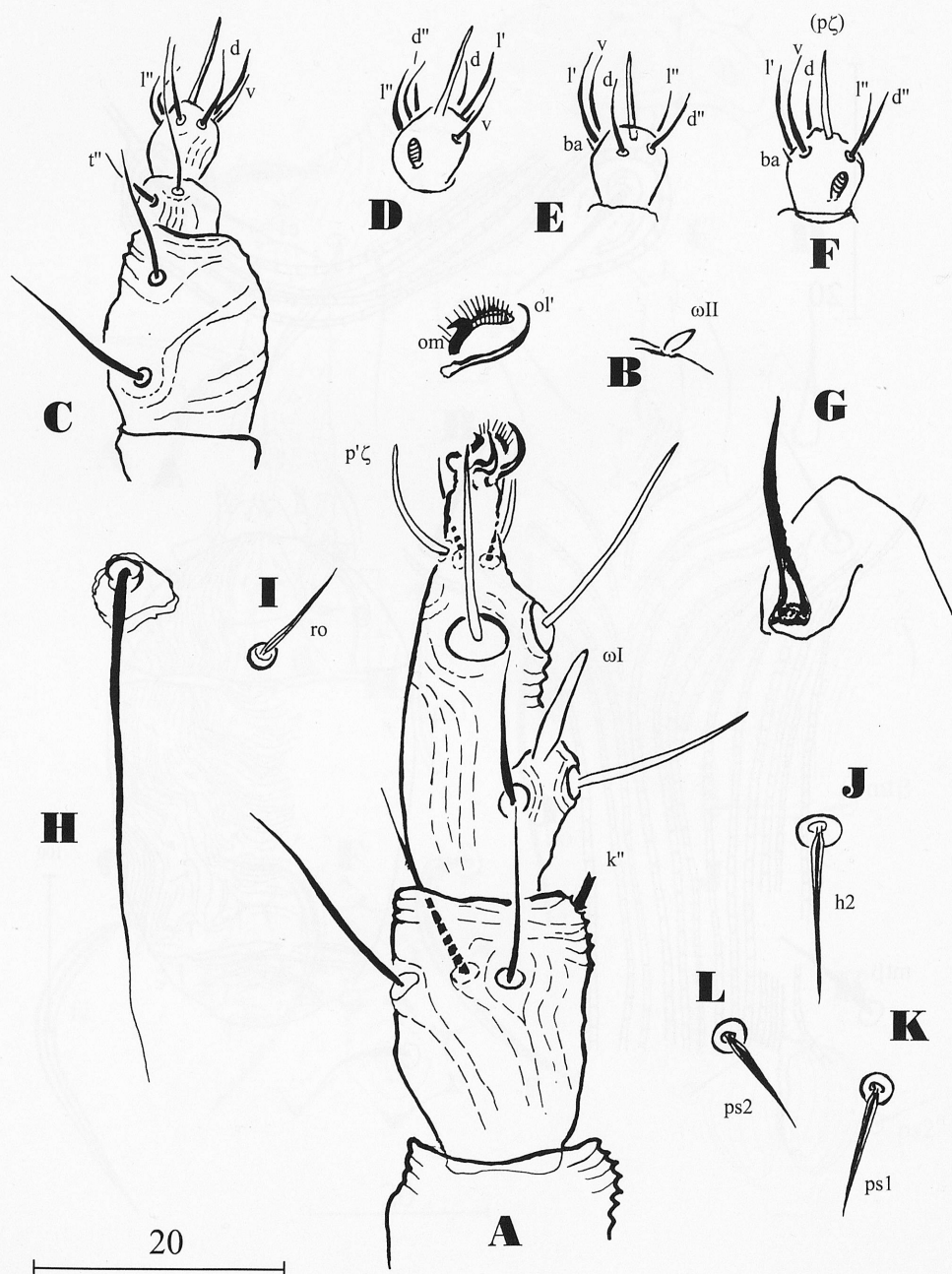


Fig. 32. *Lorryia globulipalpa* sp. n., female (holotype). A – tibia+tarsus+apotele I (right, dorso-paraxial), also claw and empodium (lateral), B – solenidion ω II, C – palp (left, dorsal), D – palpal tarsus (left, ventral), E – palpal tarsus (right, ventral), F – bothridial seta ba, I – seta ro, J – seta h2 (right), K – seta ps1 (on ventral side, right), L – seta ps2 (on ventral side, right).



Fig. 33. *Lorryia brevicula* (KOCH, 1838), female from Potok, dorsal view.

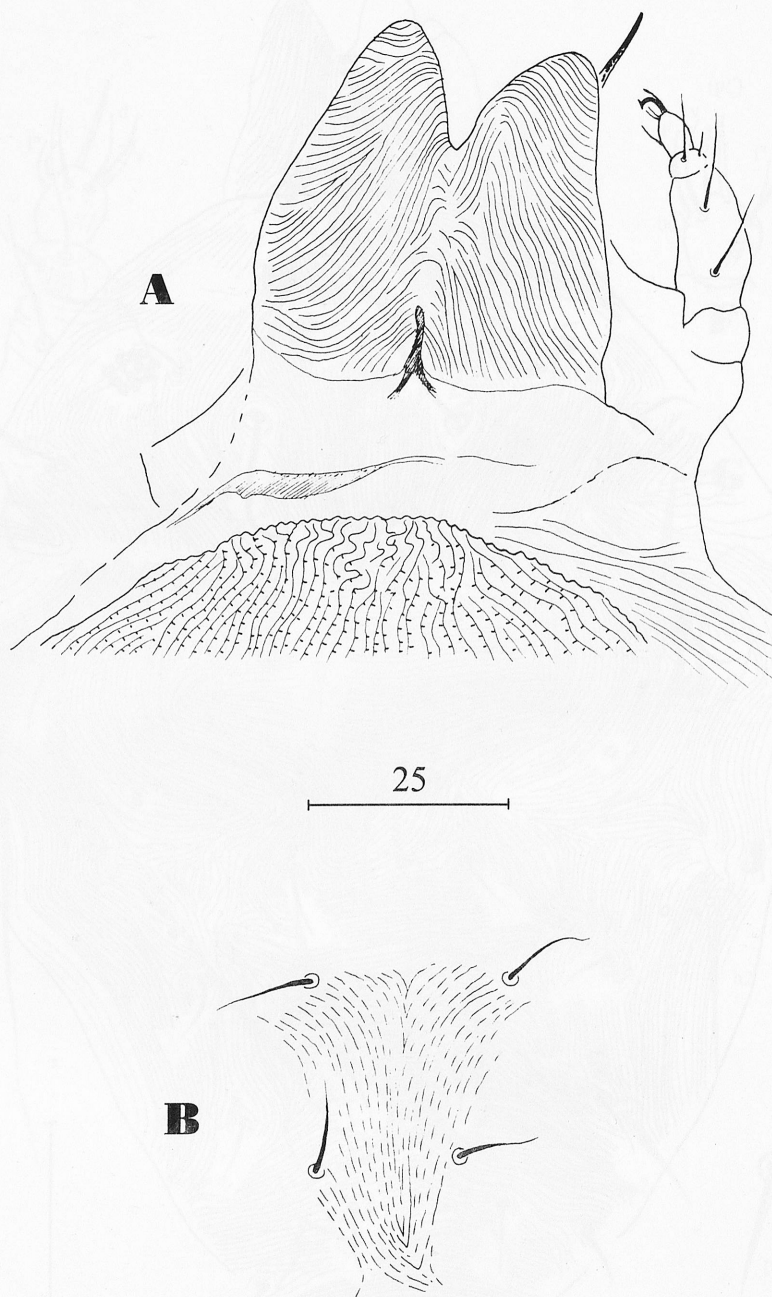


Fig. 34. *Lorryia brevicula* (KOCH, 1838), protonymph from Przytoczna. A – dorsal view of gnathosoma with frontal edge of aspidosoma, B – ventral striae between metasternal setae.

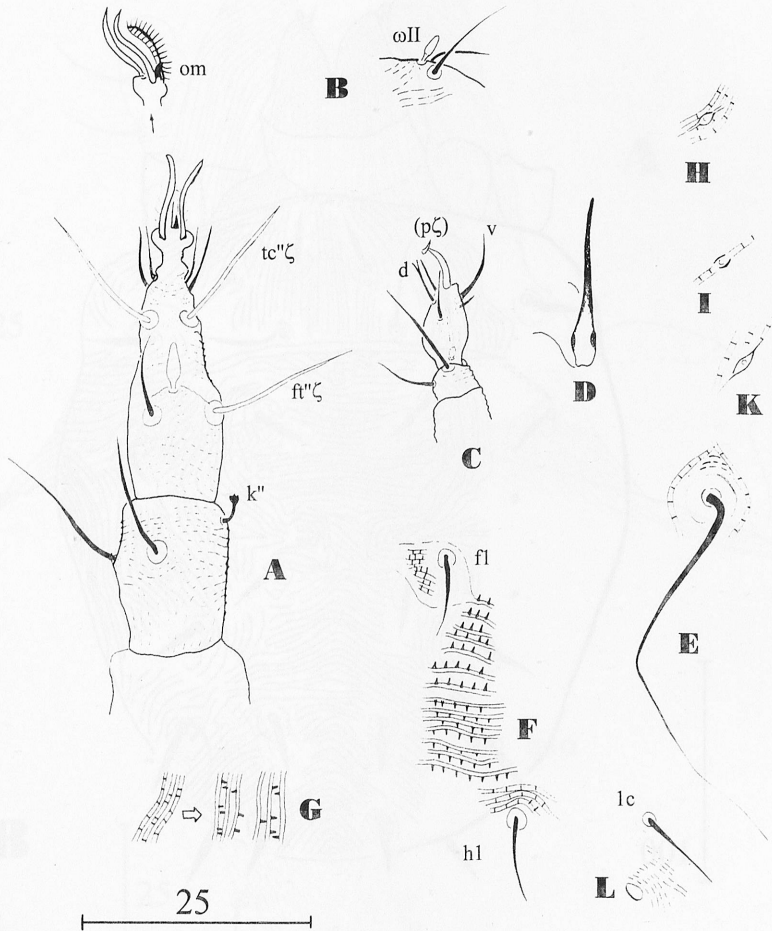


Fig. 35. *Lorryia brevicula* (KOCH, 1838), protonymph from Przytoczna. A – tibia+tarsus+apotele I (dorsal), B – tarsus II – fragment with ω II, C – palp (left, paraxial), D – cheliceral stileto, E – bothridial seta bo, F – setae fl and hl, G – details of dorsal striation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta lc.

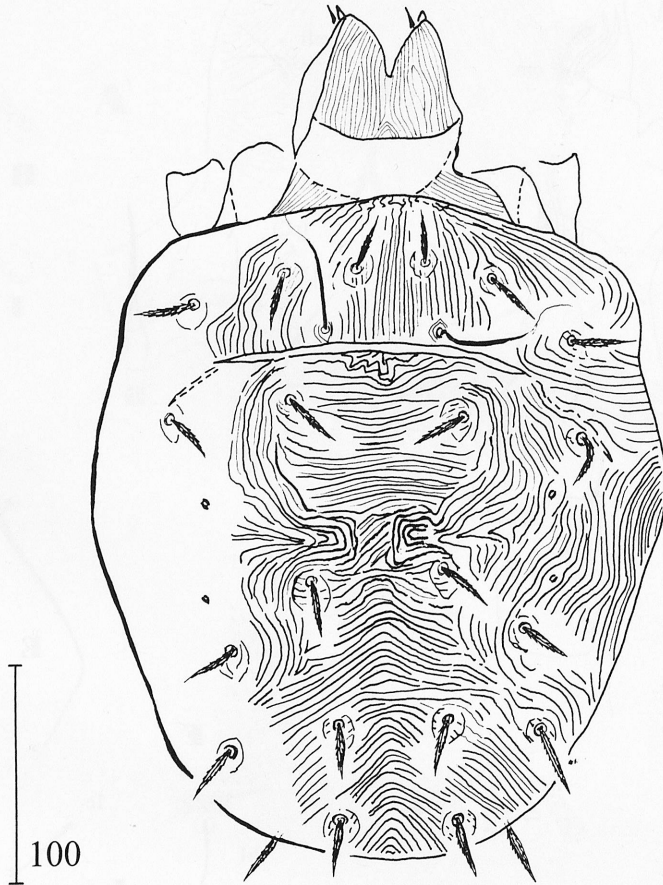


Fig. 36. *Lorryia perlata* sp. n., female (holotype) – dorsal view.

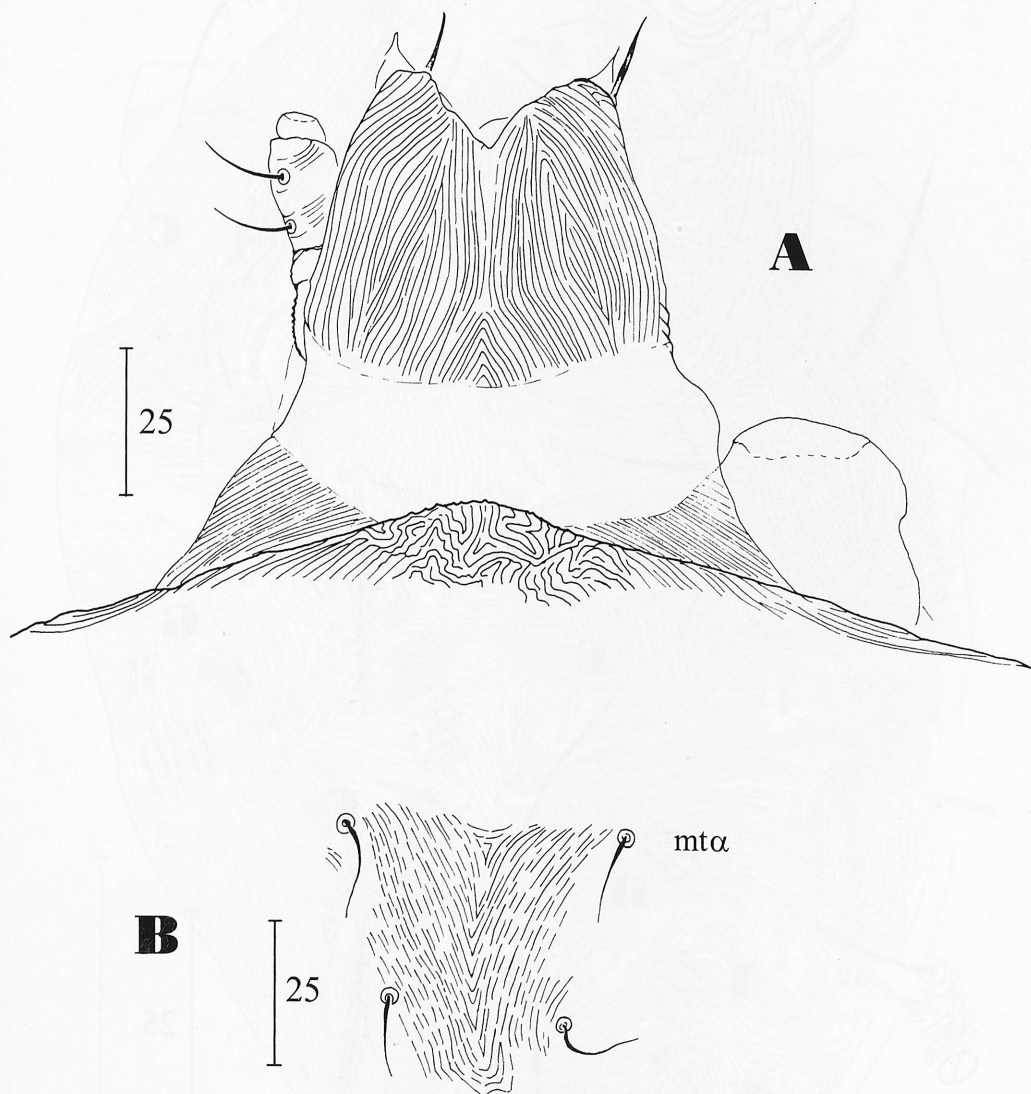


Fig. 37. *Lorryia perlata* sp. n., female (holotype). A – dorsal view of gnathosoma, B – ventral striae between setae mt.

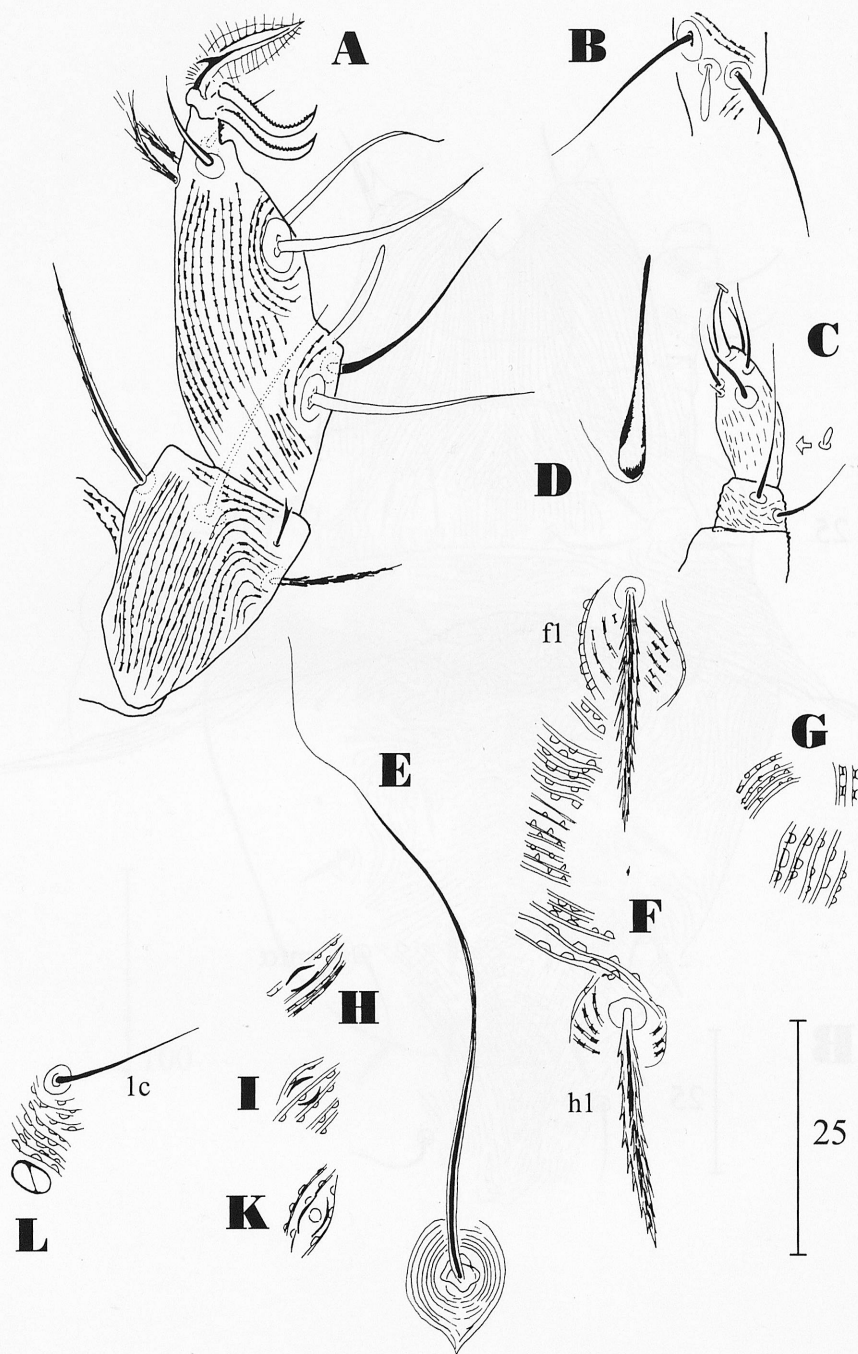


Fig. 38. *Lorryia perlata* sp. n., female (holotype). A – tibia+tarsus+apotele I (left, adaxial), B – tarsus II ; fragment with $\omega 11$ (right, dorsal), C – palpal tibia and tarsus (right, paraxial), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and h1, G – details of dorsal striation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta 1c.



Fig. 39. *Lorryia incompta* sp. n., female (holotype) – dorsal view.

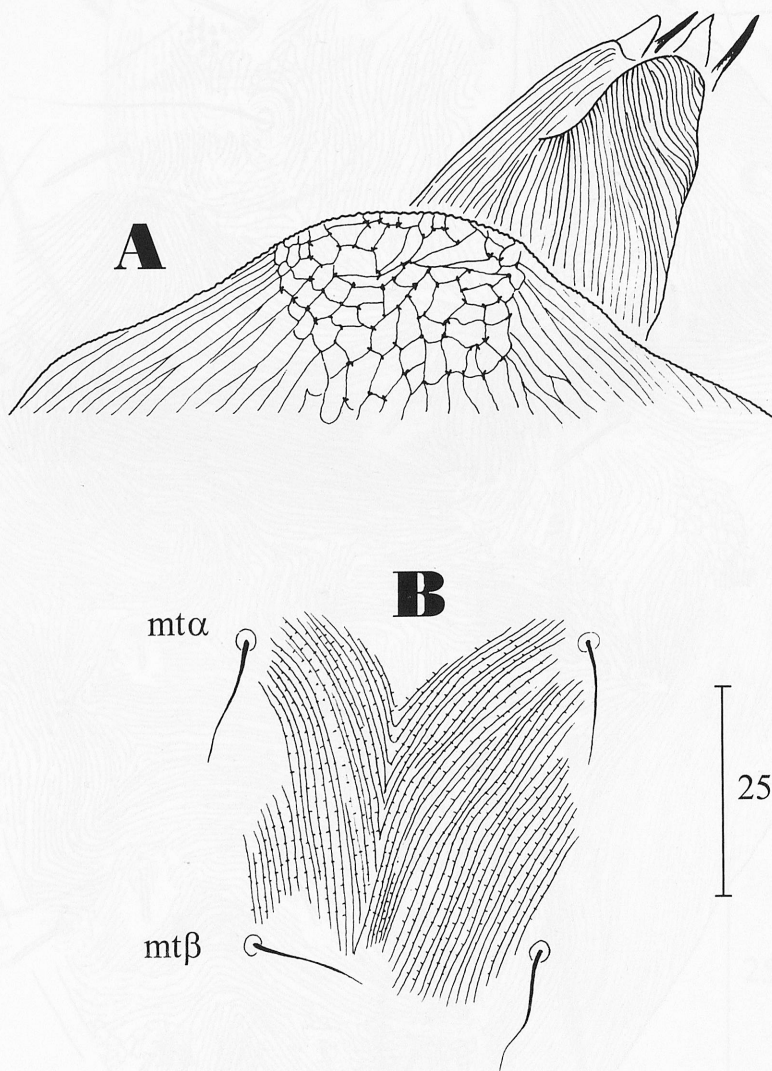


Fig. 40. *Lorryia incompta* sp. n., female (holotype). A – gnathosoma and anterior part of aspidosoma – dorsal view, B – ventral striae between setae mt.

