

A C T A Z O O L O G I C A
C R A C O V I E N S I A

Tom XIX

Kraków, 15. X. 1974

Nr 11

Aleksander RAJSKI and Renata SZUDROWICZ

Oribatei (Acari) from Northern Vietnam. I. Dolicheremaeus bartkei sp. n.

[Pp. 217—236, with 10 text-figs.]

Oribatei (Acari) z północnego Wietnamu. I. Dolicheremaeus bartkei sp.n.

Oribatei (Acari) из северного Вьетнама. I. Dolicheremaeus bartkei sp.n.

Abstract. A new moss-mite species, *Dolicheremaeus bartkei* sp. n. (*Acari, Oribatei*), from Northern Vietnam is described, its systematic position discussed, and AOKI's key to the genus *Dolicheremaeus* JACOT complemented.

In 1962 Dr W. MICHERDZIŃSKI delivered a collection of moss-mites made by Dr A. BARTKE in Northern Vietnam to one of the authors of this paper. In addition to some widely distributed species, this collection contains also several forms unknown hitherto. One of them, named after its collector, is described below.

Here we wish to express our thanks to Dr W. Micherdziński for the delivery of the material and to Prof. J. BALOGH (Budapest) and Dr S. MAHUNKA (Budapest) for help during its elaboration.

Dolicheremaeus bartkei sp. n. *

Material: Two specimens collected by A. BARTKE from soil at Cha-Pa in Northern Vietnam in the period from 7 Nov. 1960 to 25 Apr. 1961. These specimens are kept in the collection of moss-mites (*Acari, Oribatei*) of the Poznań

* All the symbols and morphological terms have been adopted after GRANDJEAN (1940) and AOKI (1965).

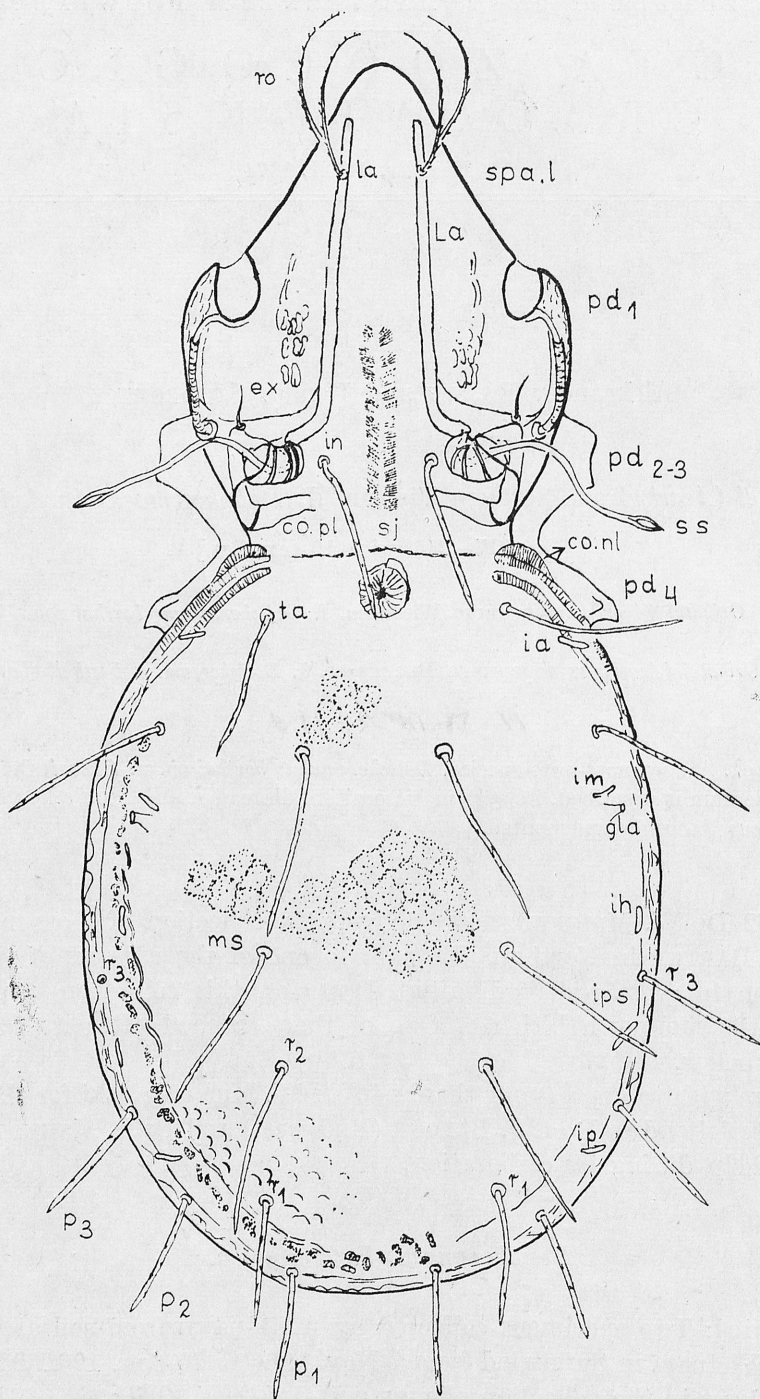


Fig. 1. Dorsal aspect of *D. bartkei* sp. n. Del. R. SZUDROWICZ

Branch of the Institute of Zoology, Polish Academy of Sciences, in the custody of the first author.

Dimensions: holotype $879 \times 441 \mu$, paratype $915 \times 460 \mu$, L:W = 1.99.