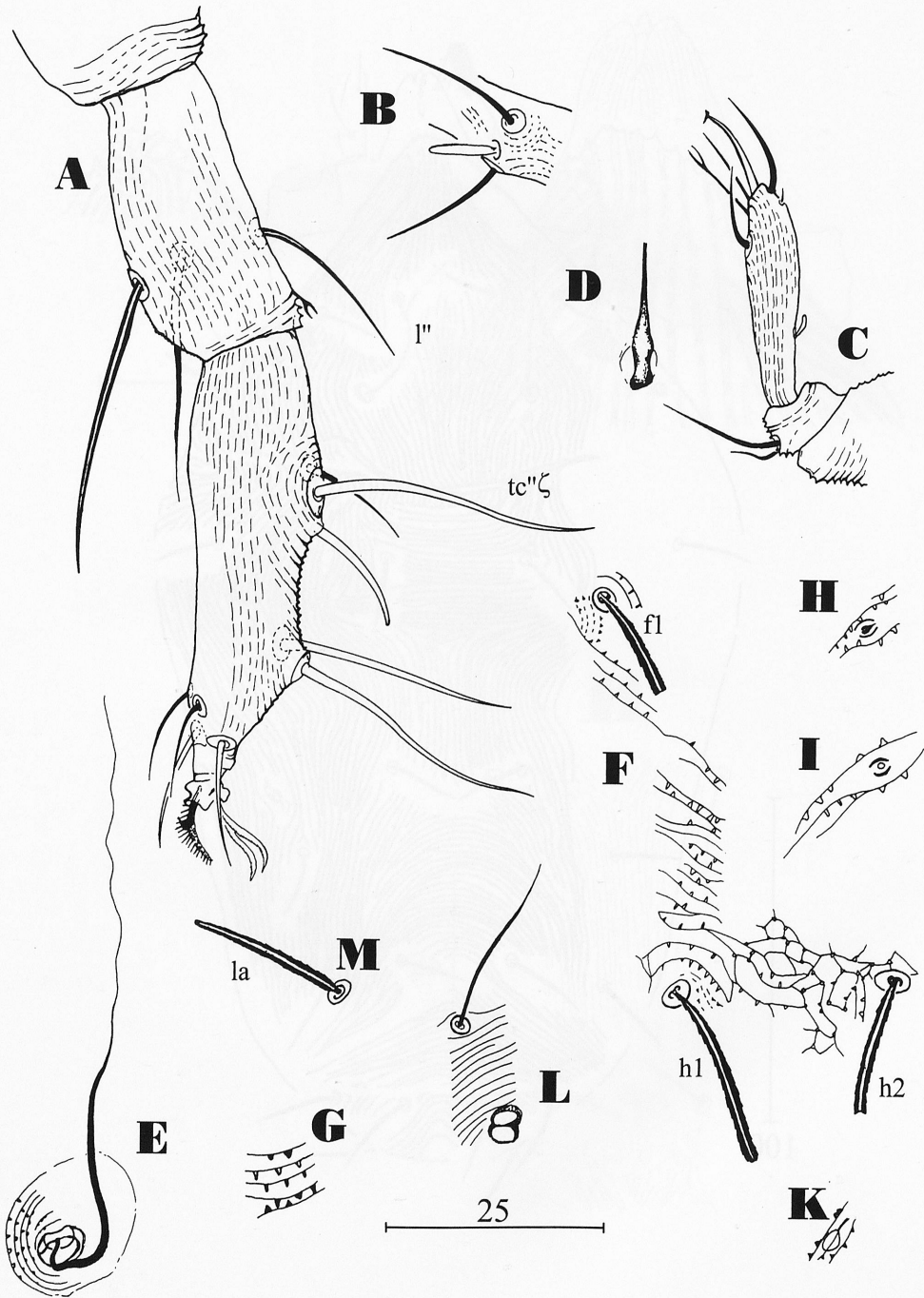


Fig. 41. *Lorryia incomperta* sp. n., female (holotype). A – tibia+tarsus+apotele I (right, adaxial, B – tarsus II, fragment with ωI , C – palpal tibia and tarsus (left, paraxial), D – cheliceral stiletto, E – bothridial seta bo , F – setae fl , $h1$ and $h2$, G – dorsal striae with tubercles, H, I, K – lyrifissures ia , im , ih , L – coxal organ cg and seta $1c$, M – seta la .

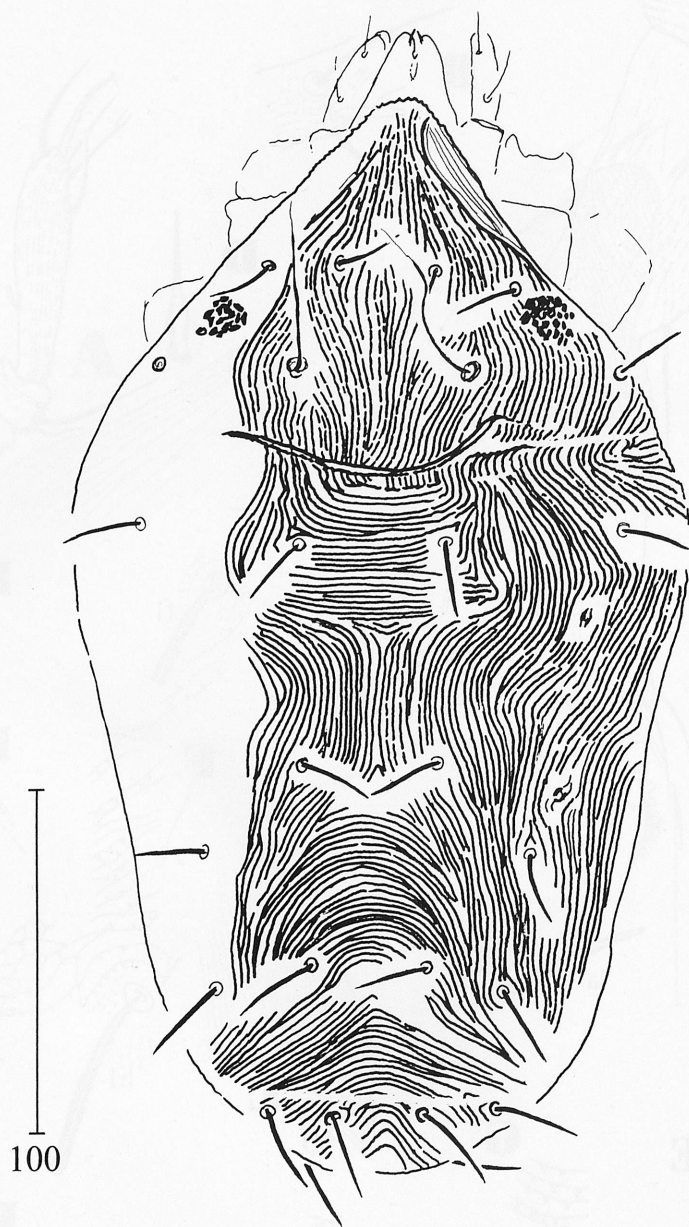


Fig. 42. *Lorryia akelai* sp. n., tritonymph (holotype) – dorsal view.

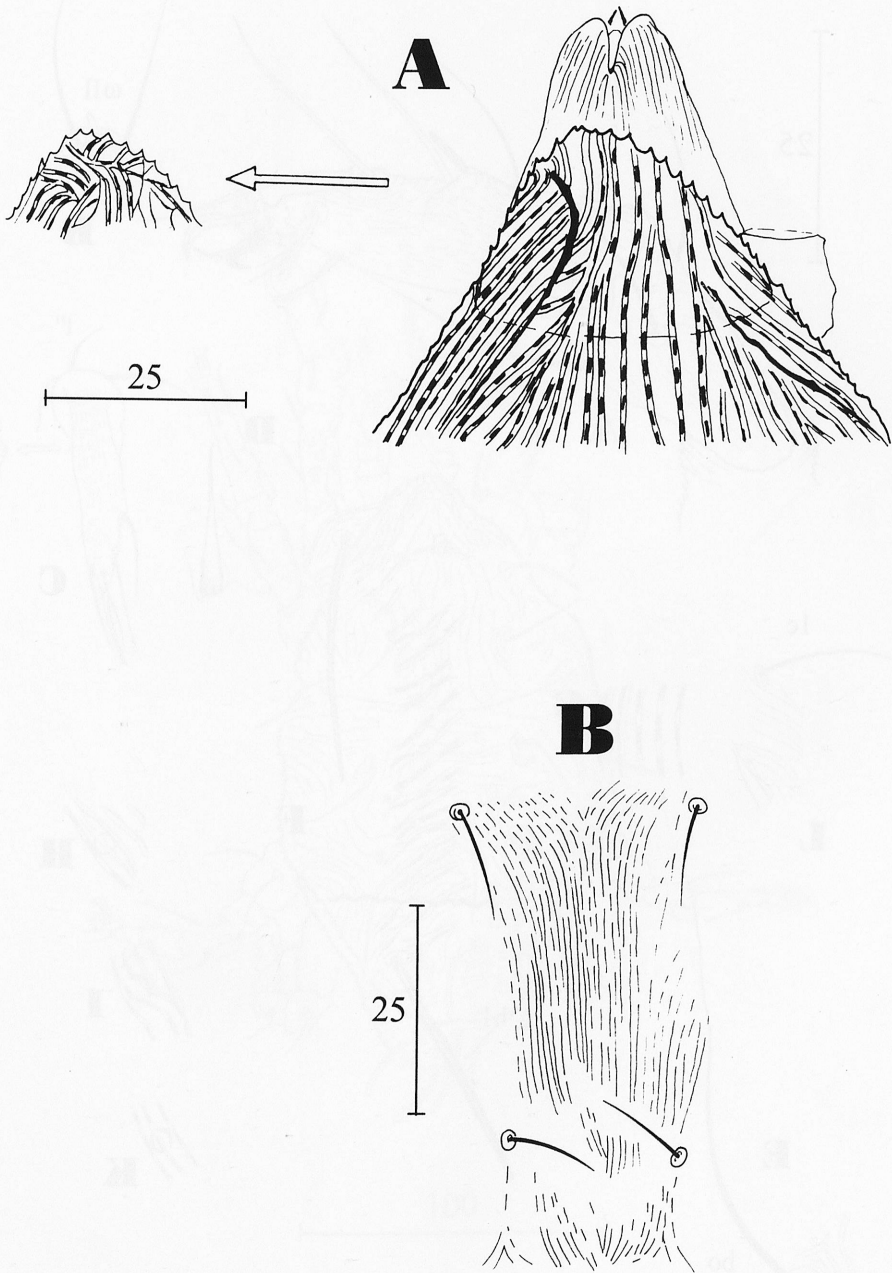


Fig. 43. *Lorryia akelai* sp. n., tritonymph (holotype). A – dorsal view of gnathosoma, dorsal and ventral view of anterior part of aspidosoma, B – ventral striae between setae mt.

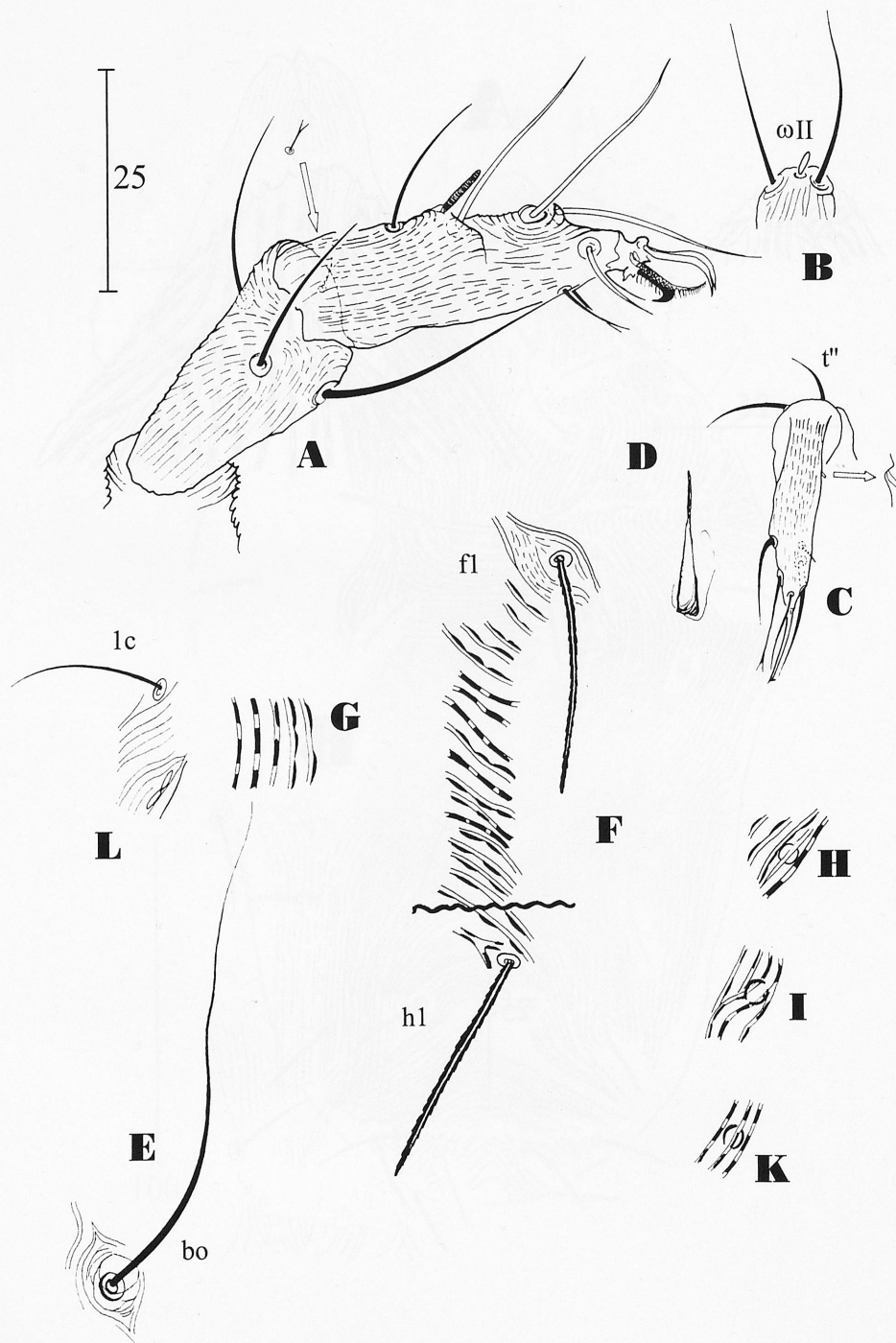


Fig. 44. *Lorryia akelai* sp. n., tritonymph (holotype). A – tibia+tarsus+apotele I (left, paraxial), B – tarsus II, fragment with ω II (dorsal), C – tibia and tarsus of left palpa (frontal), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and hl, G – dorsal striae with tubercles (fragment), H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and setal c.

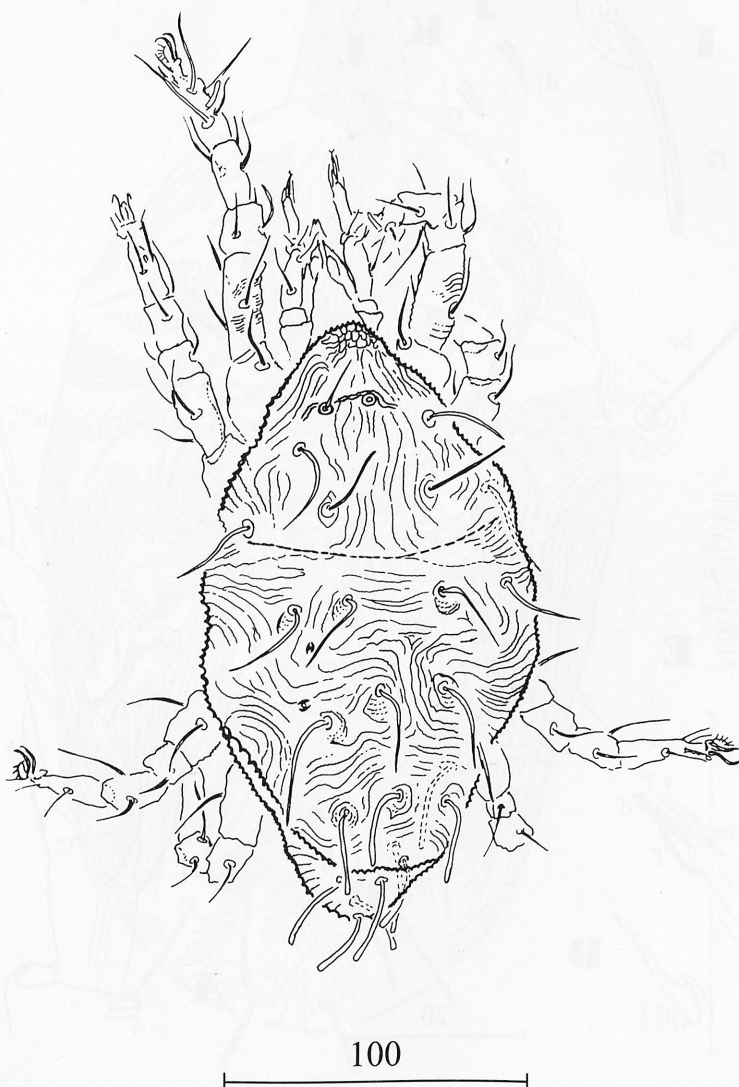


Fig. 45. *Lorryia italica* (OUDEMANS, 1928), tritonymph (holotype) – dorsal view.

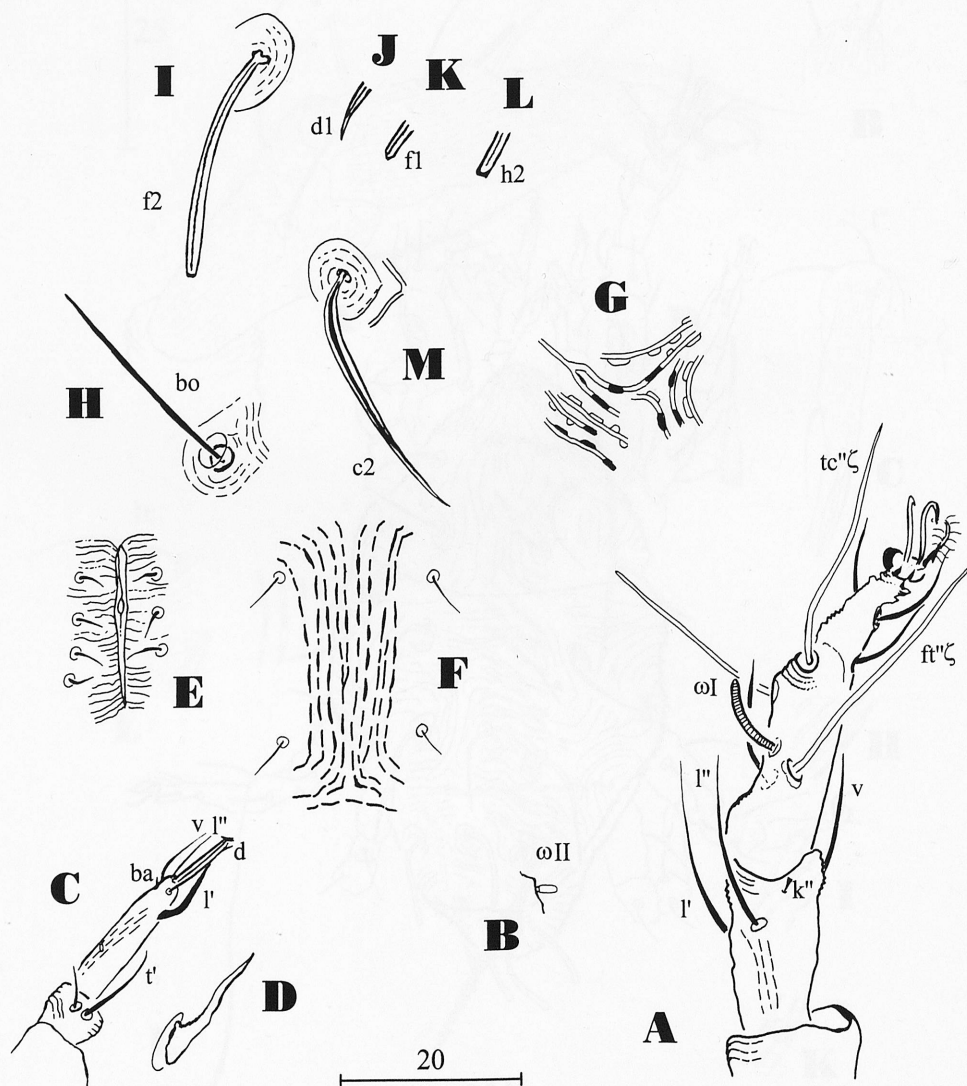


Fig. 46. *Lorryia italica* (OUDEMANS, 1928), tritonymph (holotype). A – tibia+tarsus+apotele I (right, dorso-adaxial), B – solenidion ω II, C – palpal tibia and tarsus (left, dorsal – slightly twisted), D – cheliceral styletto, E – genital region, F – ventral striae between setae mt, G – fragment of dorsal ornamentation, H – bothridial seta bo, I – seta f2, J, K, L – the tips of setae d1, f1 and h2, respectively, M – seta c2.

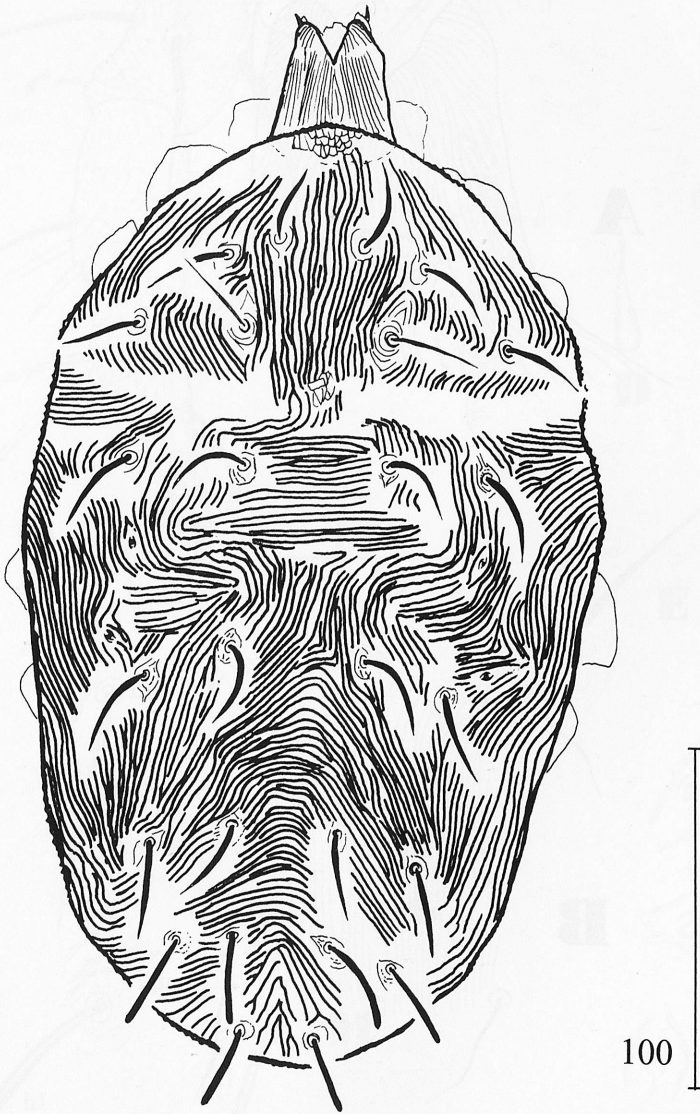


Fig. 47. *Lorryia amica* sp. n., female (holotype) – dorsal view.

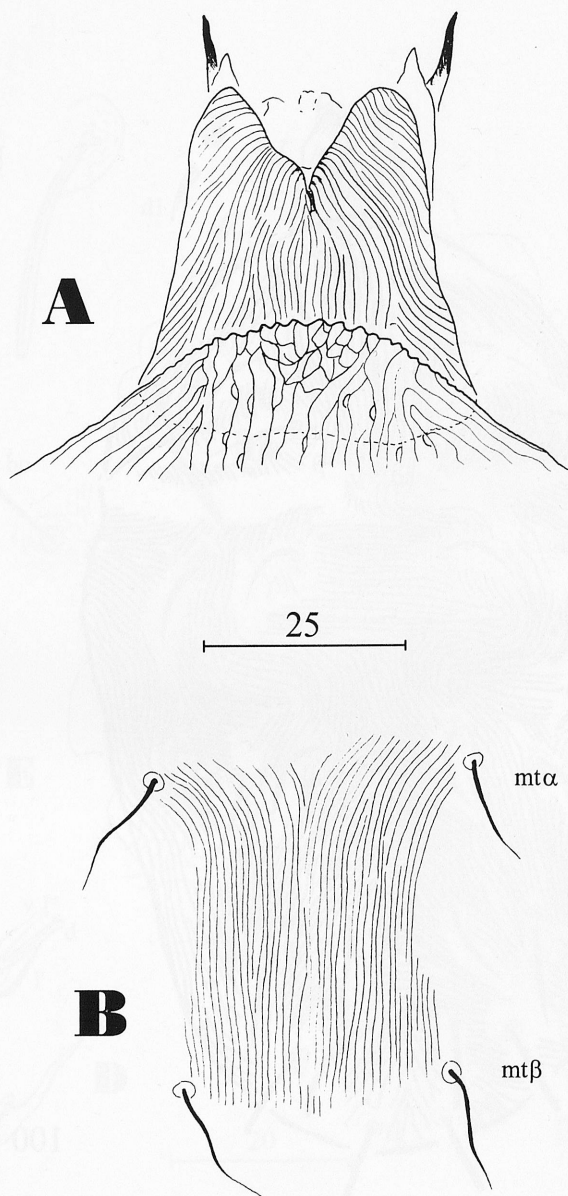


Fig. 48. *Lorryia amica* sp. n., female (holotype). A – dorsal view of gnathosoma with anterior part of aspidosoma, B – ventral striae between setae *mt*.

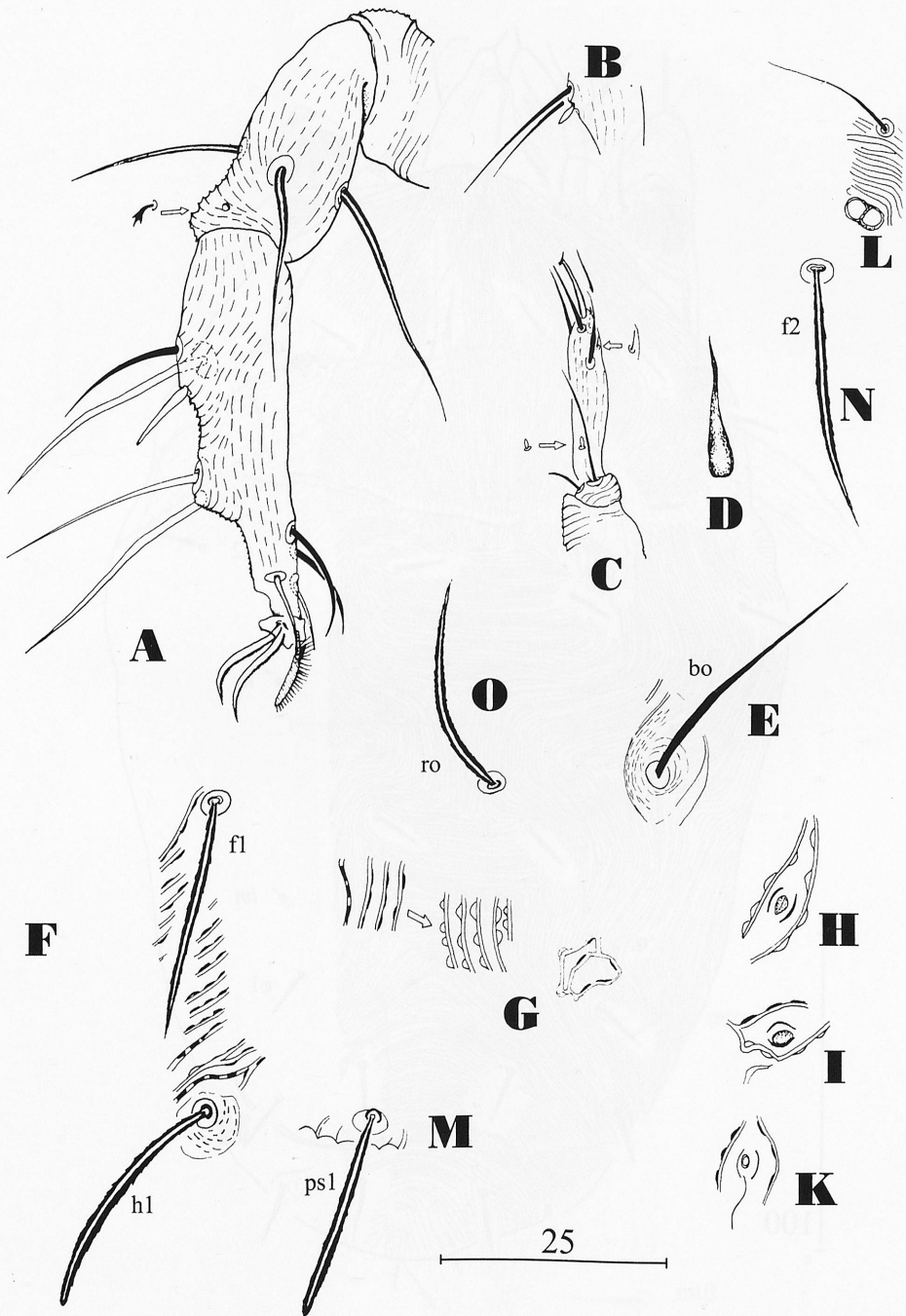


Fig. 49. *Lorryia amica* sp. n., female (holotype). A – tibia+tarsus+apotele I (right, paraxial), B – tarsus II, fragment with ω II (left, adaxial), C – palpal tibia and tarsus (left, dorso-paraxial), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and hl, G – details of dorsal ornamentation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta lc, M – seta ps1, N – seta f2.

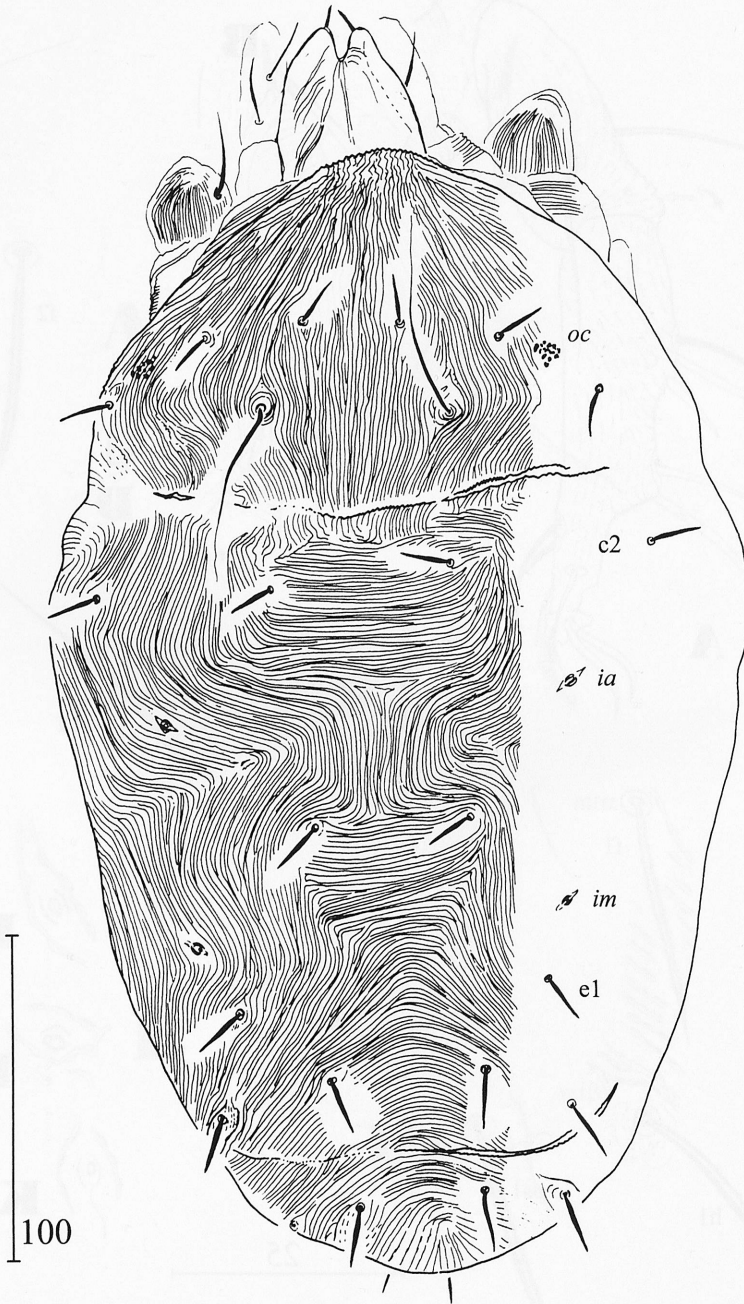


Fig. 50. *Lorryia blaszaki* sp. n., male (holotype) – dorsal view.

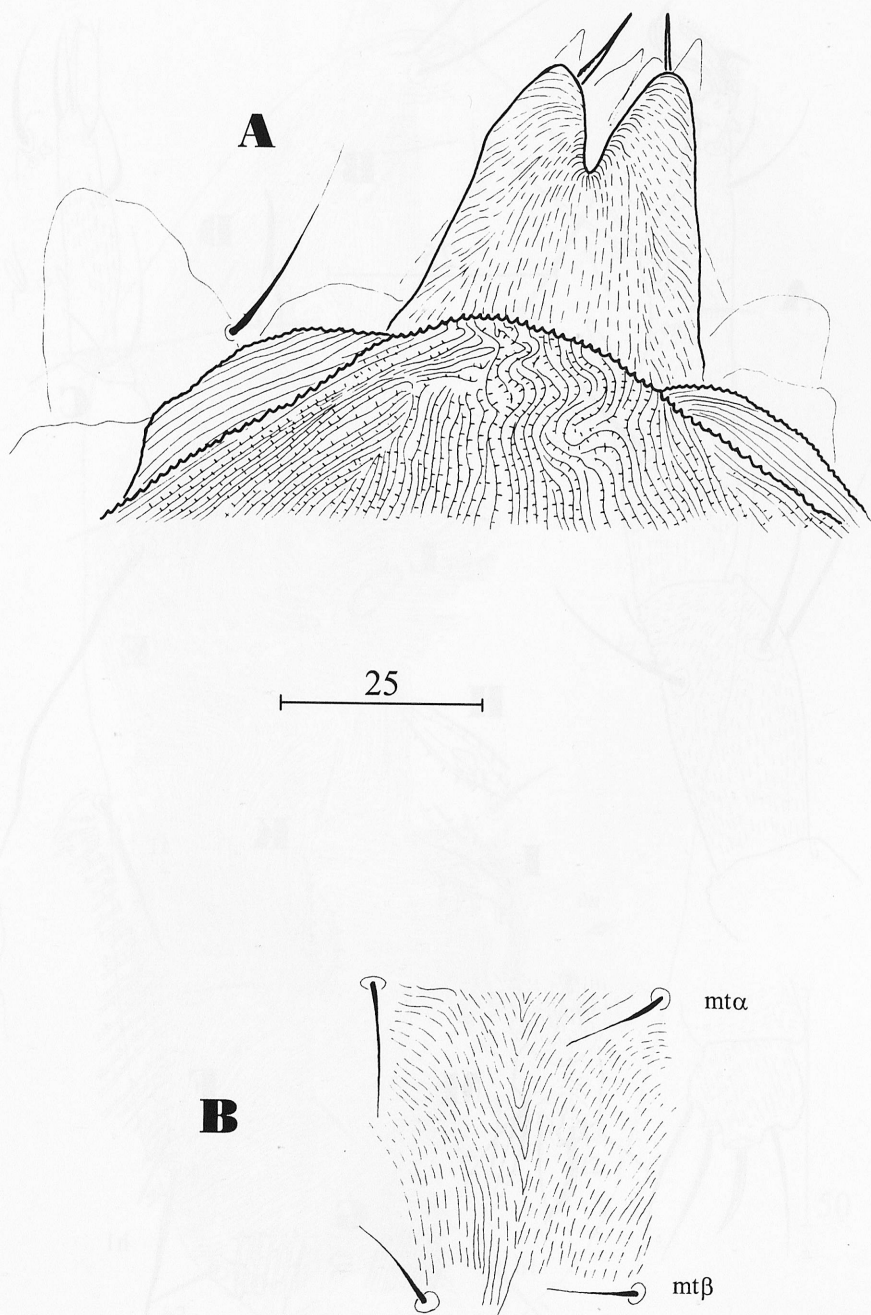


Fig. 51. *Lorryia blaszaki* sp. n., male (holotype). A – very anterior part of idiosoma – dorsal view. B – ventral striae between setae mt.

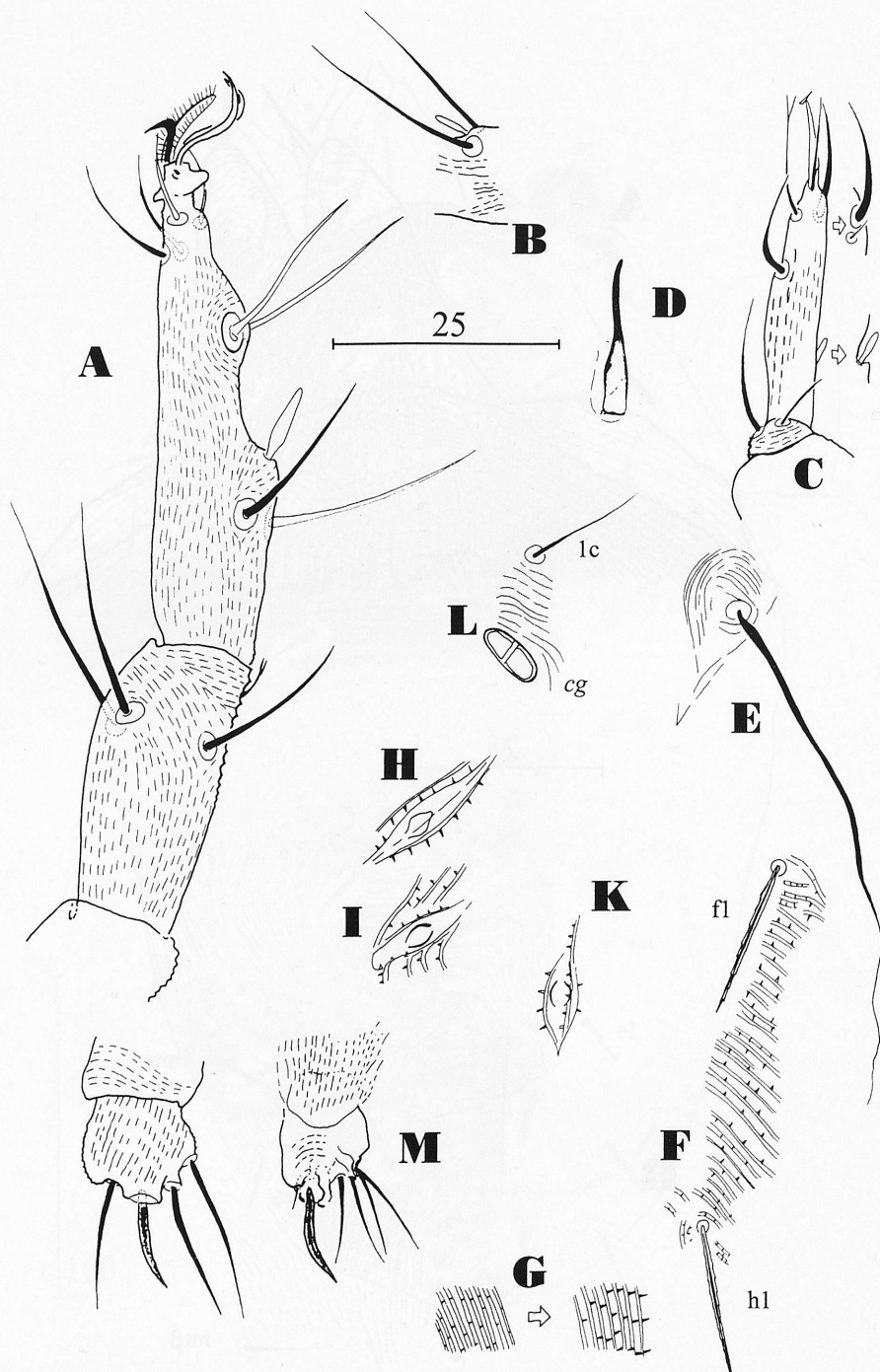


Fig. 52. *Lorryia blaszaki* sp. n., male (holotype). A – tibia+tarsus+apotele I (right, paraxial), B – fragment of tarsus II with ω II (left, adaxial), C – palpal tibia and tarsus (right, dorsal – slightly twisted), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and hl, G – dorsal striae, H, I, K – lyrifissures ia, im and ih, L – coxal organ cg and seta lc, M – terminal fragment of left leg IV: abnormal tibia.