Prodorsum. The setae *la* and *ro*, with scarcely barbed external margins and fairly strongly bent mediad, are nearly the same length. The ends of the setae *la* are much nearer each other than those of the setae *ro* (Fig. 1). The lamellae (*La*), seen from above, are straight and convergent by about 25 per cent over the distance from the point at which they become parallel to the bases of the setae *la*. The surface of the prodorsum between the la-

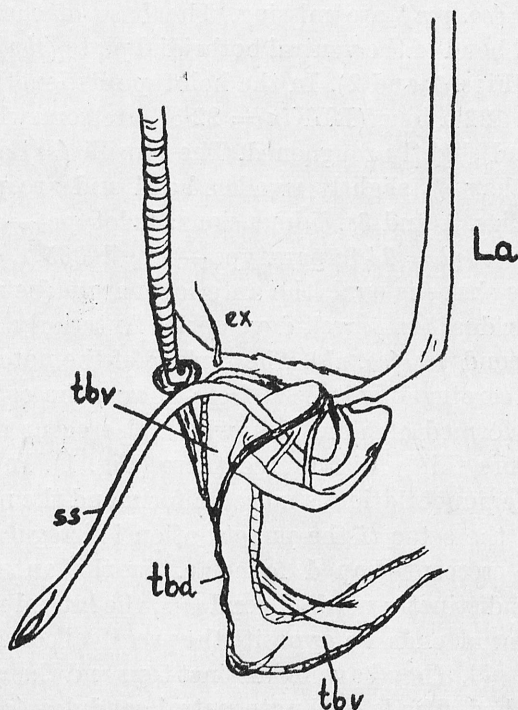


Fig. 2. Bothridium region of *D. bartkei* sp. n. Del. R. SZUDROWICZ

mellae is minutely punctulated. A typical structure, having the shape of an elongate rectangle ($115 \times 23 \mu$ in holotype), occurs between the proximal ends of the lamellae and between the bases of the setae *in*. It is composed of a fine dense punctulation, which shows a characteristic arrangement (Fig. 1). Another fairly conspicuous and irregular structure, consisting of more or less arcuate lines and foveolae is present in the portion of the prodorsum situated externally to the lamellae and sloping down towards the bases of the 1st pair of legs (Fig. 1). This structure is more distinct in the paratype. Otherwise the prodorsum is more or less smooth. The lateral lamelliform expansions (*spa. l*) are well developed. Seen from above, they are light yellow and have their external margins slightly concave (nearly straight — Fig. 1). In the lateral view, they are broadest in the proximal portion and become narrower and narrower towards the bases

of the setae *ro* (Fig. 3). The bothridia open anterolaterally. Their openings lie in the anterolateral corner of the ventral bothridial plates (*tbv*), which surround them from above, from the outside, and from the rear (Fig. 2). Both corners of the ventral bothridial plate are distinct though rounded. The dorsal bothridial plate (*tbd*) forms a sort of extension of the proximal end of the lamella (*La*), it partly covers the opening of the bothridium and runs in the proximal direction to end above the proximo-external corner of the ventral bothridial plate (Fig. 2). The lateral prodorsal condyle (*co. pl*), with an oval top, is placed where the proximal corners of the ventral and dorsal bothridial plates overlap. The medial prodorsal condyles (*co. pm*) are missing. The base of the seta *ex* is situated distally to the distal bend of the ventral bothridial plate (*tbv*) and anterolaterally to the bothridium (Figs. 1 and 2). In the holotype its length is $64\ \mu$ ($RLN_{ex} = 11.7$). The setae *in*, $122\ \mu$ long ($RLN_{in} = 22.3$), are somewhat thicker than the notogastral setae and slightly roughened. The sensilli (*ss*) are somewhat longer than the setae *in*, have a slightly swollen head and are pointed (Fig. 1).

Notogaster (Figs. 1 and 3). Dimensions: holotype — length $547\ \mu$, *co. nl* distance $133\ \mu$, $RLN_{co. nl} = 24.3$; paratype — length $565\ \mu$, *co. nl* distance $133\ \mu$, $RLN_{co. nl} = 23$. Its shape is oval, the anterior margin (between *co. nl*) straight and the marginal ridge (*vm*) well-developed. Anteriorly it is joined to the lateral notogastral condyles (*co. nl*). The surface of the notogaster is all covered with characteristic cerotegument. Seen from above, the cerotegument presents itself as a network formed of punctules, which also occur in the meshes of the network but are more thinly distributed there (Fig. 1). In the central portion of the notogaster the punctulation is more uniform and the network less distinct. Above the bases of the setae *ti* the punctulation is irregular and at the flanks of body there are crescent-shaped foveolae. In the anterior portion of the notogaster there are distinctly marked condyles, the lateral notogastral condyles (*co. nl*), whose internal ends lie opposite the proximal corners of the lateral prodorsal condyles (*co. pl*). They have no distinct tops and their external edges are nearly regularly arched. The lateral notogastral condyles (*co. nl*) end somewhat above the line joining the bases of the setae *ta* (Fig. 1). Right below the sejugal suture (*sj*), in the long axis of body, there is a round depression (?), externally limited by a slightly described double line and somewhat darker in the middle (Fig. 1). No known species of the genus *Dolicheremaeus* JACOT have such a structure. The arrangement of the fissures *ia*, *im*, *ih*, *ips* and *ip* (Fig. 1) is similar to that in *D. oginoi* AOKI. Below the fissure *im* is the mounth of the gland (*gla*). It is placed decidedly nearer the base of the seta *ti* than *ms*. There are 10 pairs of well-developed setae on the notogaster (Tables 1 and 2, Fig. 1). All of them have an intermediate shape between a thorn-like seta (blunt at the tip) and a bristle-like one (pointed) (AOKI, 1965) and are slightly roughened.

Anogenital region. The surface of the ventral plate is covered with cerotegument in the form of minute punctulation. As on the notogaster, the punctulation forms a fine network. On the flanks (Fig. 4) there is a structure composed of irregularly disposed arches, with their horns pointing to the outside.