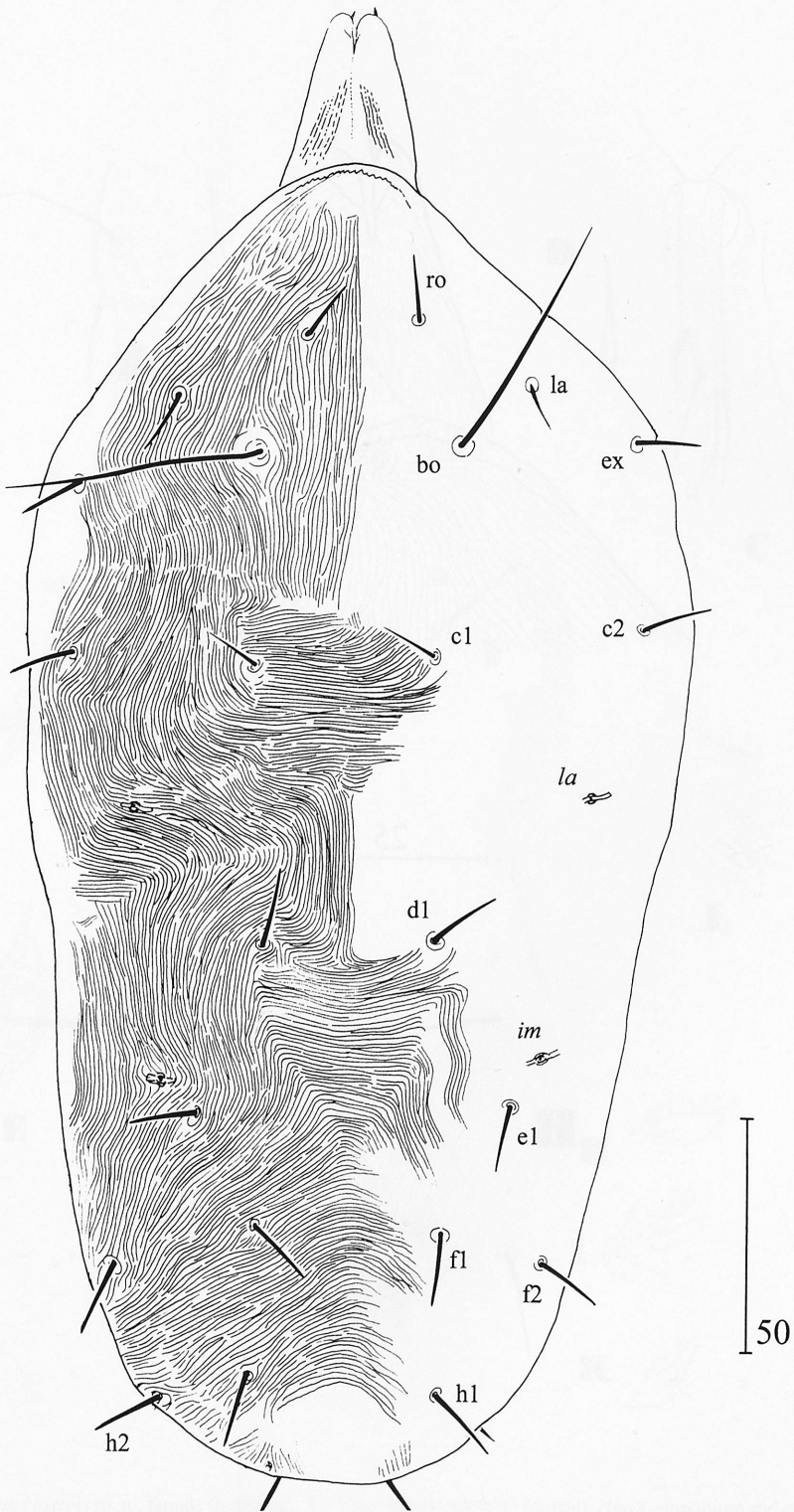


Fig. 53. *Lorryia bloszyki* sp. n., female (holotype) – dorsal view.

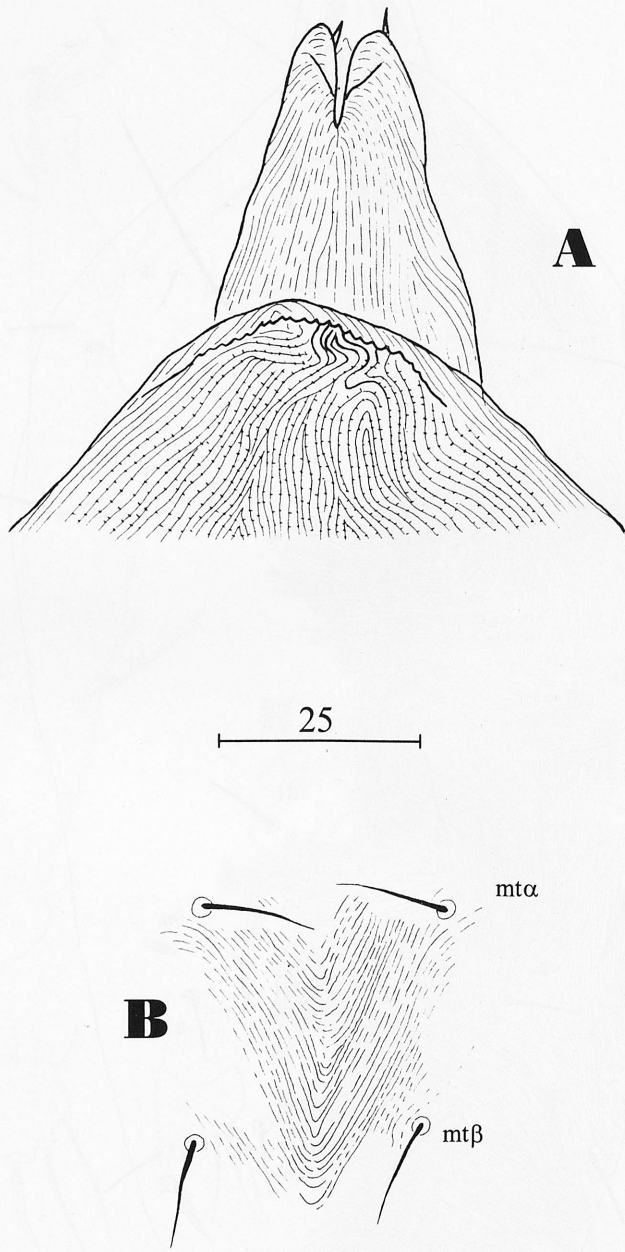


Fig. 54. *Lorryia bloszyki* sp. n., female (holotype). A – gnathosoma and anterior part of idiosoma – dorsal view, B – ventral striae between setae *mt*.

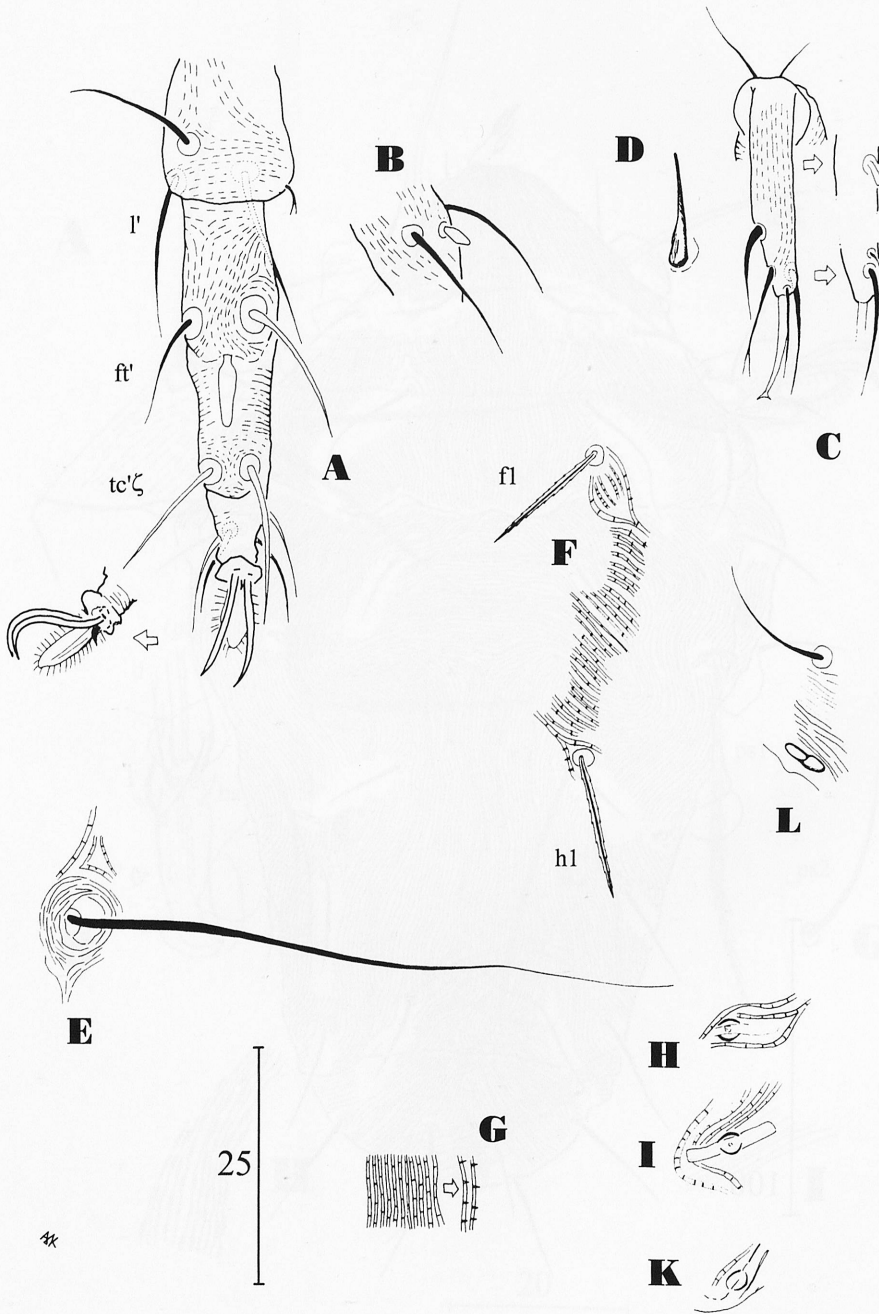


Fig. 55. *Lorryia bloszyki* sp. n., female (holotype). A – tibia+tarsus+apotele I (dorsal), claws, empodium and empodial hook (lateral), B – fragment of tarsus II with ω II, C – left palpal tarsus (from dorsal and ventral side), D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and h1, G – dorsal striae, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta lc.

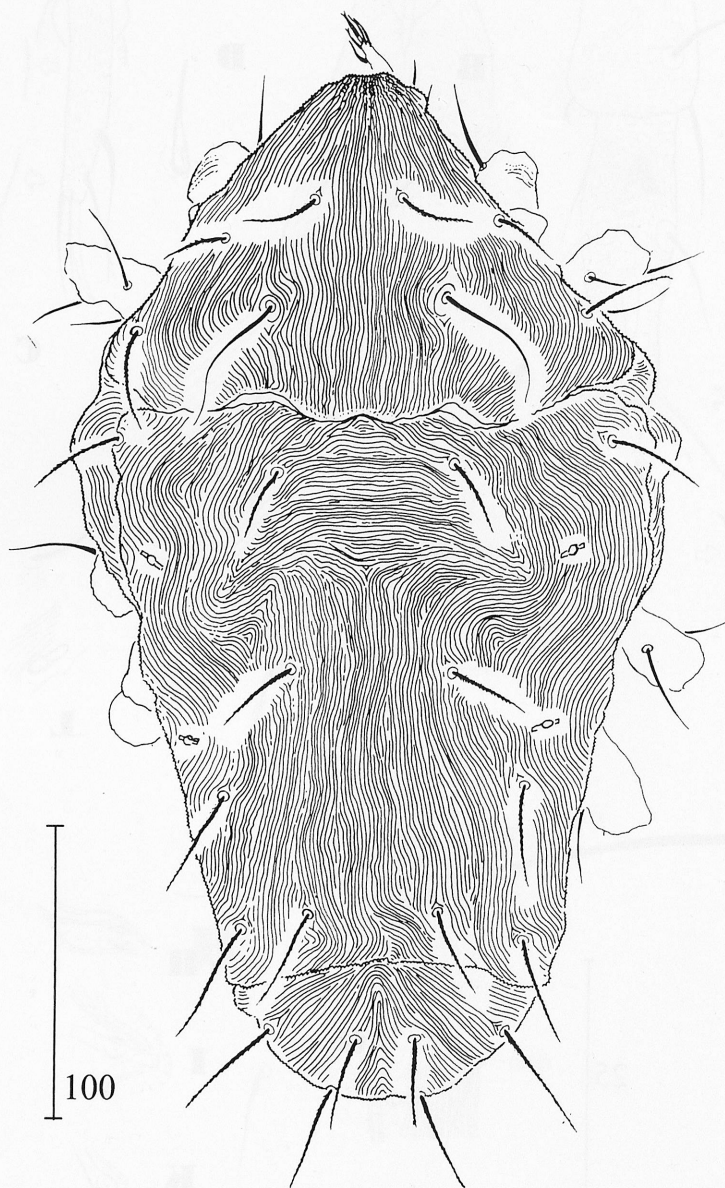


Fig. 56. *Lorryia longina* (KAŻMIERSKI, 1980), female (holotype) – dorsal view.

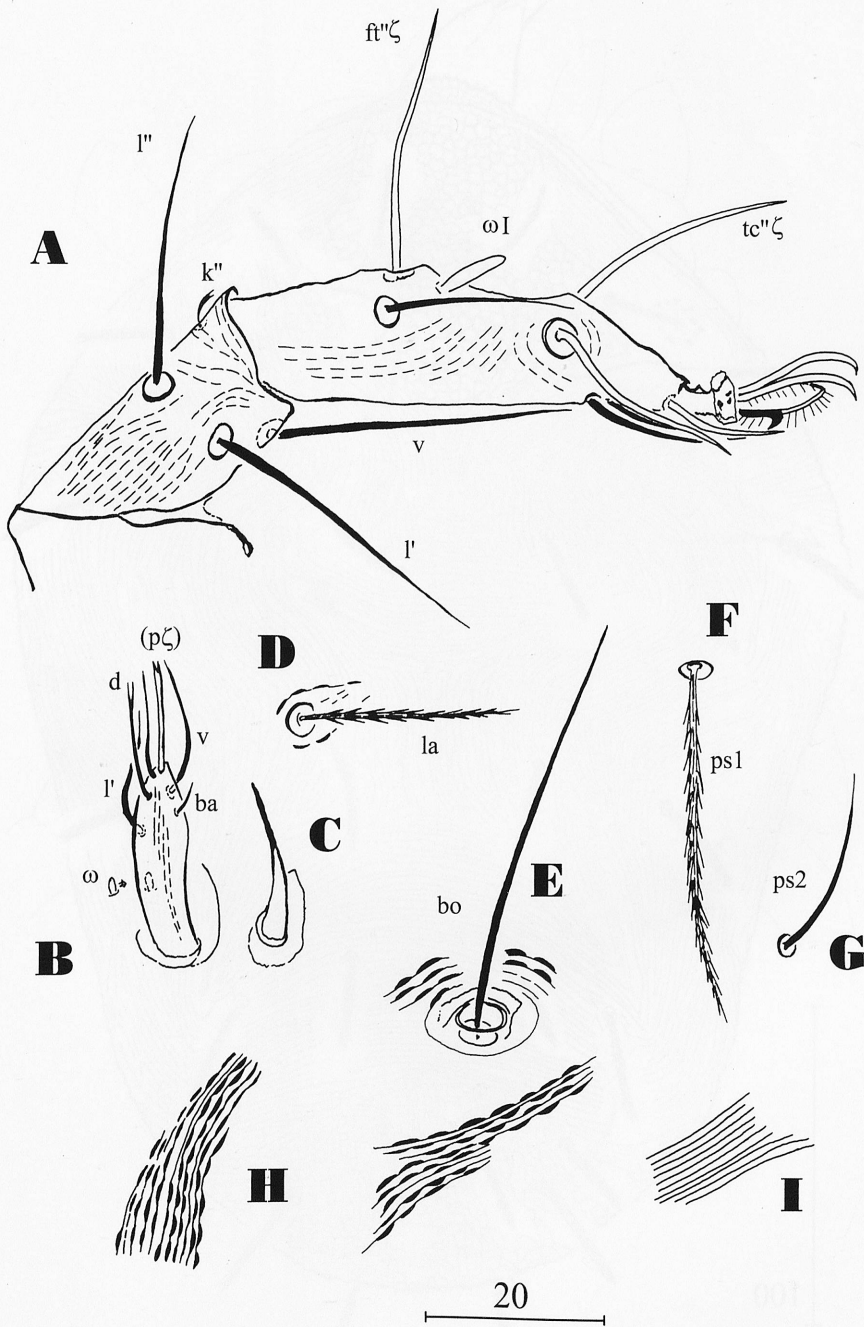


Fig. 57. *Lorryia longina* (KAŹMIERSKI, 1980), female from Grabieniec. A – tibia+tarsus+apotele I (left, paraxial), B – palpal tarsus (right, dorsal – slightly adaxially), C – cheliceral stiletto, D – seta la , E – bothridial seta bo , F – seta $ps1$, G – seta $ps2$, H – dorsal striae, I – ventral striae.

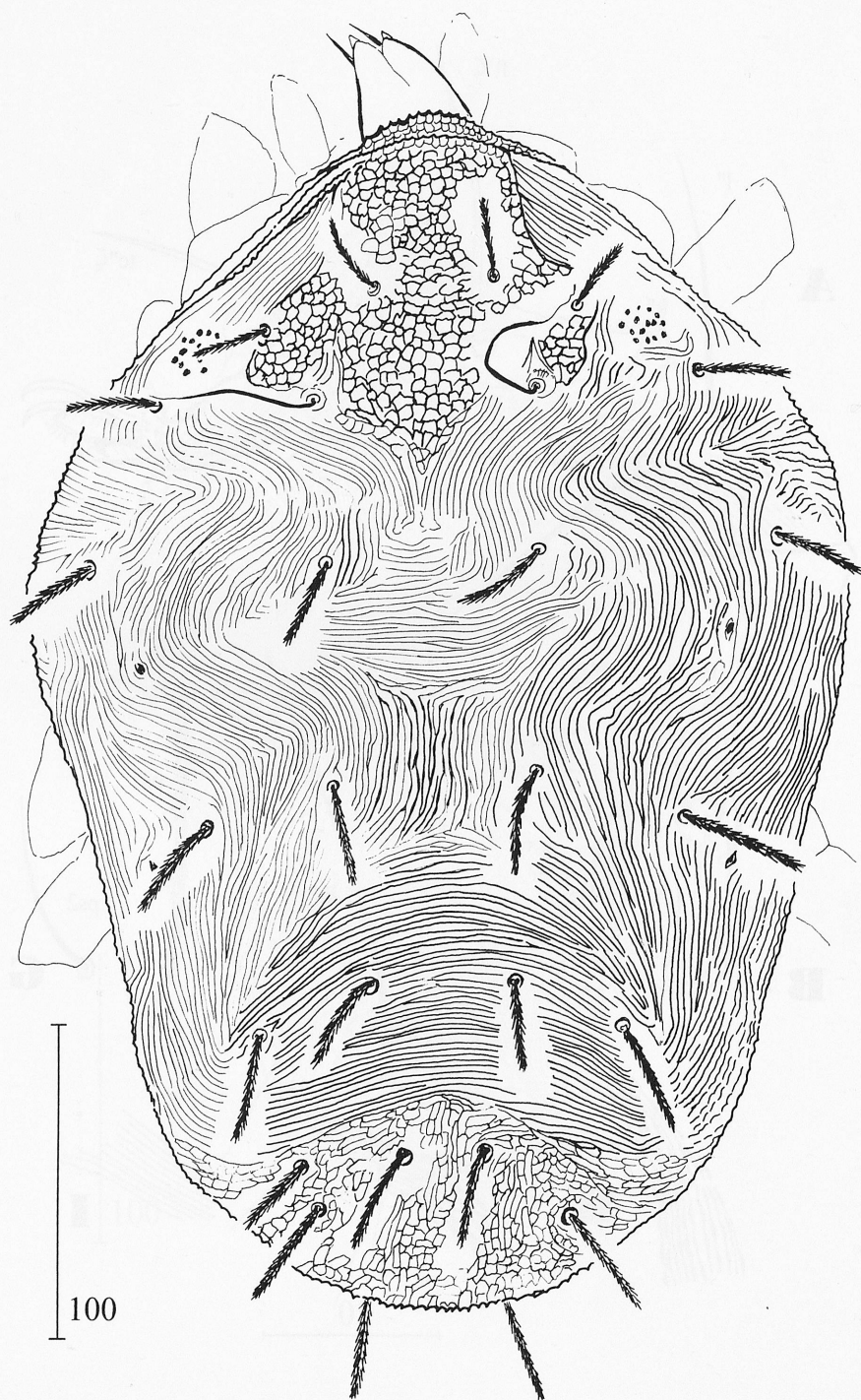


Fig. 58. *Lorryia jesionowskii* sp. n., female (holotype) – dorsal view.

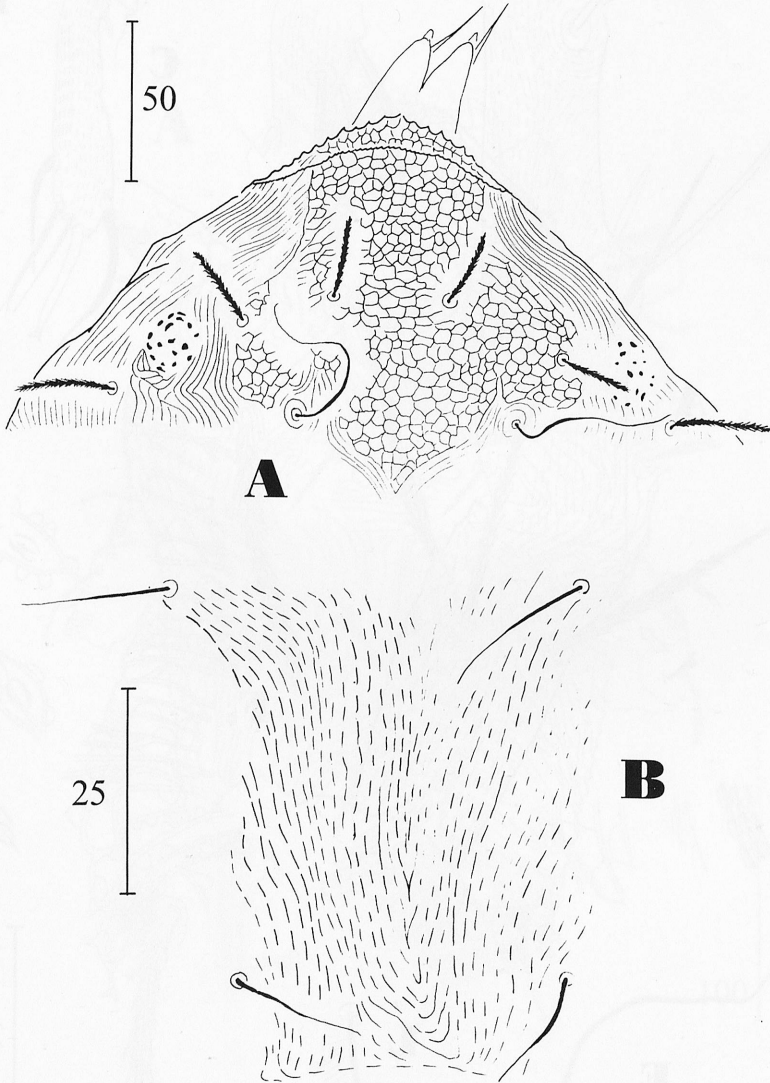


Fig. 59. *Lorryia jesionowskii* sp. n., female (holotype). A – gnathosoma and aspidosoma – dorsal view, B – ventral striae between setae mt.