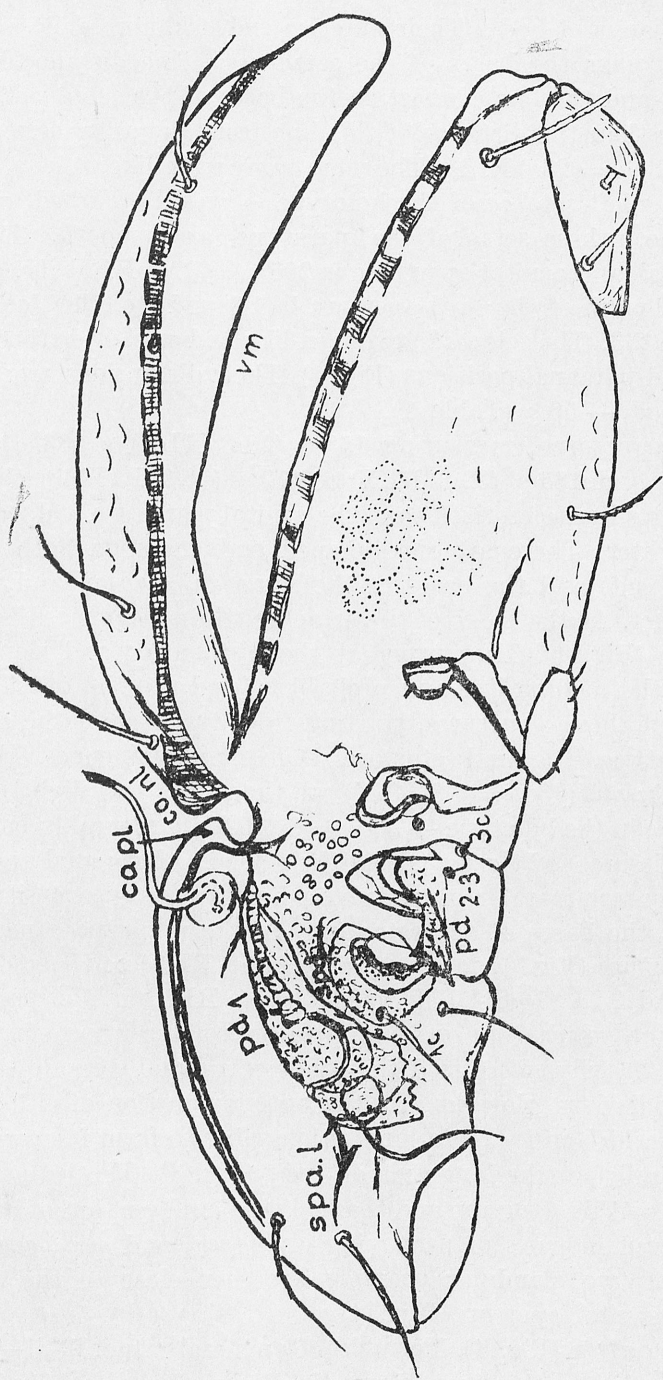


Fig. 3. Lateral view of *D. bartkei* sp. n. Del. R. SZUDROWICZ

In the anterolateral portion of the ventral plate there occur very long fissures (*ag?*), their subtense being about $63\ \mu = 11.5\ \text{RLN}$ in length; they run nearly parallel to the flanks of body. Their anterior end lies more or less at the level of the line that joins the bases of the setae *gen*₂. The distance between the genital aperture and the line connecting the bases of the setae *ag* ($95\ \mu = 17.3\ \text{RLN}$) is shorter than the distance of this line from the anterior margin of the anal aperture ($126\ \mu = 23.0\ \text{RLN}$). The setae *ag* are whip-like with a flagelliform tip (Fig. 4). The left seta *ag* of the holotype is weakly barbed, whereas the right one and both these setae of the paratype are smooth. The distance between the anal and genital apertures is $205\ \mu = 37.4\ \text{RLN}$. The ratio of this distance to the length of the anal aperture is 1.3 and to the length of the genital aperture 2.3. The setae *ad* are thorn-like and weakly barbed and lie in the marginal and paraanal positions (Fig. 4). Their dimensions are: *ad*₁ — $65\ \mu$, *ad*₂ — $53\ \mu$ and *ad*₃ — $50\ \mu$ (Table 1).

The anal aperture, measuring $158\ \mu (28.8\ \text{RLN}) \times 133\ \mu (24.3\ \text{RLN})$ in the holotype and $183\ \mu (32.3\ \text{RLN}) \times 152\ \mu (26.9\ \text{RLN})$ in the paratype, has the anal plates less sclerotized than the genital plates are and, consequently, considerably lighter. There are sickle-shaped eminences on both anal plates. Their proximal ends and the bases of the setae *an*₂ overlap and, as a result, they are indistinct. At the bases of the setae *an*₁ these eminences bend towards the median line (Fig. 4). They taper at the distal ends and slope relatively gently towards the median line and probably steeply to the outside. Only the distal portions of these structures, starting from the base of the seta *an*₁, are seen in the paratype. The anal setae are set in these eminences. They differ in shape and length: *an*₂ ($43\ \mu = 7.8\ \text{RLN}$) are thorn-like and slightly roughened, *an*₁ (the right one in the holotype — $53\ \mu = 9.6\ \text{RLN}$) are weakly barbed bristle-like setae. The fissures *iad* closely adjoin the margins of the anal aperture in the vicinity of its anterolateral region. In the holotype they are situated above the line joining the bases of the setae *an*₂, in the paratype somewhat lower. The genital aperture (Fig. 4) measures $88\ \mu (16.0\ \text{RLN}) \times 76\ \mu (13.9\ \text{RLN})$ in the holotype and $95\ \mu (16.8\ \text{RLN}) \times 83\ \mu (14.6\ \text{RLN})$ in the paratype. It is widest in the line which connects the two anterolateral corners. The genital plates are more heavily sclerotized than the ventral and genital plates, which is indicated by its darker coloration. In the anterior portion of either anal plate there is a swell, which in its posterior portion splits to form furrows and ridges, more or less parallel to the long axis of body (Fig. 4). The bases of the setae *gen*₃ and *gen*₄ lie on this structure and the setae *gen*₁ and *gen*₂ out of it. The genital setae are arranged in pairs of near-lying ones (*gen*₁ and *gen*₂; *gen*₃ and *gen*₄). The openings of two glandular channels are seen close to the anterolateral corners of the genital aperture (Fig. 4).