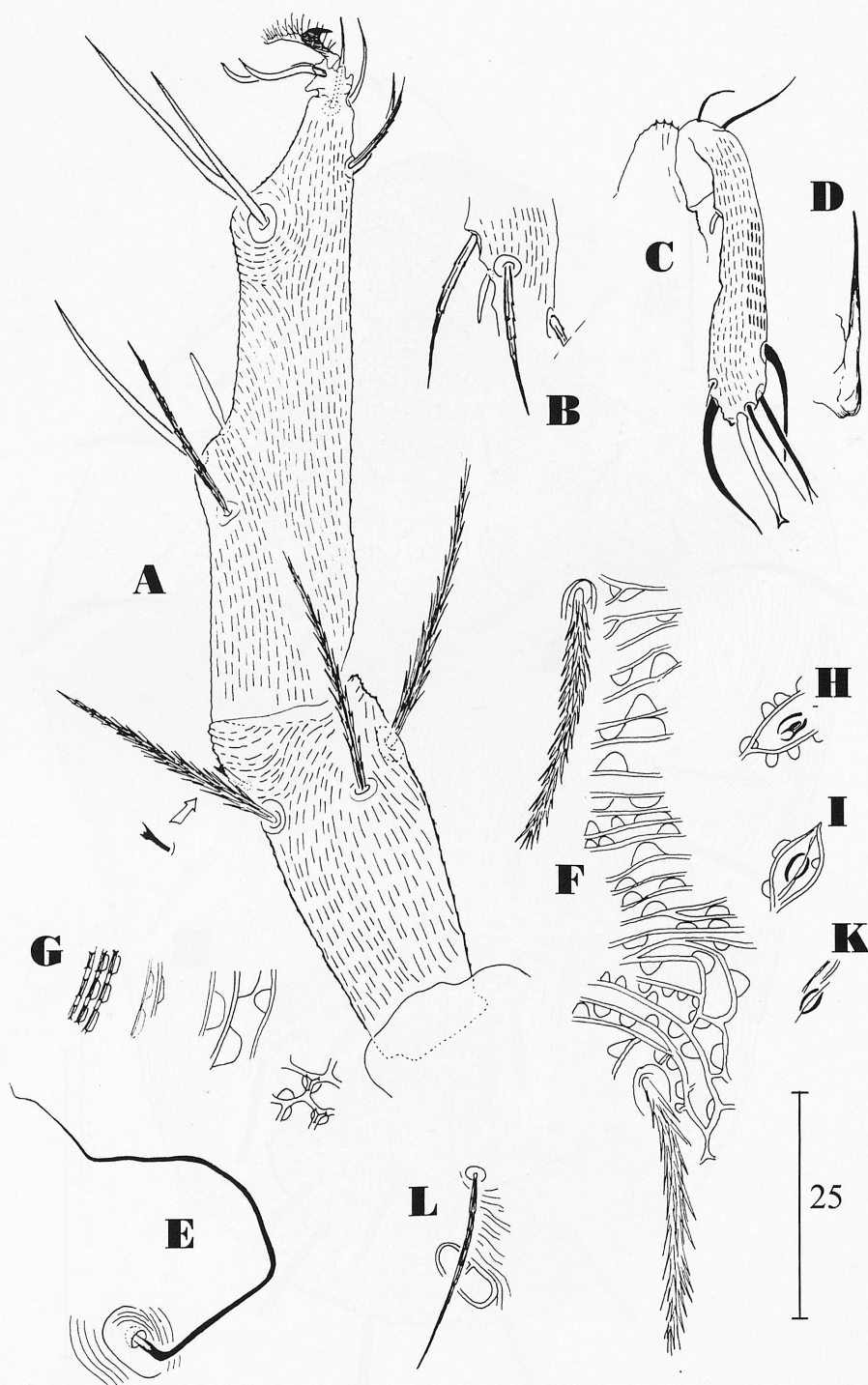


Fig. 60. *Lorryia jesionowskii* sp. n., female (holotype). A – tibia+tarsus+apotele I (left, paraxial), B – tarsus II, fragment with ω II, C – palpal tibia and tarsus, D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and hl, G – details of dorsal ornamentation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg with seta lc.

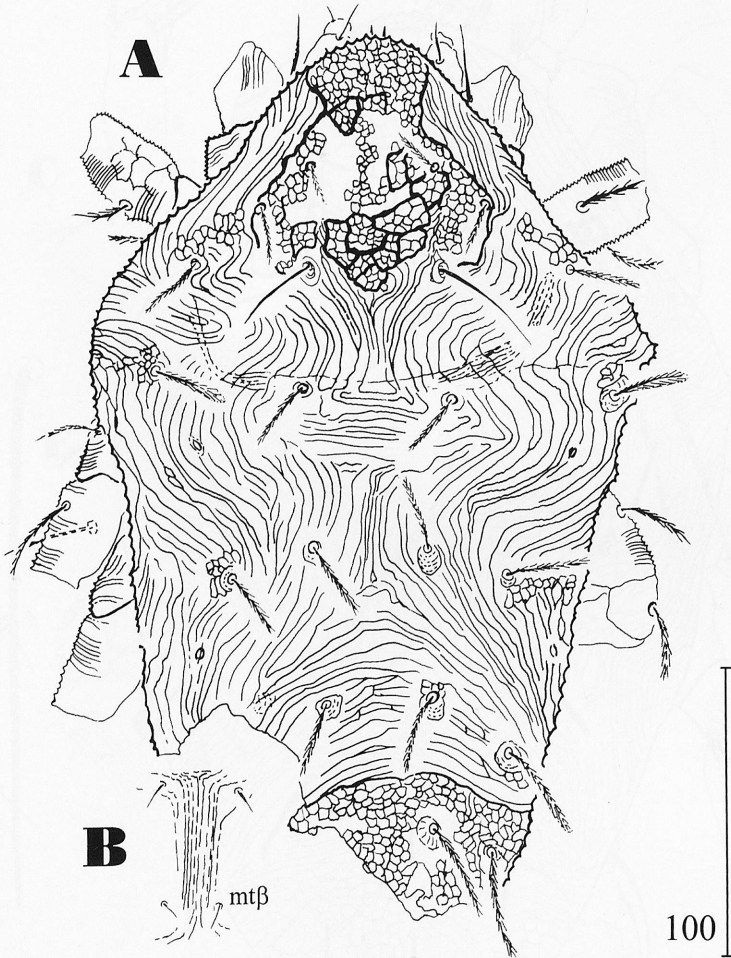


Fig. 61. *Lorryia concinna* (OUDEMANS 1929), female (holotype) – dorsal view.

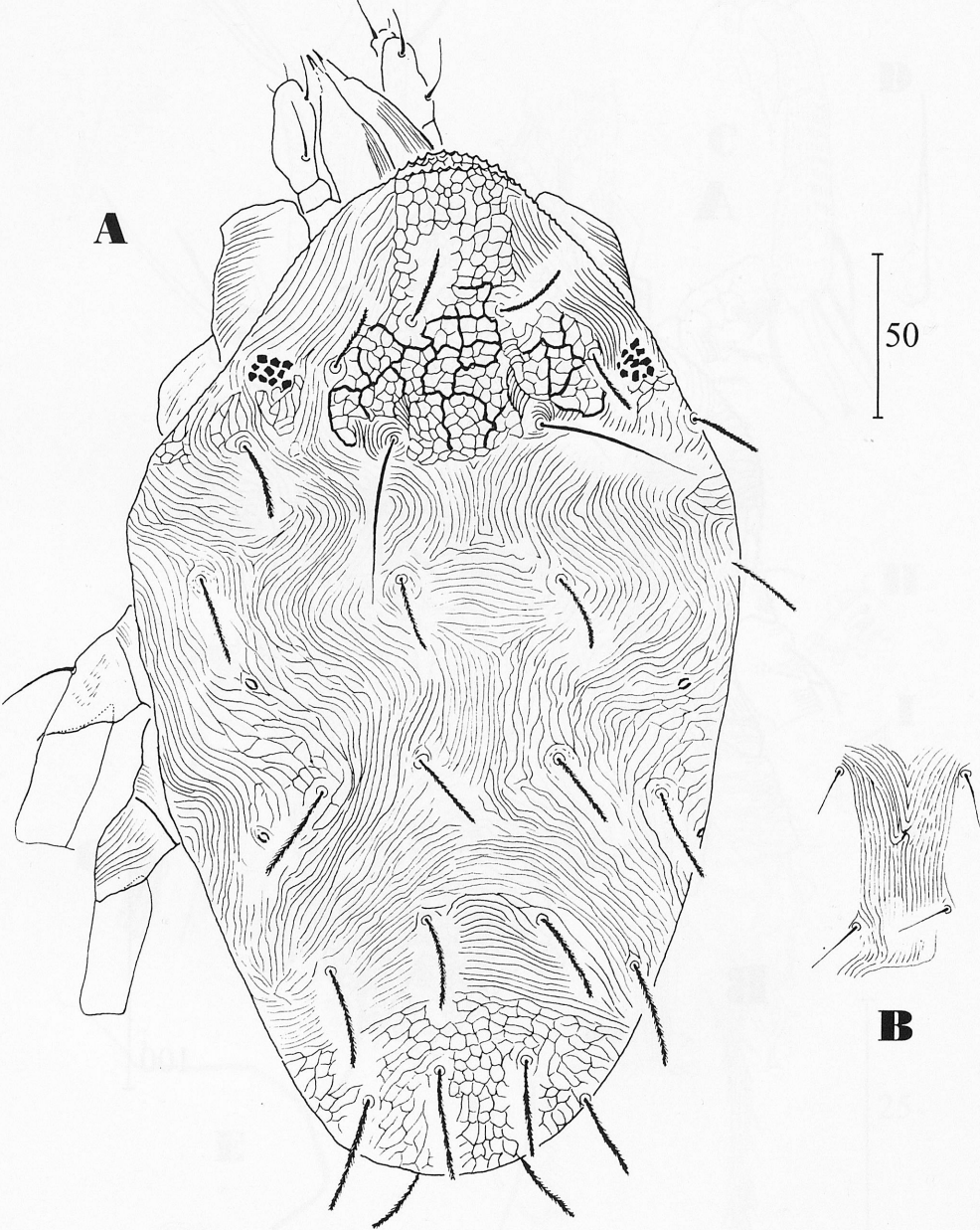


Fig. 62. *Lorryia elegans* sp. n., female (holotype). A – dorsal view of body, B – ventral striae between metasternal setae.

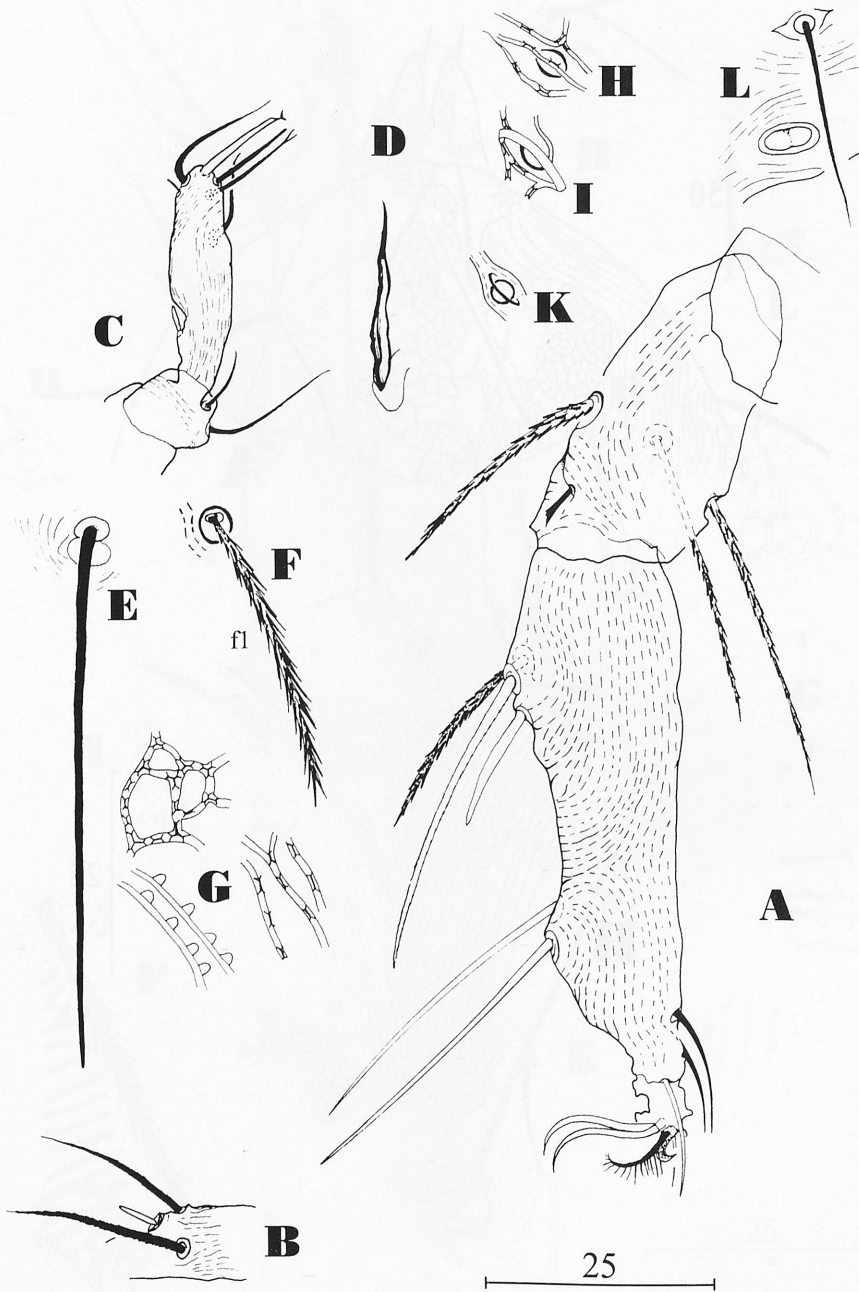


Fig. 63. *Lorryia elegans* sp. n., female (holotype). A – tibia+tarsus+apotele I (left, adaxial), B – tarsus II, fragment with ω_{11} , C – palpal tibia and tarsus (left, adaxial), D – cheliceral stiletto, E – bothridial seta bo, F – seta fl, G – details of dorsal ornamentation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg with seta 1c.

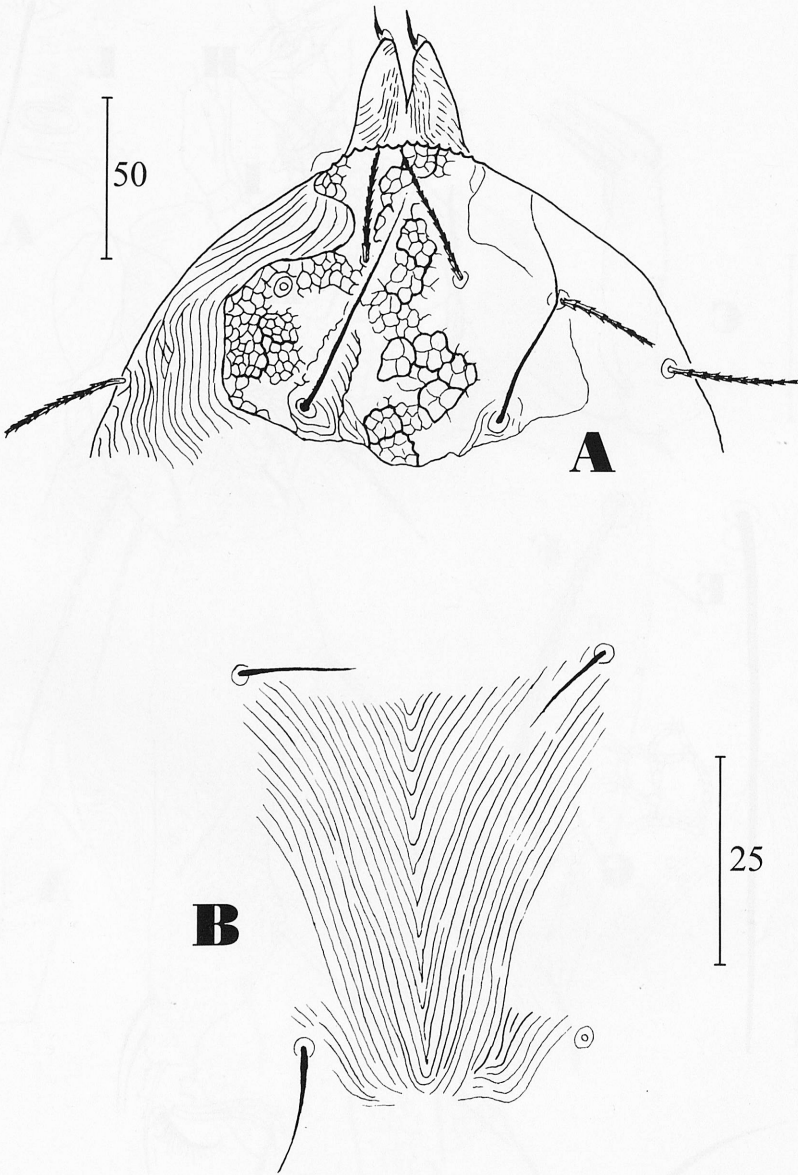


Fig. 64. *Lorryia ornata* sp. n., male (holotype). A – dorsal view of gnathosoma and aspidosoma, B – ventral striae between setae mt.

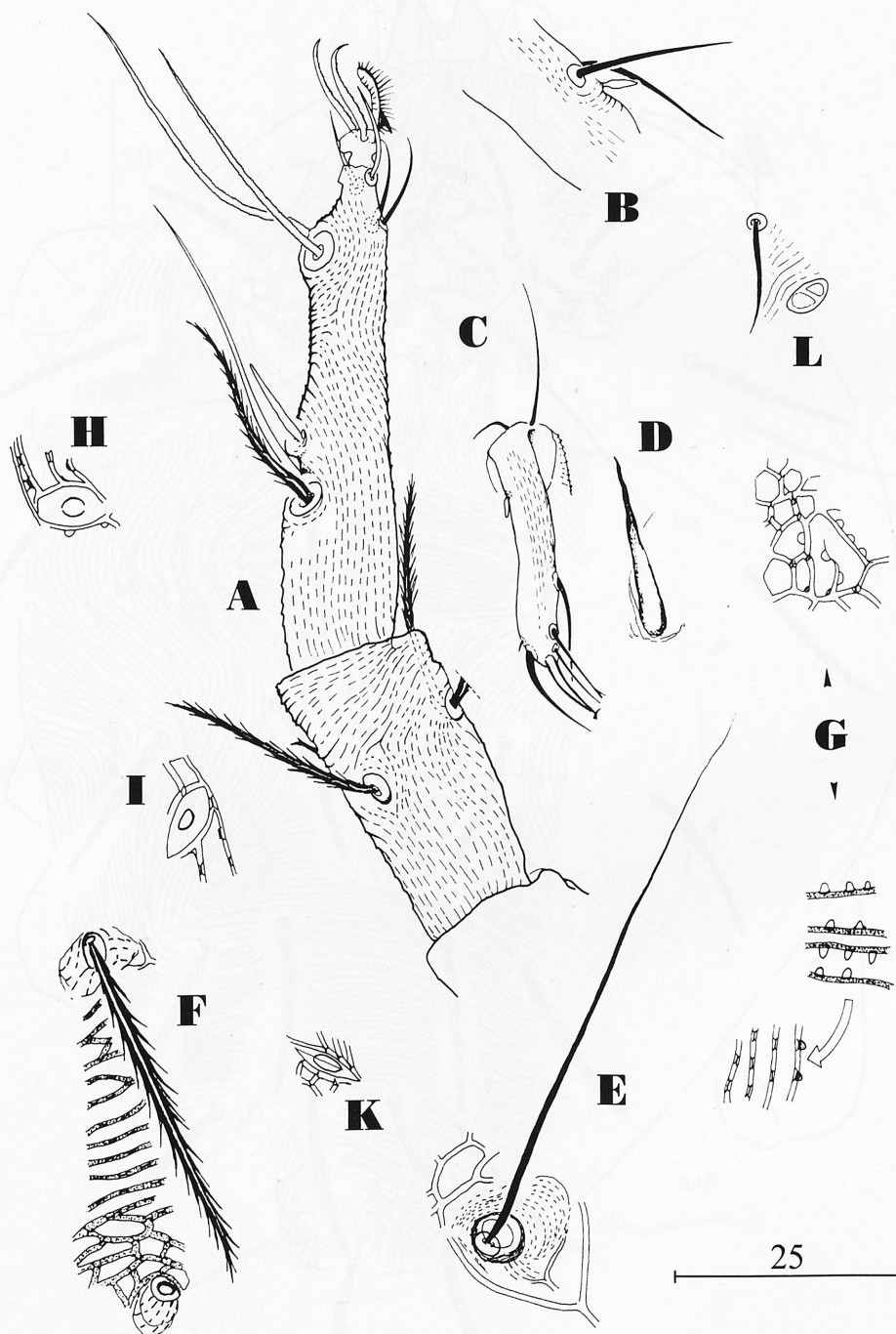


Fig. 65. *Lorryia ornata* sp. n., male (holotype). A – tibia+tarsus+apotele I (left, paraxial), B – tarsus II, fragment with ω_{11} , C – right palpal tibia and tarsus, D – cheliceral styletto, E – bothridium and bothridial seta bo, F – seta fl, G – details of dorsal reticulation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta 1c.



Fig. 66. *Lorryia septuagesimusseptima* sp. n., female (holotype) – dorsal view.

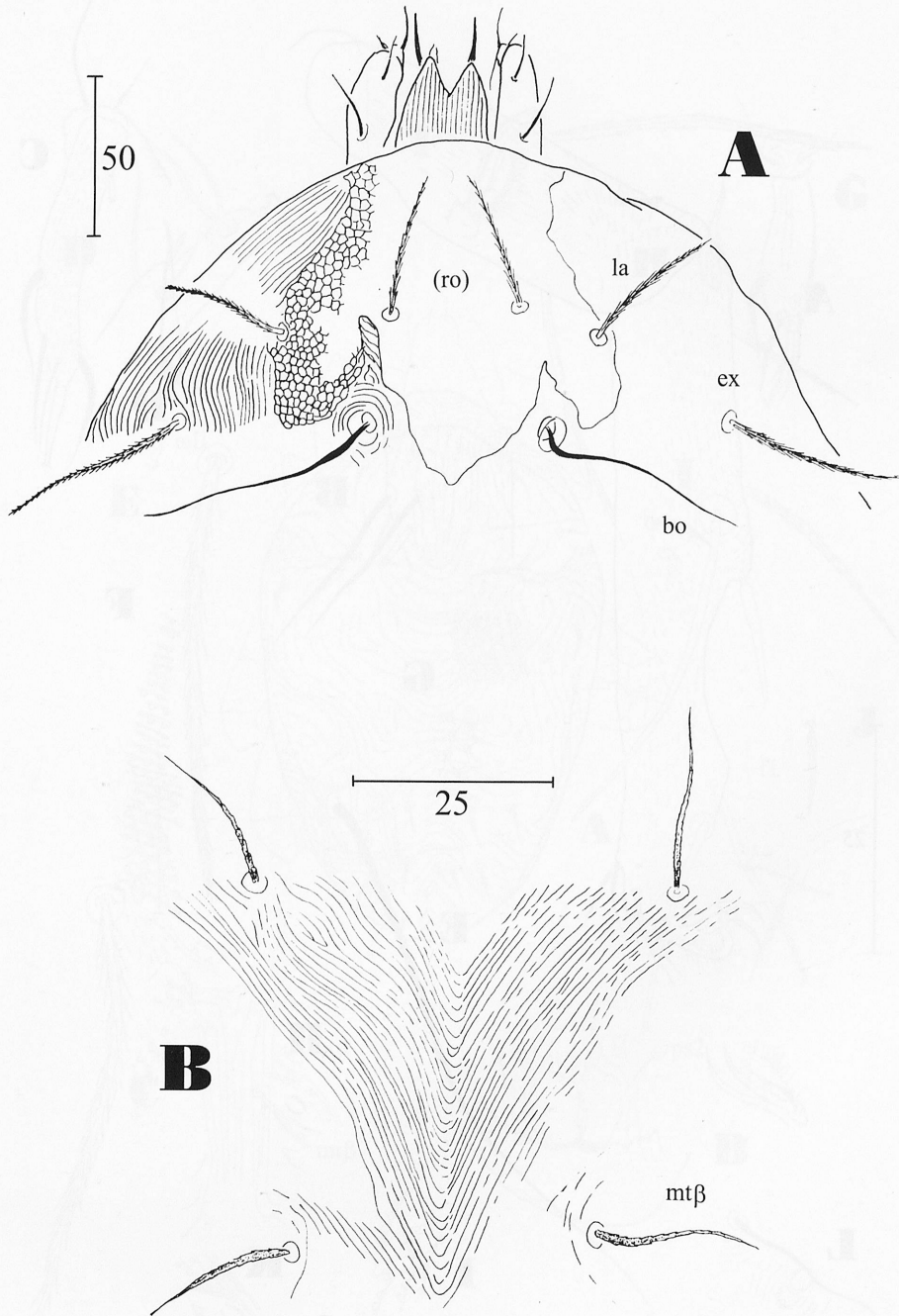


Fig. 67. *Lorryia septuagesimusseptima* sp. n., female (holotype). A – dorsal view of gnathosoma and aspidosoma, B – ventral striae between setae mt.

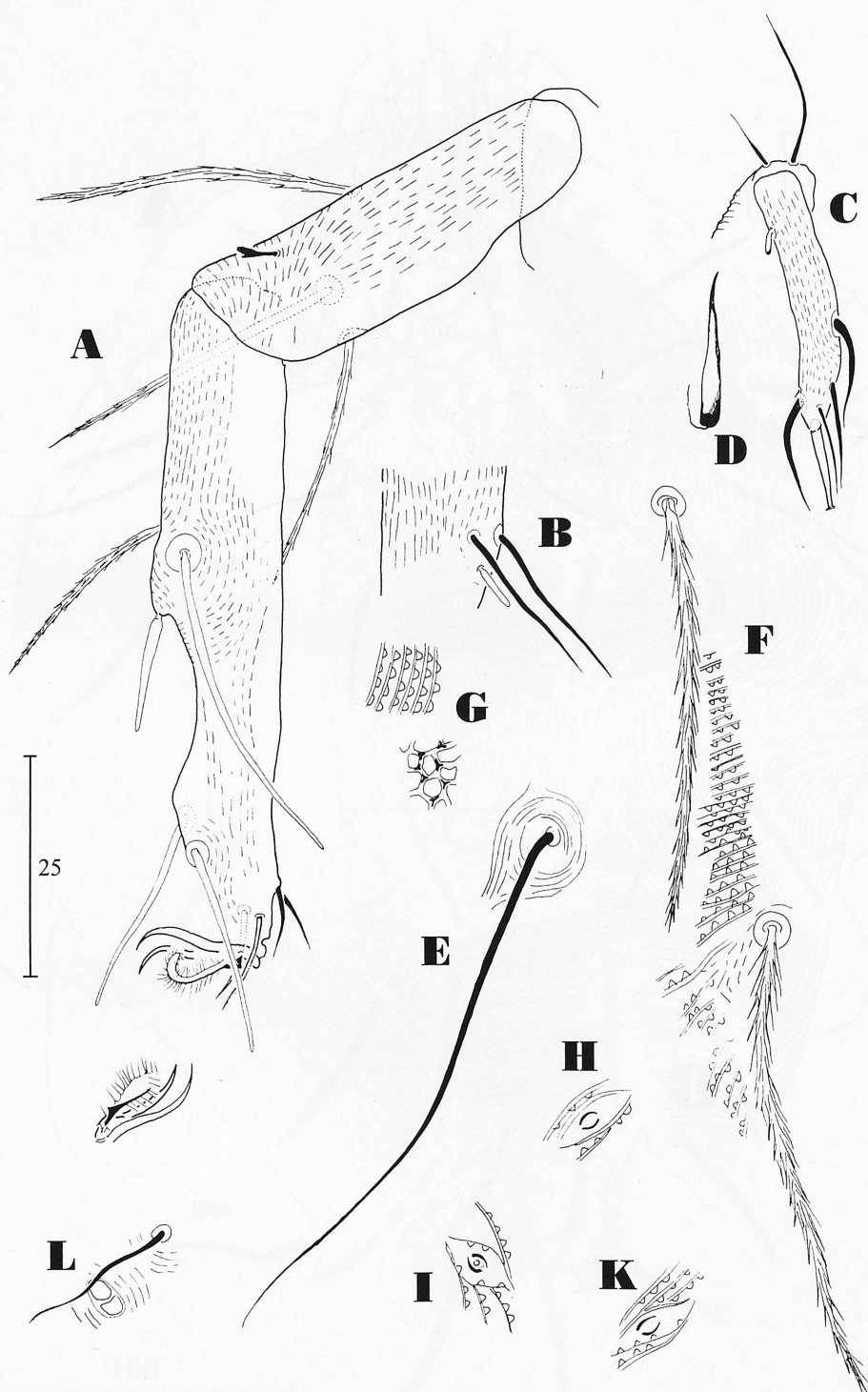


Fig. 68. *Lorryia septuagesimusseptima* sp.n., female (holotype). A – tibia+tarsus+apotele I (left, adaxial), B – tarsus II, fragment with ω II, C – right palpal tibia and tarsus, D – cheliceral stiletto, E – bothridial seta bo, F – setae fl and h1, G – details of dorsal ornamentation, H, I, K – lyrifissures ia, im, ih, L – coxal organ cg and seta 1c.

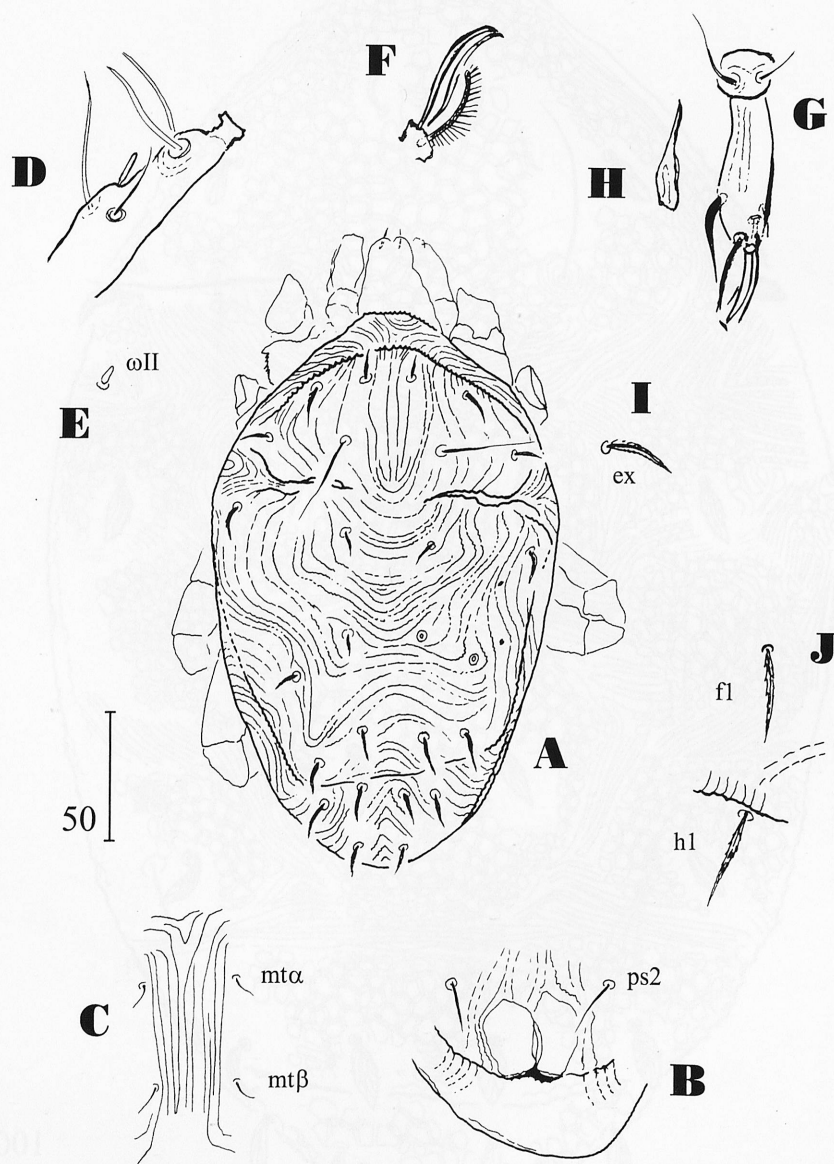


Fig. 69. *Tydeus helenipanou* sp. n., female (holotype). A – dorsal view of body, B – pseudanal region, C – ventral striae between setae mt, D – tarsus I (left, paraxial), E – solenidion ω II, F – apotele I with claws (ol) and empodium, G – palpal tibia and tarsus (left, dorsal), H – cheliceral styletto, I – seta ex, J – setae fl and hl.

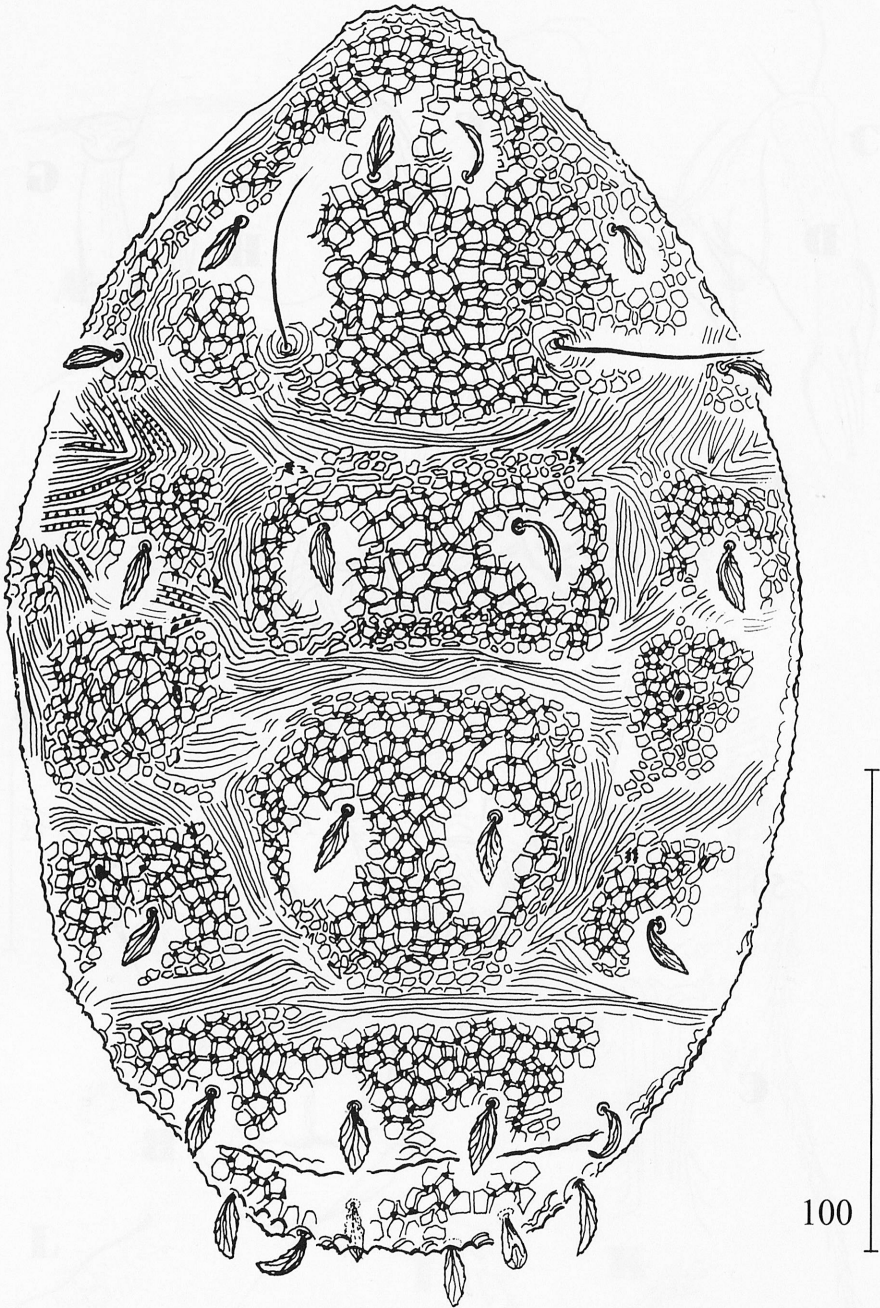


Fig. 70. *Metalorryia foliata* sp. n., female (holotype) – dorsal view.

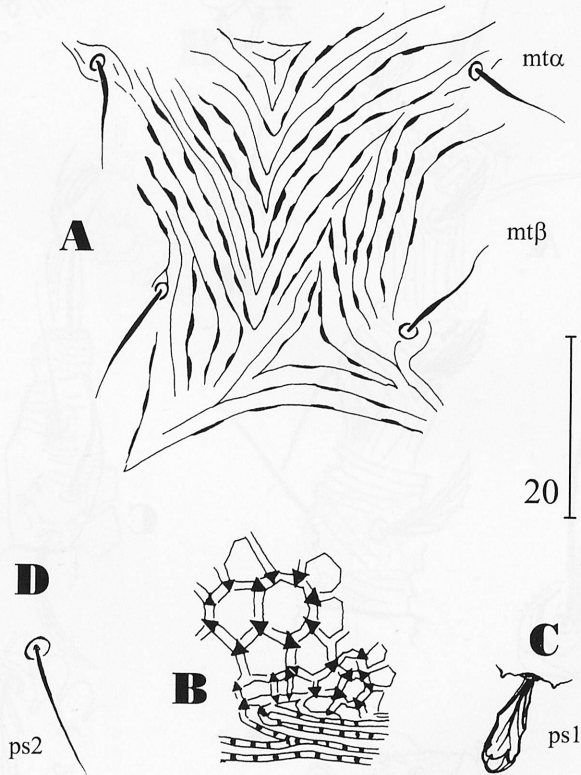


Fig. 71. *Metalorryia foliata* sp. n., female (holotype). A – ventral striae between setae mt , B – details of dorsal ornamentation, C – seta $ps1$, D – seta $ps2$.

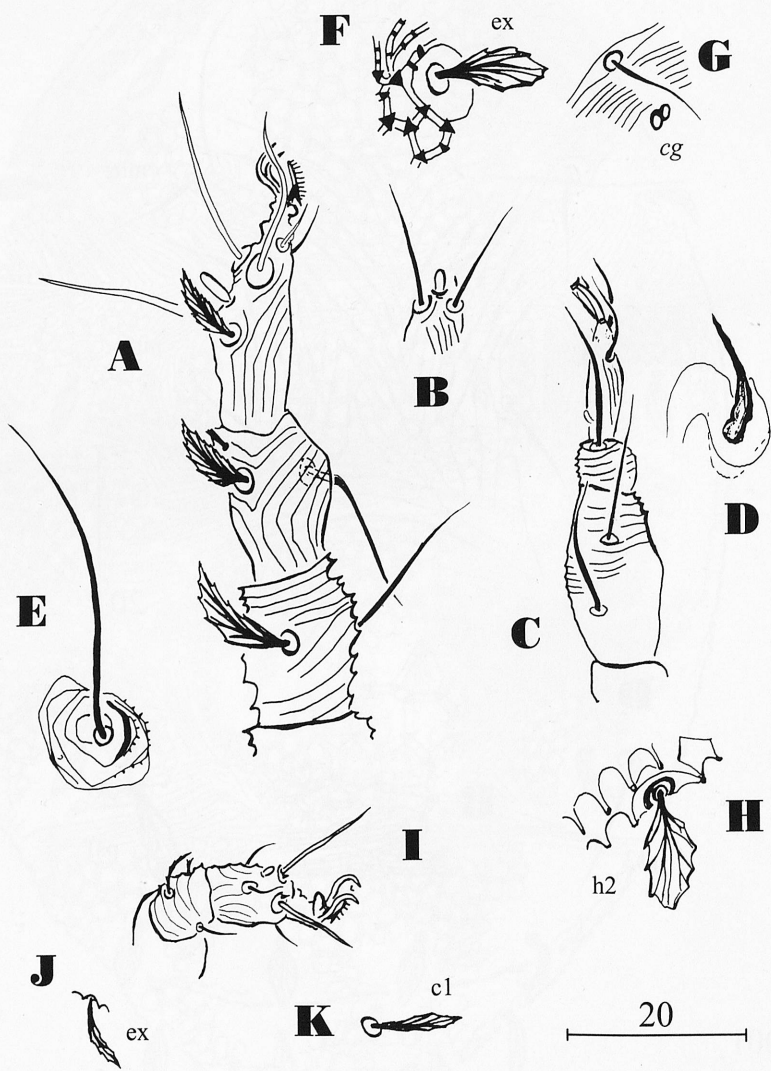


Fig. 72. *Metalorryia foliata* sp. n., female (holotype) (A-H) and larva (I-K).

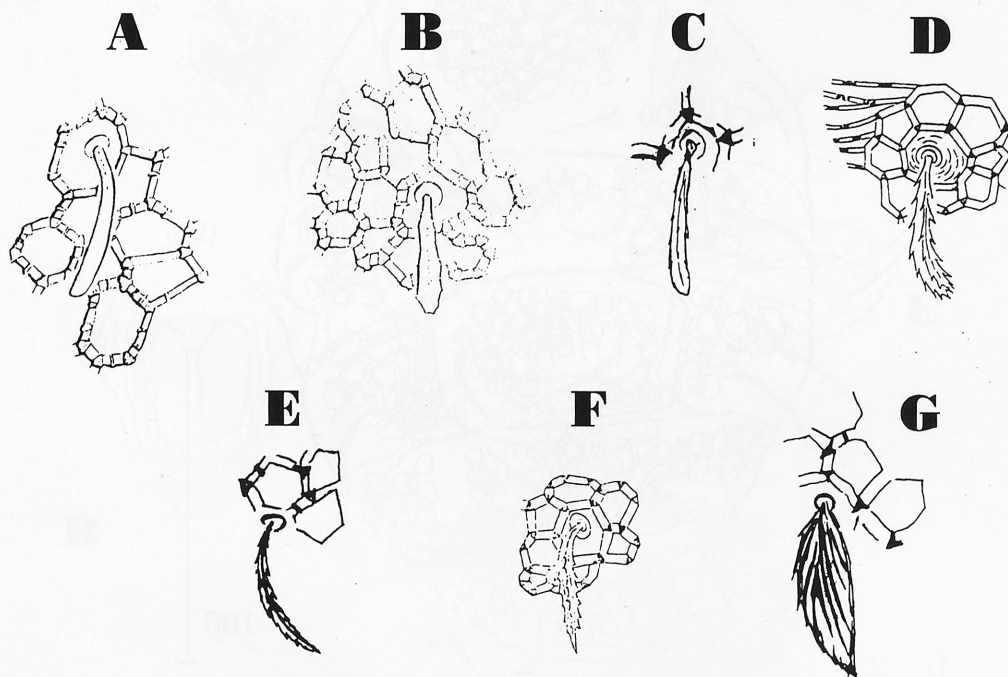


Fig. 73. Comparison of dorsal setae of different *Metalorriya* species. A – *magdalenae* (GERSON), B – *armaghensis* (BAKER), C – *palpsetosa* (KARG), D – *insignita* (KUZNETZOV), E – holotype of *cristata* (KARG) (junior synonym of *delicata*), F – *delicata* (KUZNETZOV), G – *foliata* sp.n.