Epimeral region (Fig. 4). Formula of epimeral setae: 3—1—3—3. These setae are all whip like with a flagelliform tip. The medial setae (*1a*, *2a*, *3a* and *4b*) are much shorter than the other ones. The setae *1c* and *3c* are weakly barbed and have a characteristic shape: they run from the base outwards and in their

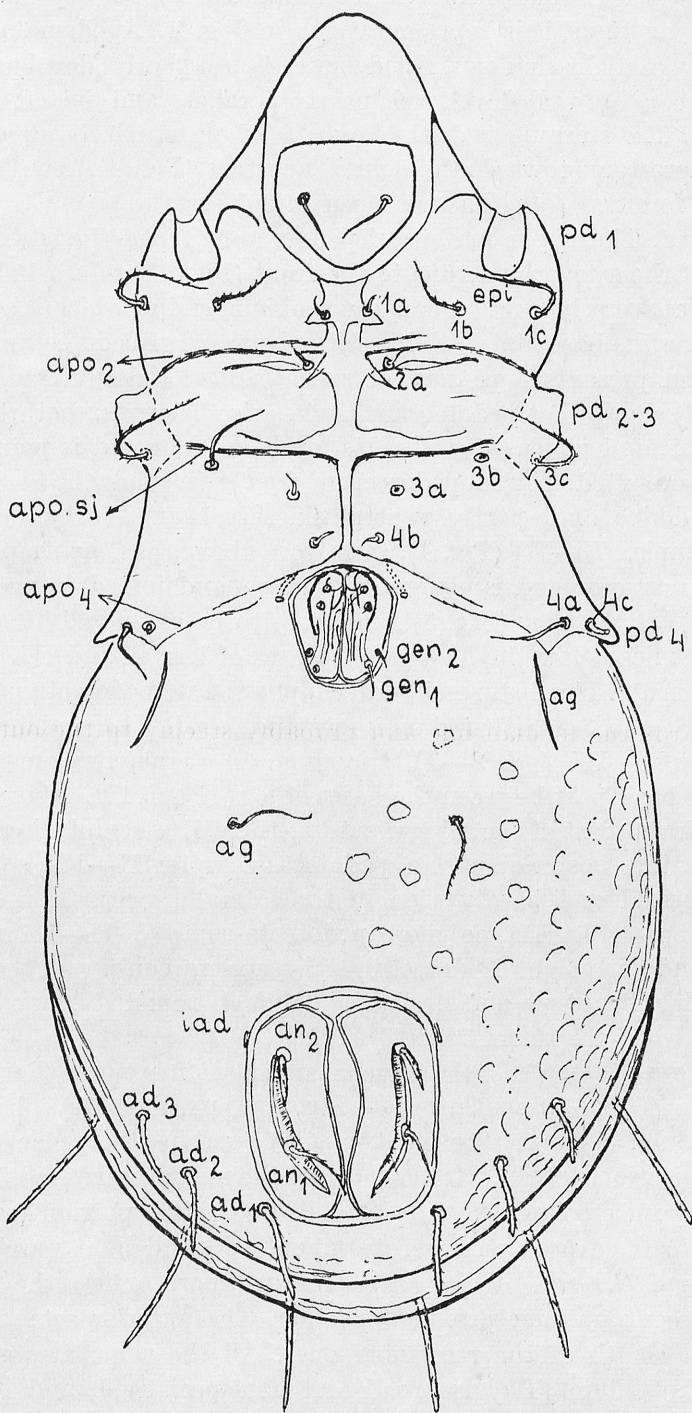


Fig. 4. Ventral aspect of *D. bartkei* sp. n. Del. R. SZUDROWICZ

further course swing rapidly inwards. The setae *1b*, *1c*, *3b*, *3c*, *4a* and *4c* are somewhat longer than their representations in Fig. 4. Apodemata 3 (*apo.* 3) are seen only as light shadows. Apodemata 4 are poorly developed, whereas *apo.* 2 and *apo. sj* are well developed, nearly parallel, and joined to the sternum (Fig. 4). The sternum is distinct over its whole length. It narrows, starting from the camerostome towards the genital aperture (Fig. 4). The existence of the epimeral foramen (*fep*) has not been found certain.

Pedotecta. The upper margin of pedotectum I (*pd.* 1) begins externally to the base of the seta *ex* and runs to the front (Figs. 1 and 2). It has the form of a lightly transversely striated bar, the proximal end of which is set in a structure resembling the base of a seta. The lateral surface of pedotectum I (Fig. 1) is sculptured and presents a pattern of arcuate lines and foveolae. The lateral aspect (Fig. 3) shows that pedotectum I takes rise below the bothridium, where it is narrowest, and widens distally. Its lower anterior end is pointed and the lower margin crenated. The subpedotectum (*spd*) surrounds the base of leg II on the frontal, dorsal and, partly ventral side. It bears the epimeral seta *1c*. Pedotecta-complex II—III (Fig. 1), seen from above, has the shape of a trapezium, whose posterior end is elongated towards and joined to pedotectum IV (*pd.* 4). In its lateral view (Fig. 3) it appears to be composed of several parts. The basic part lies below the level of the bases of legs II and III. Its shape is, in general, elongate. The distal end borders upon the subpedotectum and the base of the epimeral seta *3c* is situated on its proximal end. The second part of pedotecta-complex II—III (*pd.* 2—3), triangular in shape, lies on the proximal portion of the basic part between the bases of legs II and III. Above it, further towards the dorsal part of the sejugal suture, there is a sculpturing in the form of round pits. The posterior part of pedotecta-complex II—III, situated in the weakly sclerotized and hardly seen in the lateral aspect. Seen from above, region of the base of leg III, is more pedotecta-complex II—III is somewhat transparent and fairly light. Pedotectum IV seems to consist of two, superimposed on each other, tops and its distinct though rounded apex is oriented posterolaterally (Figs. 1 and 2).