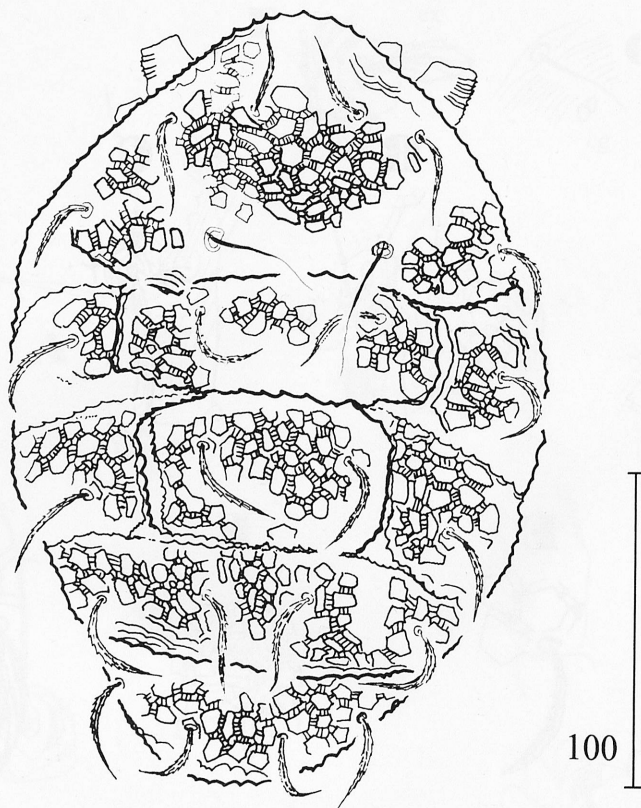


Fig. 74. *Neolorryia americana* sp. n., female (holotype) – dorsal view.

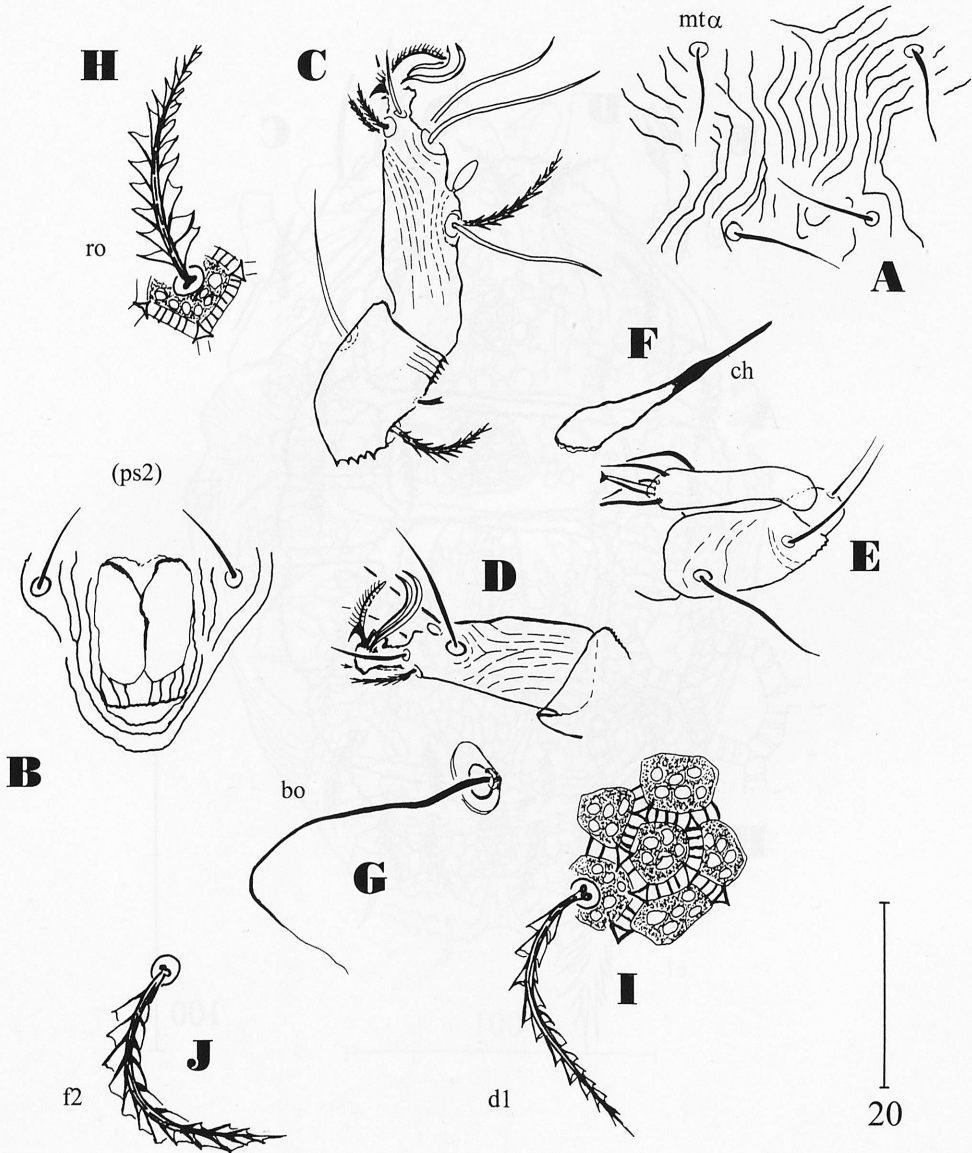


Fig. 75. *Neolorryia americana* sp. n., female (holotype). A – ventral striae between setae mt, B – pseudanal region, C – tibia+tarsus+apotele I (left, adaxial), D – tarsus+apotele II (lateral), E – palp, F – cheliceral stiletto, G – bothridial seta bo, H – seta ro, I – details of dorsal ornamentation and seta d1, J – seta f2.

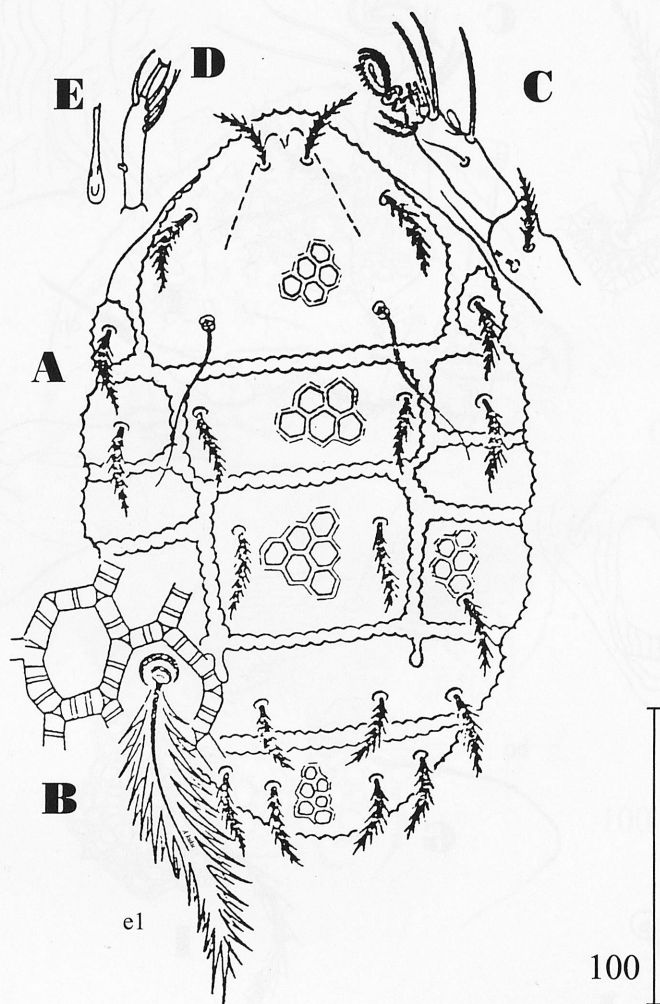


Fig. 76. *Neoapolorryia regia* (KUZNETZOV, 1973), female (holotype). A – dorsal view of body, B – details of dorsal reticulation with seta el, C – tibia+tarsus+apotele I (right, dorso-paraxial), D – palpal tarsus, E – cheliceral stiletto. (after KUZNETZOV 1973 – slightly modified).

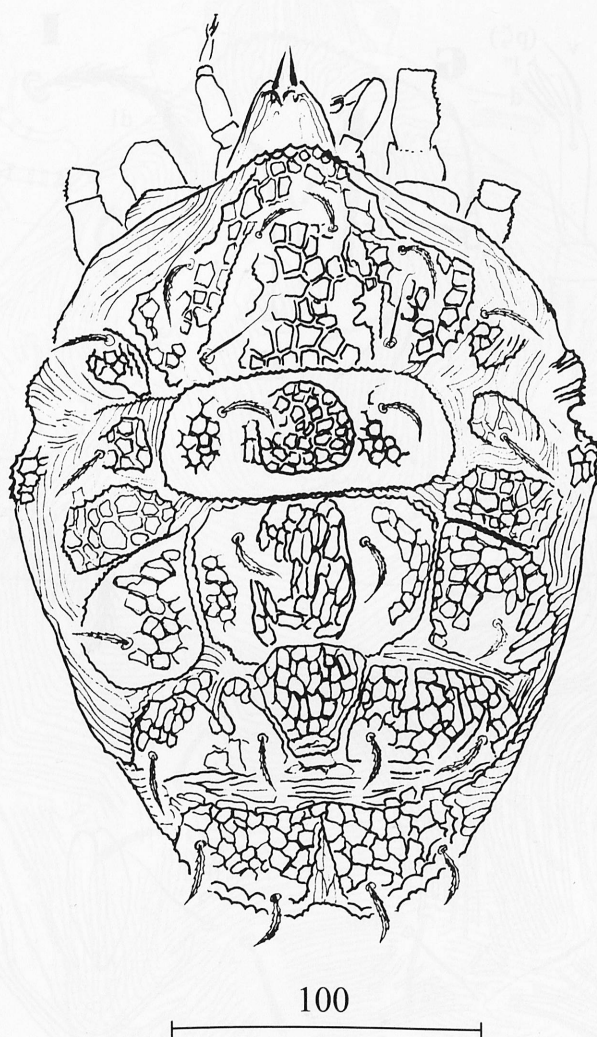


Fig. 77. *Neoapolorryia hippocastani* sp. n., female (holotype) – dorsal view.

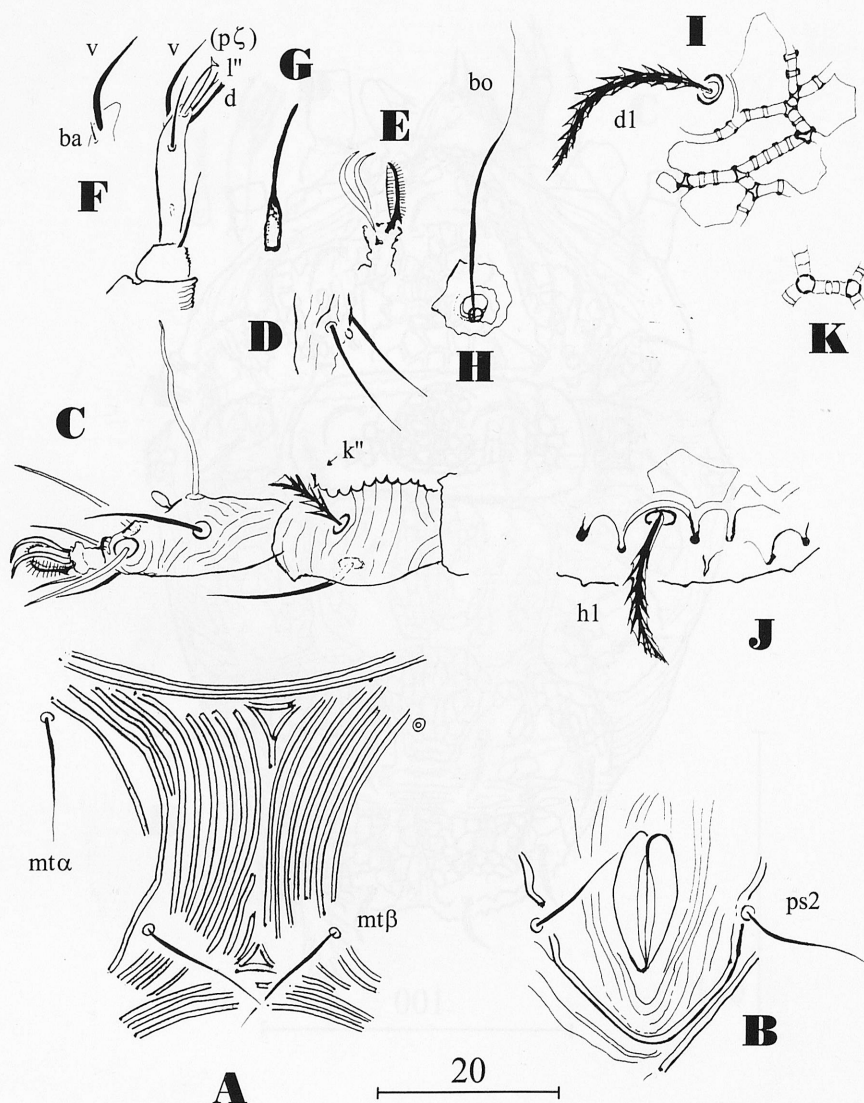


Fig. 78. *Neoapolorryia hippocastani* sp. n., female (holotype: A, B, D-J, paratype: C) and *Neoapolorryia aegyptiaca* EL BAGOURY & MOMEN, female (holotype): K. A – ventral striae between setae mt, B – pseudanal region, C – tibia+tarsus+apotele I (right, dorso-paraxial), D – tarsus II, fragment with ω II, E – apotele with claws and empodium (lateral), F – palpal tibia and tarsus, G – cheliceral stiletto, H – bothridial seta bo, I – details of dorsal ornamentation and seta d1, J – seta h1, K – *N. aegyptiaca*: fragment of reticulation with cross-ties.

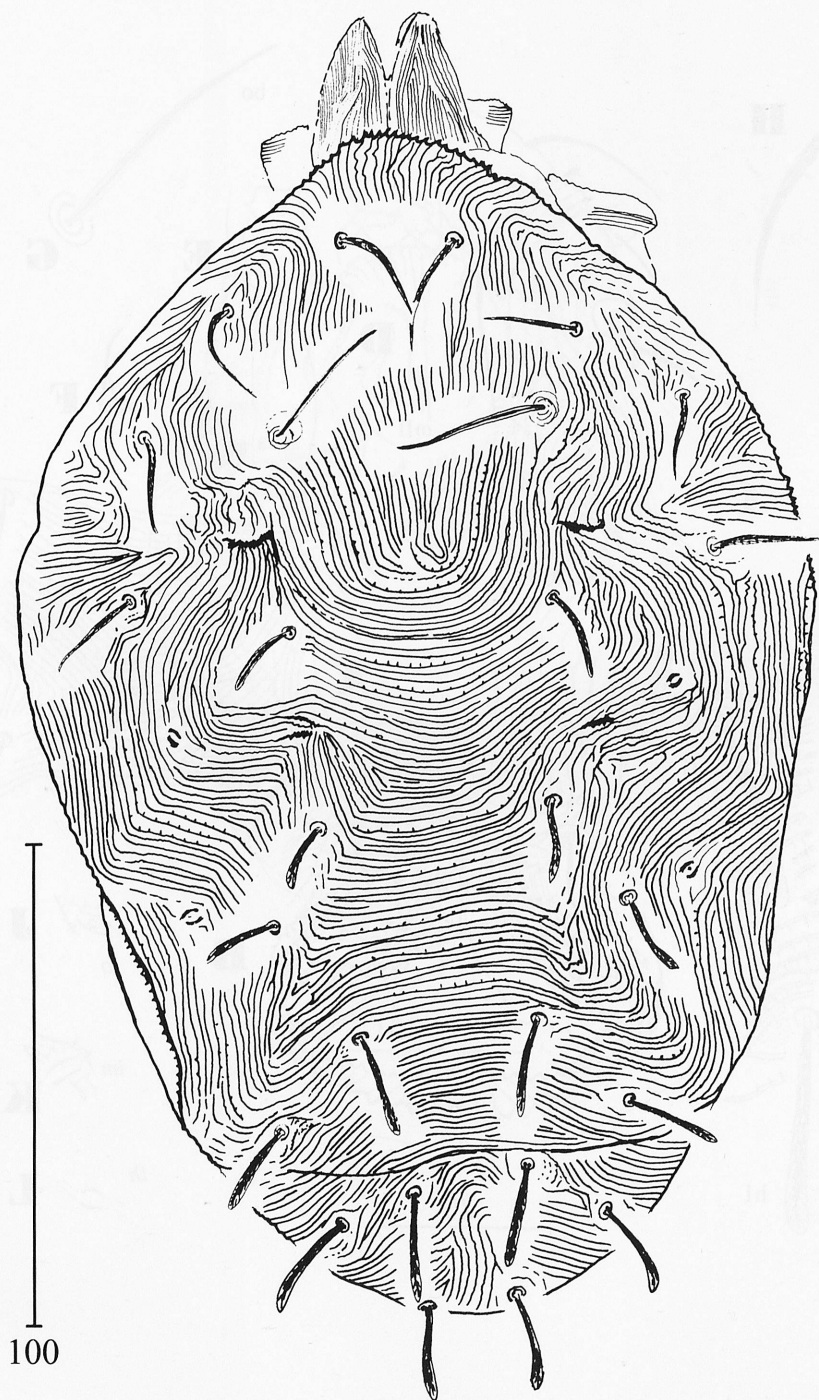


Fig. 79. *Afrotydeus novaezealandiae* sp. n., tritonymph (holotype) – dorsal view.

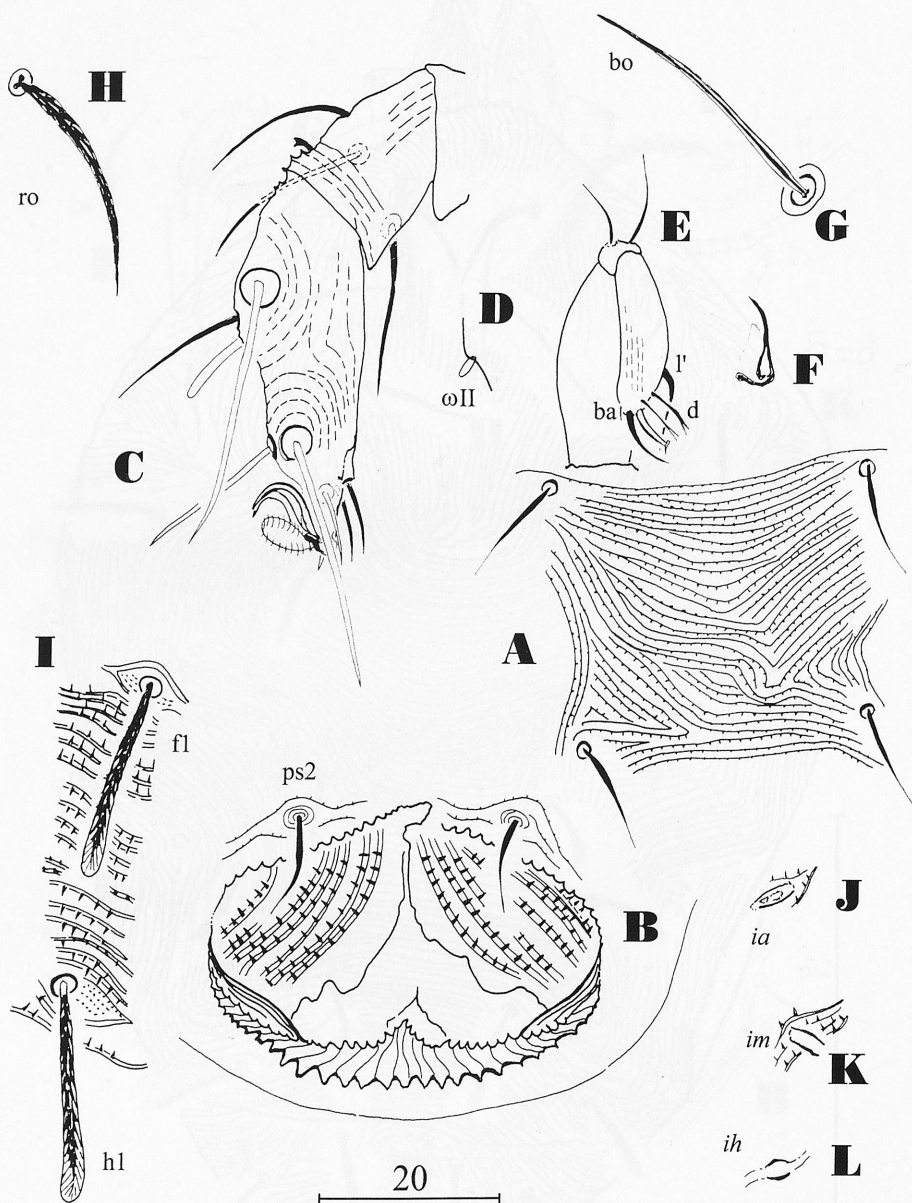


Fig. 80. *Afrotyleus novaezealandiae* sp. n., tritonymph (holotype). A – ventral striae between metasternal setae, B – pseudanal region, C – tibia+tarsus+apotele I (left, adaxial), D – solenidion ωII , E – palp (right), F – cheliceral stiletto, G – bothridial seta bo , H – seta ro , I – setae fl and hl , J, K, L – lyrifissures ia , im , ih .

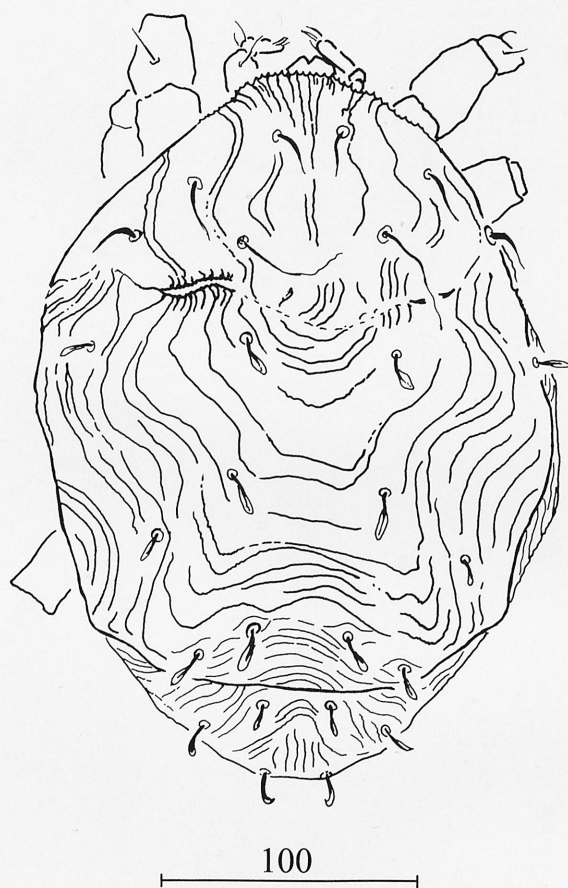


Fig. 81. *Afrotydeus smileyi* sp. n., female (holotype) – dorsal view.

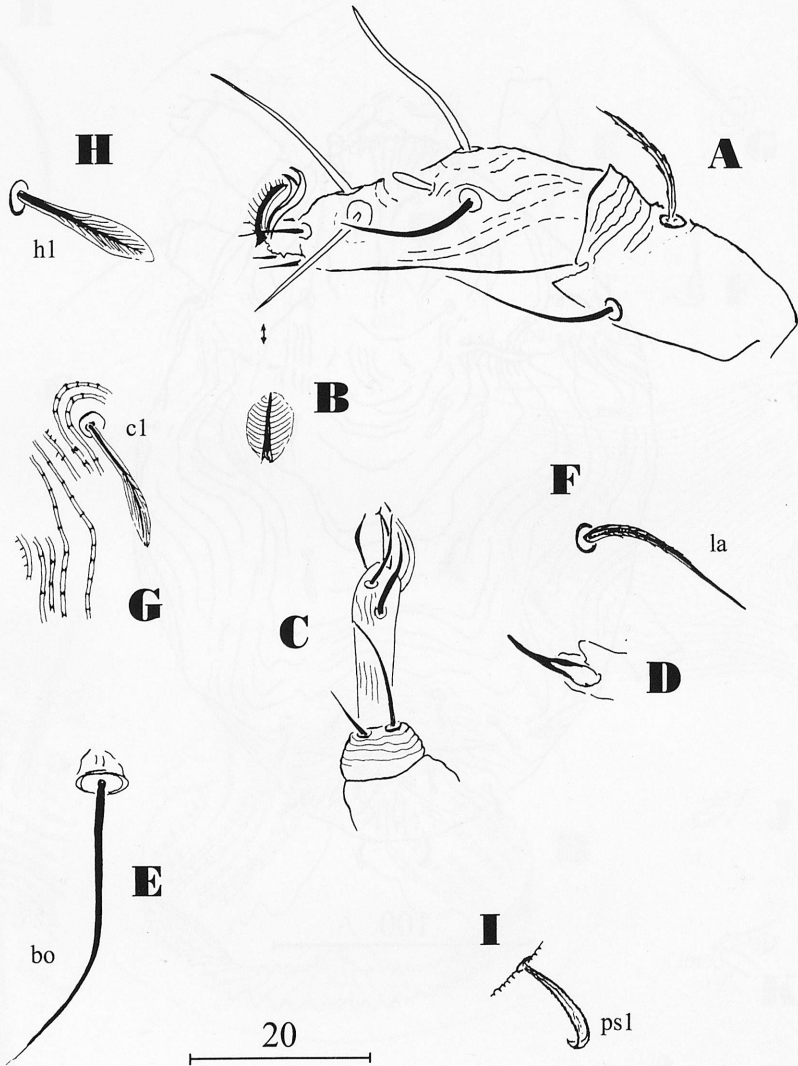


Fig. 82. *Afrotydeus smileyi* sp. n., female (holotype). A – tibia+tarsus+apotele I (right, dorso-paraxial), B – empodium (ventral view), C – palpal tibia and tarsus (left, dorso-paraxial), D – cheliceral stiletto, E – bothridial seta bo, F – seta la, G – dorsal striae and seta cl, H – seta h1, I – seta ps1.

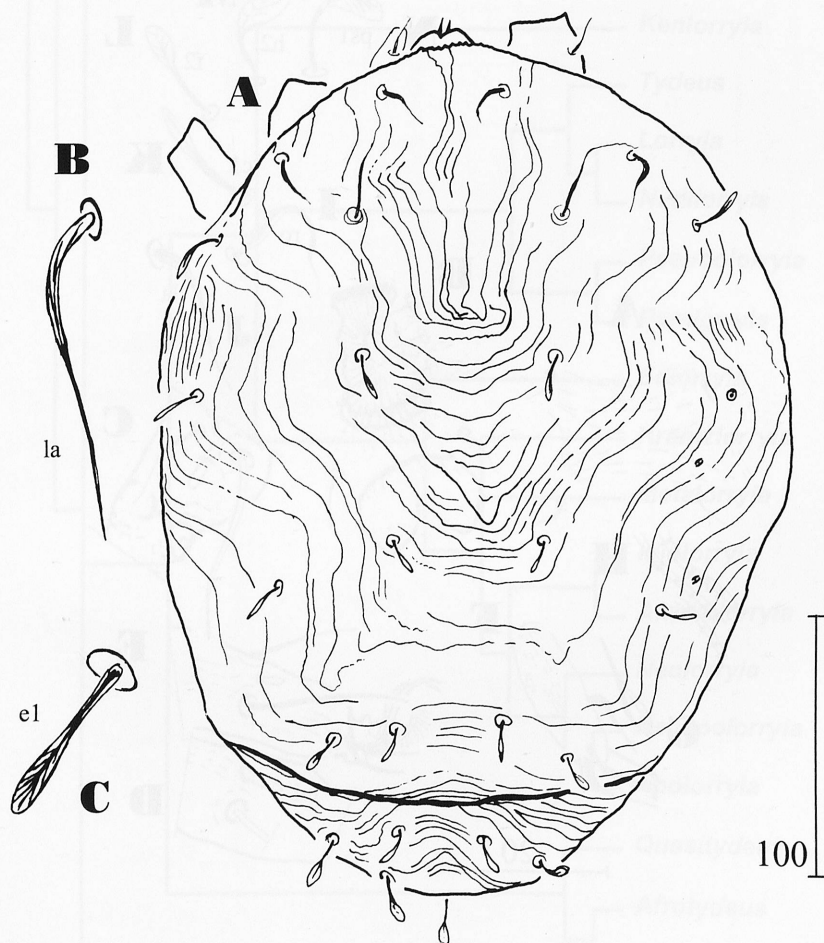


Fig. 83. *Afrottydeus zairensis* sp. n., female (holotype). A - dorsal view of body, B - aspidosomal seta la, C - opisthosomal seta el.



Fig. 84. *Afrotydeus zairensis* sp. n., female (holotype): A, B, D–N and male (paratype): C, A – ventral striae between setae mt, B – genital and pseudanal region, C – tarsus I, fragment with ω I and fastigial setae (right, dorsal), D – tarsus I, fragment with ω I (left, dorsal), E – tarsus+apotele II (left, dorso-adaxial), F – palpal tarsus, G – cheliceral stiletto, H – dorsal striae with rods, I–N – dorsal setae: r0, la, c1, f2, h2, ps1.

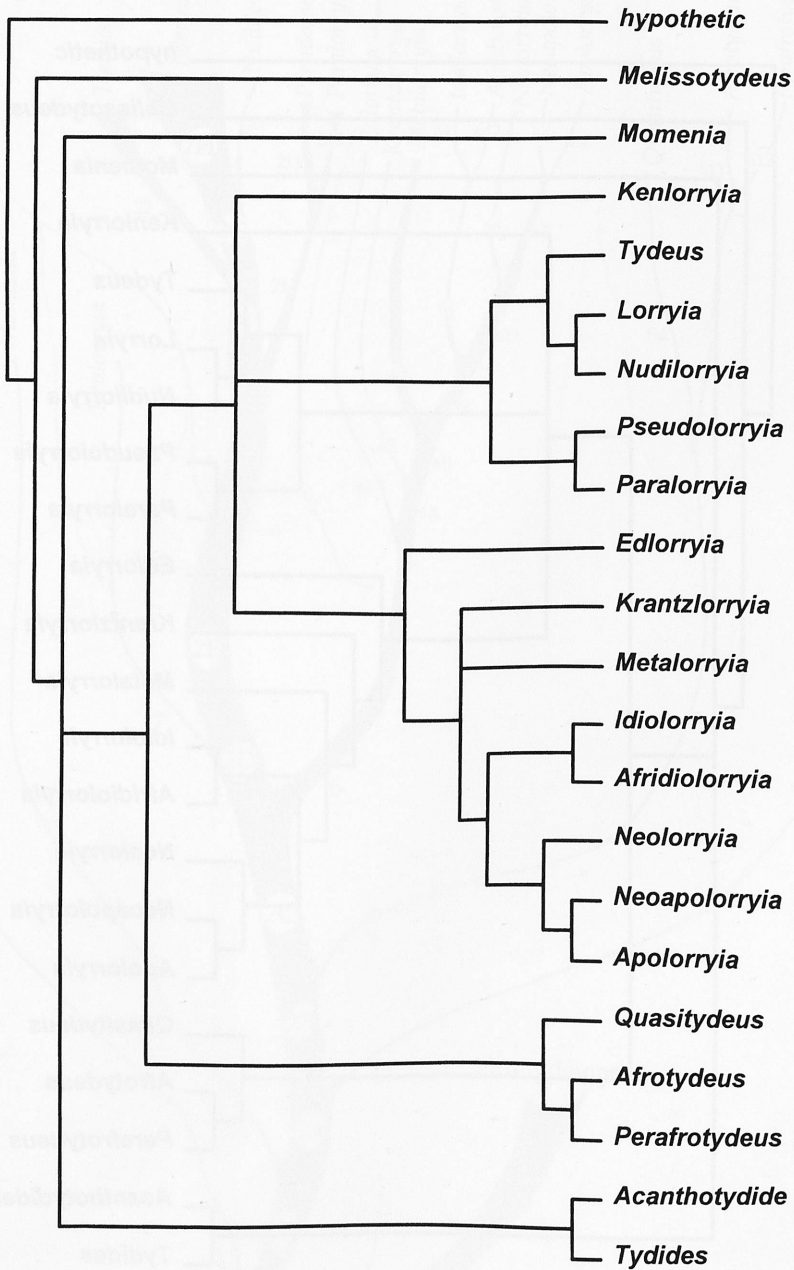


Fig. 85. Phylogenetic analysis of the genera of Tydeinae. The 50%-Majority rule consensus tree (Cladogram).

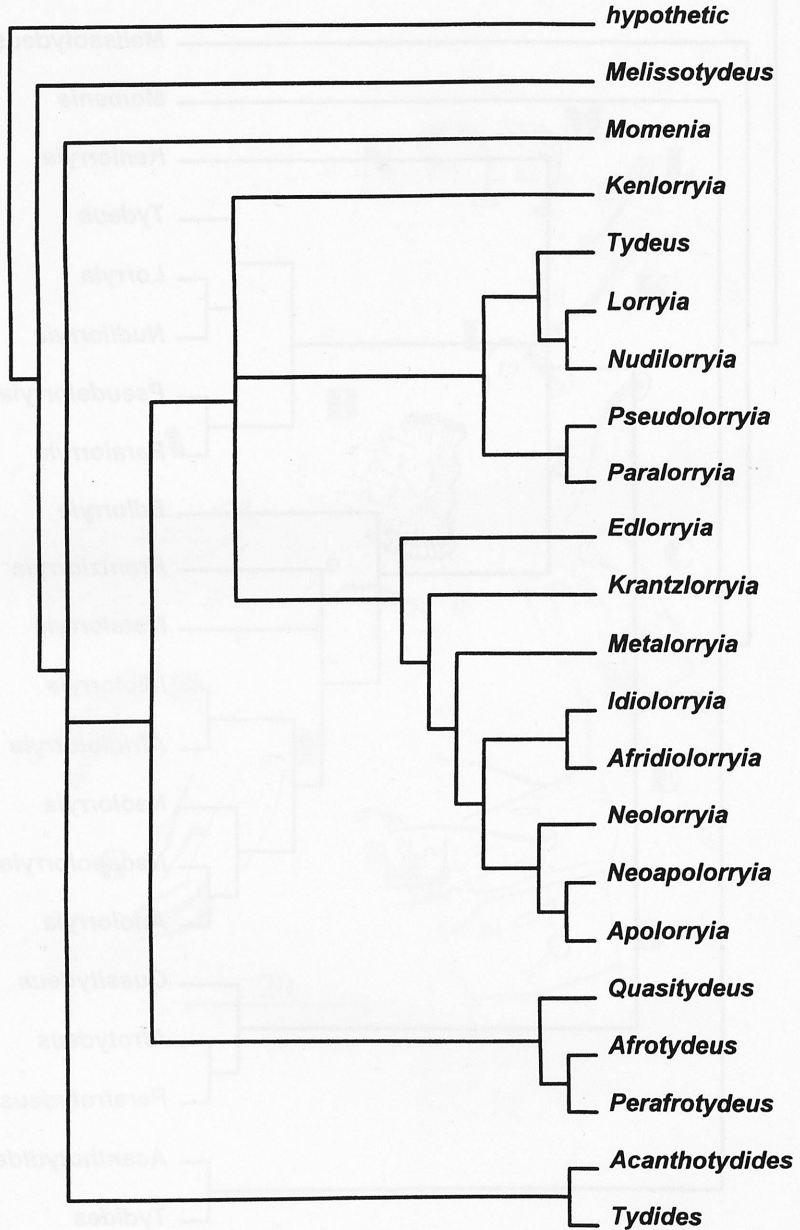


Fig. 86. Phylogenetic analysis of the genera of *Tydeinae*. Phylogenetic tree N° 1 (Cladogram).

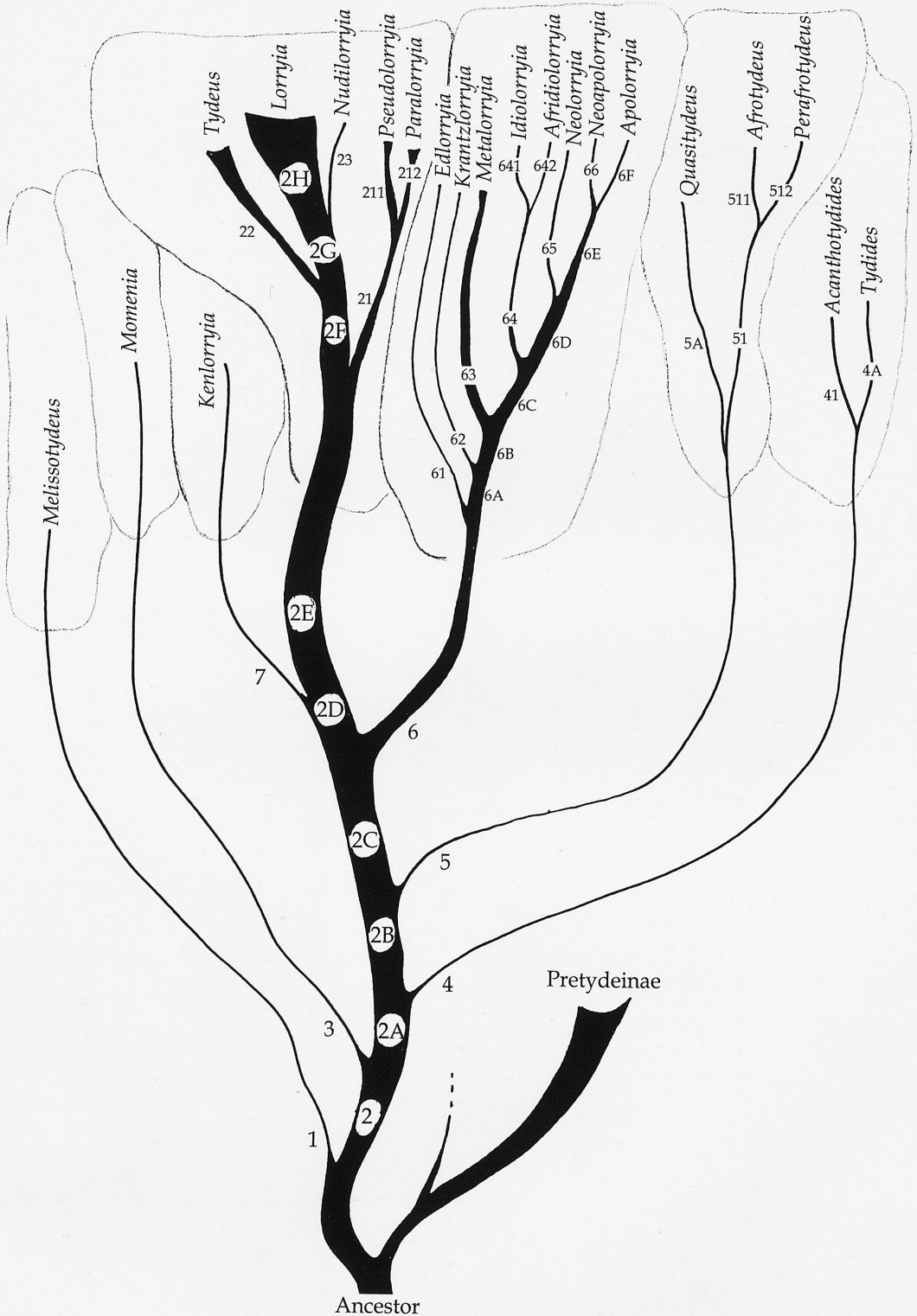


Fig. 87. Phylogenetic analysis of the genera of Tydeinae. A hypothetical phylogenetic tree of the subfamily Tydeinae.

GUIDE TO AUTHORS

General remarks

Acta zoologica cracoviensia publishes original papers dealing with systematics, biology, faunistics, zoogeography, ecology and paleontology of land and fresh-water animals. All papers are accepted on the understanding that they have not been published or submitted for publication elsewhere. Manuscripts are submitted to referees for evaluation. Their editing may sometimes be extensive, but this will be done in communication with the Author.

Authors will receive the first proof only. Eventual changes of text or illustrations should be kept to a minimum.

25 reprints are supplied free of charge. Additional reprints may be ordered at cost, not later than together with the proof.

Manuscripts

Manuscripts in English should be submitted in two copies, typewritten, double-spaced, with at least 4 cm margin on the left side. All underlining and indentation should be avoided. It is welcomed that Authors submit their material stored as WordPerfect or MS Word files on IBM compatible discs together with one printed copy.

The first page should contain: the title of the paper, full Author's name, abstract, key words, repeated author's name and full address (for every coauthor). In papers dealing with lower taxa, the higher ones should be noted in the title [e.g. Nestling food of *Phylloscopus bonelli* (Passeriformes: Sylviidae)]

Longer papers should be divided into several chapters numbered with Roman numerals. Acknowledgements should be gathered under a single heading (acapit) at the end of introduction.

Tables should be typed on separate sheets and numbered with Roman numerals.

Figures (drawings, maps, diagrams etc.) done in black ink, should be submitted as original and one copy (xero), numbered with Arabic numerals [Fig. 1., Fig. 2. ...]; figures, letters and symbols used on illustrations should be drawn so large that they will be at least 1.5 mm high after reduction in print. Photographs must be sharp and contrast; they will be treated also as figures. Every illustration should bear its own number and Author's name. All captions of illustrations should be gathered on a separate sheet (not incorporated in the figure or photograph itself).

Nomenclature. First used binominal Latin names, according to Intern. Code of Zoological Nomenclature, should be used full i.e. together with not abbreviated names of their authors and dates after coma – be careful using brackets) [e.g. *Passer domesticus* (LINNAEUS, 1758) but *Aquila pomarina* BREHM, 1831]. If repeated later on in text the names might be abbreviated [e.g. *P. domesticus*, *A. pomarina*].

Citation in text: VOOUS (1962) or (VOOUS 1962), (DEMENTEV & GLADKOV 1952; BROWN et al. 1988).

References. The list of references must be complete and prepared in the following method:

Journal: [MACARTHUR R. H., MACARTHUR J. W. 1961. On the bird species diversity. *Ecology*, **42**: 594-598.

Book: [VAURIE C. 1959. The birds of the Palearctic fauna. Passeriformes. Witherby, London.

Chapter: [OSBORN J. W. 1978. Morphogenetic gradients: fields versus clones. In: P. M. BUTLER and K. A. JOYSEY (Eds.) – Development, function and evolution of teeth. Academic Press, London-New York-San Francisco. Pp: 171-201.

In the case of papers written in the other than Latin letters, if there is English (or German, or French) title in the summary it may be used:

TOMKOVICH P. S. 1985. Sketch of the Purple Sandpiper (*Calidris maritima*) biology on Franz Josef Land. [In Russian with English summary]. *Ornitologiya*, **20**: 3-17.

If there is not English summary or even title – author's name must be transcribed and title of the paper also transcribed (using anglo-american transcription) or translated into English:

DEMENTEV G. P., GLADKOV N. 1952. Ptitsy Sovetskogo Soyuzu. **2**. or: [The birds of the Soviet Union (in Russian)], **2**.

Manuscripts not conforming to the requirements will be returned for revision.