Gnathosoma (Fig. 5). The labio-genal articulation between the mentum (*H*) and the genae (*G*) (= praementum — *Pm*, SHALDYBINA, 1967) has the shape of a straight line; however, the mentum (*H*) overlaps the genae (*G*) with its small oval projections laterally to the bases of the medial setae (*m*). The mentum is more weakly sclerotized than the genae. Its middle portion (at the height of the setae *h*) is covered with cerotegument of small light patches (Fig. 6). The hypostomal (*h*) and medial (*m*) setae are more or less the same length and strongly bent in their proximal portion. The anterior setae (*a*) are less than half the length of the remaining ones. All the setae are glabrous and pointed. The rutellum (*Ru*) is broad and non-specialized, and its edges are heavily sclerotized. Characteristic structures (*re?*) are visible at its base on the external margins. A poorly visible paired structure, probably the lacinia (*LC*), occurs between the inner margins of the opposite parts of the paired rutellum

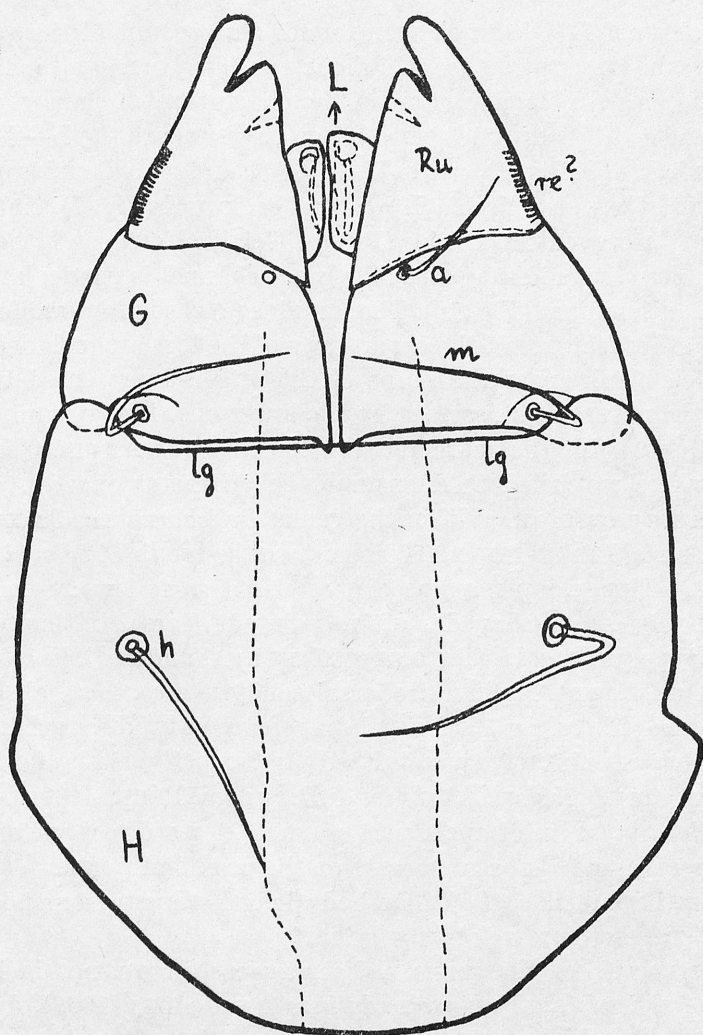


Fig. 5. Gnathosoma of *D. bartkei* sp. n., holotype, 537, 6 \times , del. A. RAJSKI

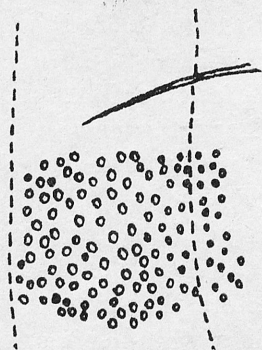


Fig. 6. *D. bartkei* sp. n. Foveolate structure of the central part of mentum in the paratype.
Del. A. RAJSKI

(*Ru*). The labrum (*LS*) has not been found. On account of the small number of specimens the description of the chelicerae has been omitted.

Legs. The measurable characters of the chaetotaxy of the legs are included in Tables 3 and 4. The ultimate setae (*u*) on the tarsi are the L—S—S—? type. The solenidia ω_1 I, ω_2 I (Fig. 7), ω_1 I, ω_1 II (Fig. 8) lean forward and are blunt at the tip. ω_2 I thicker at the base than ω_1 I. φ_2 I bent backward (Fig. 7). The solenidium σ III in atypical lateroventral position (Fig. 9). The seta *li* on genu I, though slightly rough, resembles a solenidium (σ_2 ?). The inner channel is particularly well seen, as in a typical solenidium (Fig. 10). The famulus (ε) is slightly swollen at the end (Fig. 7). The other features of the chaetotaxy of the legs are included in Tables 5 and 6. In each blank space the shape of the seta is represented by the upper symbol and the nature of its surface by the lower one. If two symbols are given (e.g. Table 5, setae *ft*I), the character is intermediate in nature. Question marks are placed where we failed to determine the character exactly.

Systematic position. Within the genus *Dolicheremaeus* JACOT, *D. bartkei* n. sp. and *D. perisi* PÉREZ-INIGO, 1969 belong to the group *D. baloghi* (AOKI, 1967, pp. 350—351). This group may be characterized as follows: Sensillus swollen at tip (probably spoon-shaped), often pointed. Tarsal ultimate setae (*u*) L—S—S—S type (in *D. aokii* (BALOGH et MAHUNKA) and in *D. lineolatus* BALOGH et MAHUNKA unknown). Median prodorsal condylus (*co. pm*) absent. Median notogastral condyle (*co. nm*) either absent or poorly developed. Surface of notogaster always minutely punctulated and mostly with fairly large foveolae (except for *D. baloghi* AOKI and *D. perisi* PÉREZ-INIGO). Fissure *iad* always parallel to margin of anal aperture and in its direct vicinity. More or less distinct rectangular structure occurs on the proximal portion of the prodorsum, between the lamellae (*La*). The body length ranges from 560 to 915 μ ; these forms are therefore relatively large.

The other species of the genus *Dolicheremaeus* JACOT, not included in the monograph of the subfamily *Tetracondylinae* AOKI (AOKI, 1967), do not belong to the group *D. baloghi*, because, not to mention other characters, they all have a distinct median prodorsal condyles (*co. pm*). Here we are concerned with 13 species: *D. rubripedes* JACOT, 1938, *D. subsimilis* BALOGH, 1968, *D. elongatus* BALOGH, 1968, *D. szentivanyi* BALOGH, 1968, *D. kummeri* BALOGH, 1970, *D. markusi* BALOGH, 1970, *D. furcula* BALOGH, 1970, *D. ceylonicus* BALOGH, 1970, *D. lineatus* BALOGH, 1970, *D. elisabethae* BALOGH, 1970, *D. pectinatus* BALOGH, 1970, *D. fijiensis* HAMMER, 1971 and *D. montanus* KRIVOLUTSKII, 1971. *D. nimbus* KARPPINEN, 1966 is not sufficiently well described, but its large measurements (930—1124 μ) indicate that probably it is none of the species we are interested in here. Similarly, the description of *D. amazonicus* BALOGH et MAHUNKA, 1969 is not sufficiently full. However, the details of the notogastral chaetotaxy (9 pairs of setae, of which the setae *ta* are the shortest and blunt and the other ones with their end portions bent in a whip-like manner) exclude the possibility of erroneous identification.

D. bartkei sp. n. is distinguished by the following set of characters: Rectangu-

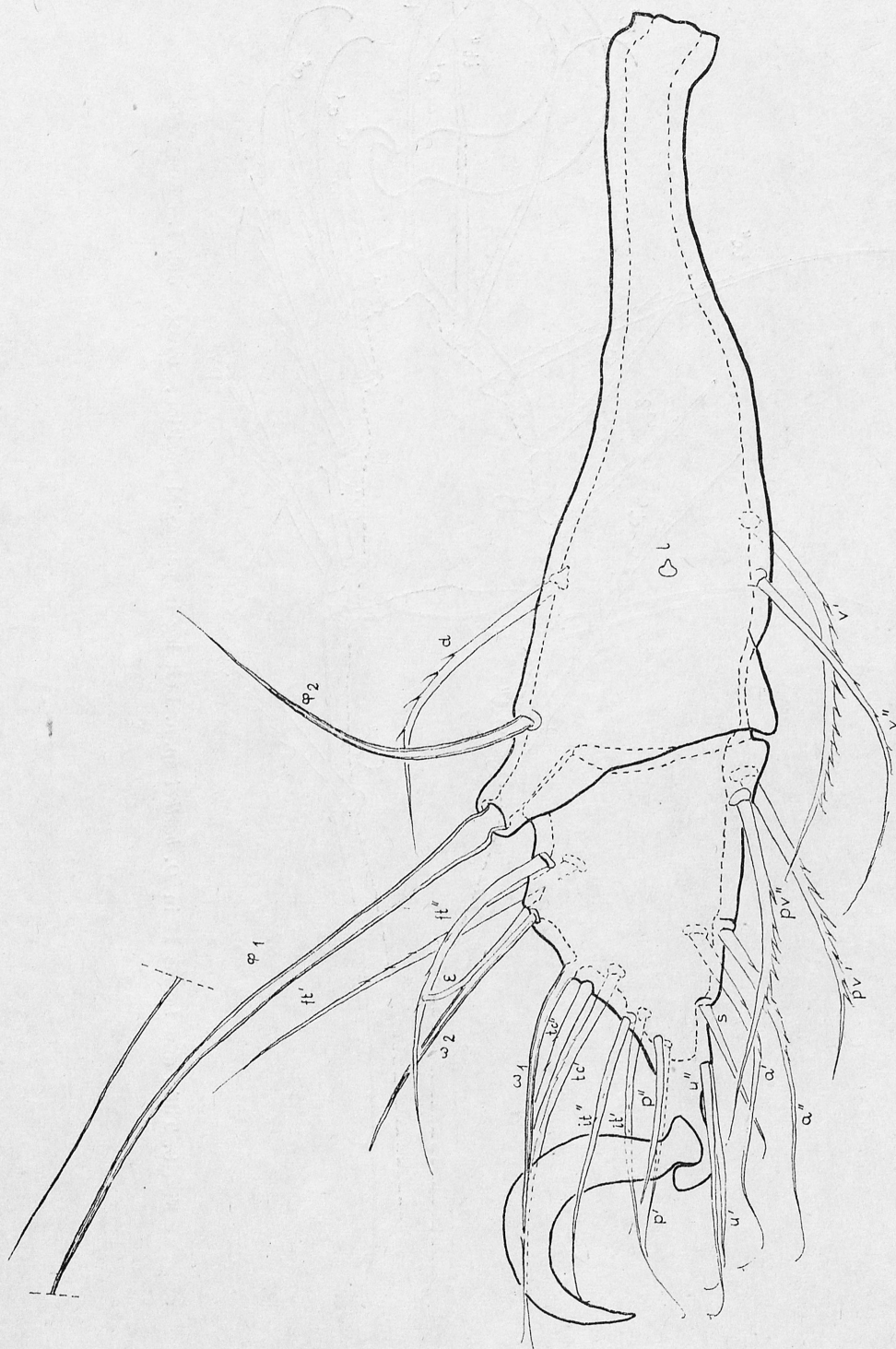


Fig. 7. Tibia and tarsus I in *D. bartkei* sp. n. Left leg in antiaxial position, 670×, del. I. STASZEWSKA

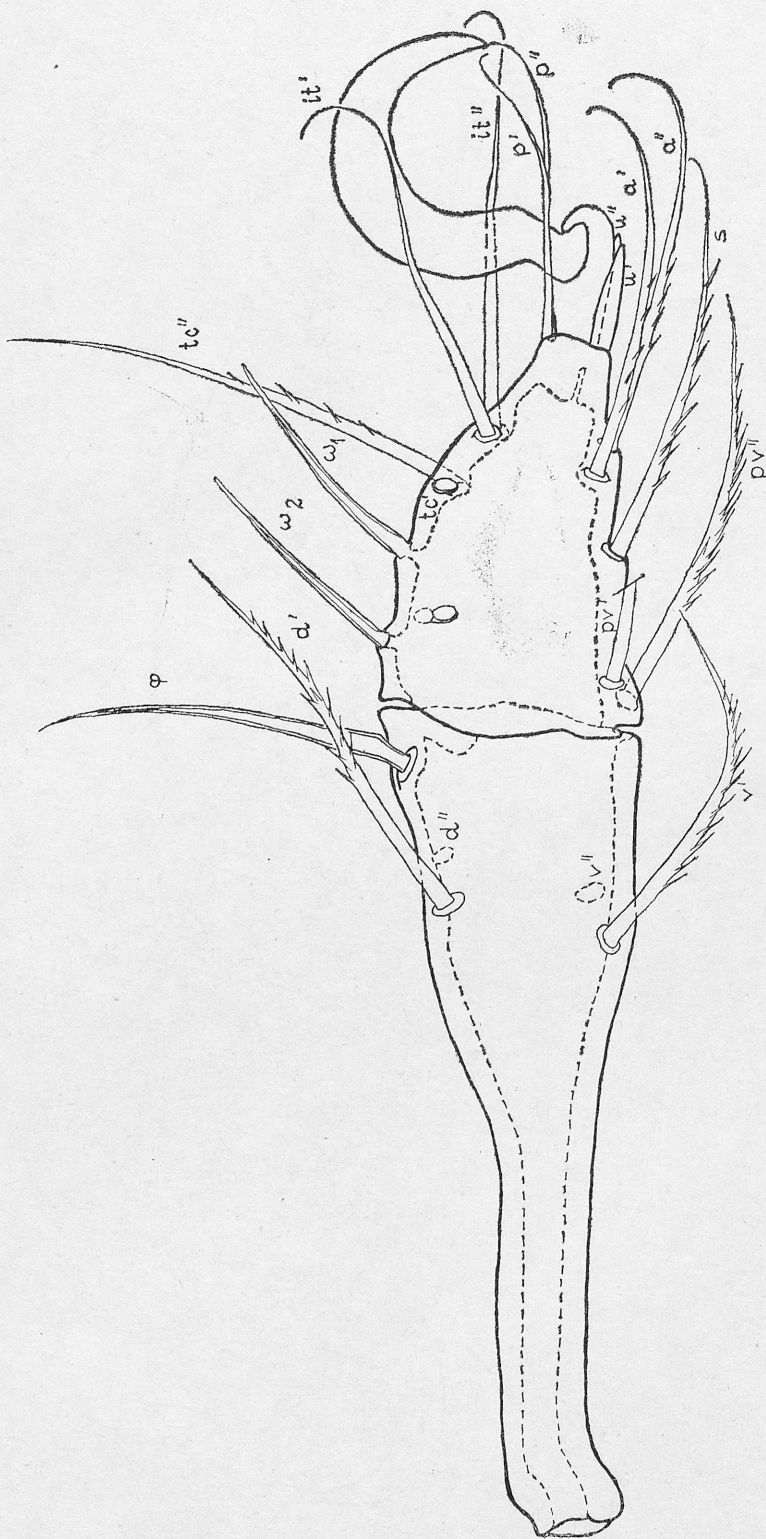


Fig. 8. Tibia and tarsus II in *D. bartkei* sp. n. Left leg in paraaxial position, 670 \times , del. I. STASZEWSKA

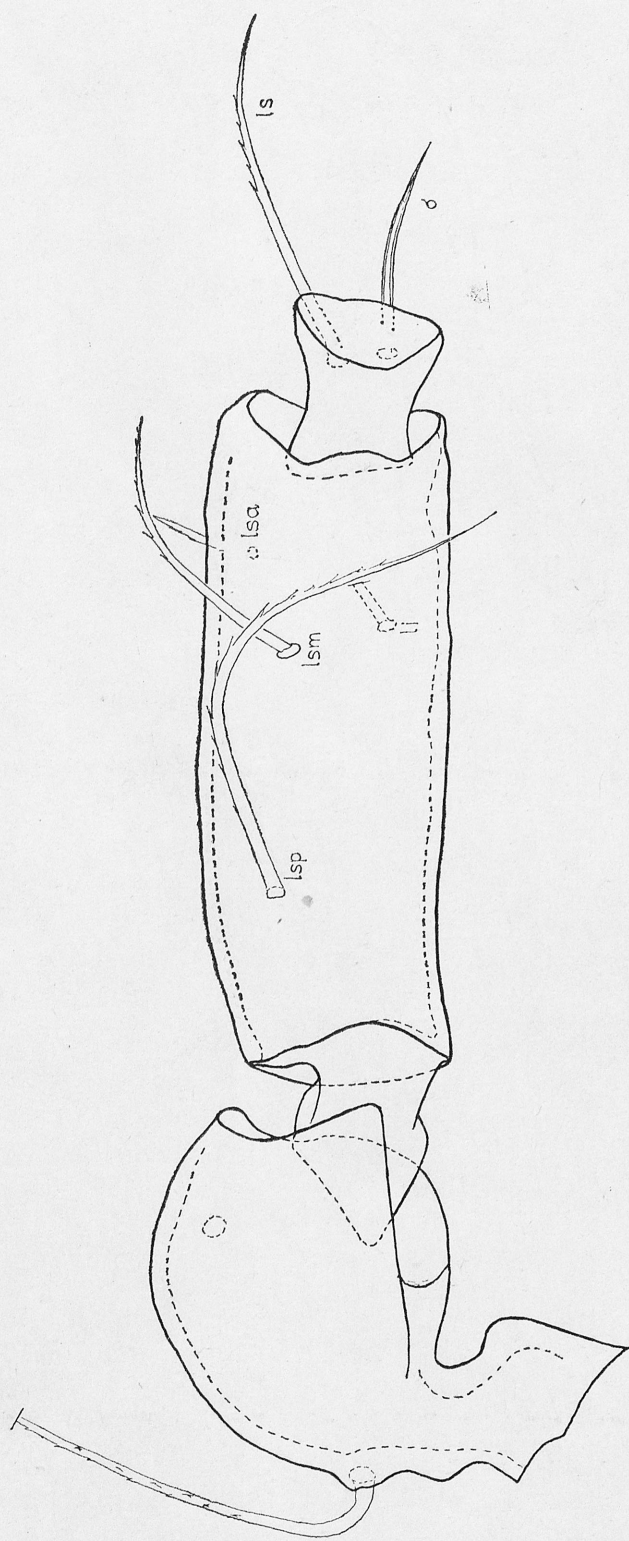


Fig. 9. Trochanter, femur and genu III in *D. bartkei* sp. n. Left leg in antiaxial position, 670 \times , del. I. STASZEWSKA

lar structure between *La* on prodorsum long and distinct. *La* slightly convergent and straight. Lateral notogastral condyles distinct, broad and low. Characteristic round structure in median line on anterior portion of notogaster not observed in other members of *Dolicheremaeus* JACOT. Sternum relatively conspicuous throughout all its length (from camerostome to genital aperture). Very long and distinct fissure (*ag?*) below and medially to bases of setae *4a*. Genital plates with conspicuous linear structure. Two distinct types of anal setae: *an*₁ thin and hair-like, *an*₂ thicker and thorn-like. Bases of setae *ad*₃ more or less on line halving anal aperture transversely. Characteristic sickle-shaped structures on anal plates. Setae *int* similar to notogastral ones and not to *ro* and *la*. Distances between bases of notogastral setae characteristic (Table 1).

In the light of the foregoing AOKI's key (1967, p. 303) should be completed as follows:

3. Sensillus nearly bacilliform or filiform, without swollen head 4
- Sensillus spindle-shaped, spoon-shaped, or with fusiform head, partly swollen either at tip or in mid-portion 10a
- 10a. Thirteen pairs of notogastral setae (additional pairs of setae: *tex*, *msx*, *rx*)
D. perisi PÉREZ-ÍÑIGO, 1969
- Ten pairs of notogastral setae 10
10. Median notogastral condyles (*co. nm*) absent 11
- Median notogastral condyles (*co. nm*) present 13
11. Genital plates striated; seta *ms* inserted nearly on line joining *ti* and *r*₂ 12
- Genital plates not striated; seta *ms* inserted far outside line joining *ti* and *r*₂
D. oginoi (AOKI, 1965)*
12. *Co. nm* absent; notogaster shorter ($0.56 \times$ as long as body length)
D. aokii (BALOGH et MAHUNKA, 1965)
- *Co. nm* absent; notogaster longer; $0.62 \times$ as long as body length (characteristic depression in median line by anterior margin of notogaster, Fig. 1)
D. bartkei sp. n.
- *Co. nm* present; notogaster longer ($0.62 \times$ as long as body length)
D. lineolatus BALOGH et MAHUNKA, 1965
13. Notogastral seta *te* equally remote from *ta* and *ms*
D. baloghi AOKI, 1967

Institute of Applied Biology of Animals
Agricultural Academy, Szczecin
Poznań Branch of the Institute of Zoology of the
Polish Academy of Sciences

* The description of *D. eudensis* HAMMER, 1973, I got so late that it could not be put into the key (HAMMER, Biol. Skr., København, 20 (3) : 24—25, pl. VIII—IX).

REFERENCES

- AOKI J. 1965. A preliminary revision of the family *Otocepheidae* (*Acari*, *Cryptostigmata*). I. Subfamily *Otocepheinae*. Bull. nat. Sci. Mus., Tokyo, **8**: 259—341, 146 ff., 14 tt.
- AOKI J. 1967. A preliminary revision of the family *Otocepheidae* (*Acari*, *Cryptostigmata*). II. Subfamily *Tetracondylinae*. Bull. nat. Sci. Mus., Tokyo, **10**: 297—359, 90 ff., 19 tt.
- BALOGH J. 1968. New Oribatids (*Acari*) from New Guinea. Acta zool. Acad. Sci. hung., Budapest, **14**: 259—285, 11 pl.
- BALOGH J. 1970. New Oribatids (*Acari*) from New Guinea. II. Acta zool. Acad. Sci. hung., Budapest, **16**: 291—344, 17 pl.
- BALOGH J. 1970. New Oribatids (*Acari*) from Ceylon. The scientific results of the hungarian soil zoological expeditions. Opusc. zool., Budapest, **10**: 33—67, 58 ff.
- BALOGH J., MAHUNKA S., 1967. New Oribatids (*Acari*) from Vietnam. Acta zool. Acad. Sci. hung., Budapest, **13**: 39—74, 12 pl.
- BALOGH J., MAHUNKA S., 1969. The scientific results of the hungarian soil zoological expedition to South America. 10. *Acari*: Oribatids, collected by the second expedition. I. Acta zool. Acad. Sci. hung., Budapest, **15**: 1—21, 62 ff.
- GRANDJEAN F. 1940. Les poils et les organes sensibles portés par les pattes et le palpe chez les Oribates. Deuxième partie. Bull. Soc. zool. France, Paris, **65**: 32—44, 4 ff.
- HAMMER M. 1971. On some Oribatids from Viti Levu, the Fiji Islands. Biol. Skr. (København), København, **16** (6): 1—60, 35 pl.
- KARPPINEN E. 1966. Some new Oribatids (*Acar.*, *Oribatei*) from Central Africa. Ann. ent. fenn., Helsingfors, **32**: 275—281, 6 ff.
- KRIVOLUTSKII A. D. 1971. Novye vidy *Oribatei* iz vostochnoi Kirgizii. Zool. Zh., Moskva, **50**: 939—942, 2 ff.
- PÉREZ-ÍÑIGO C. 1969. Resultados de la expedición Peris-Alvarez a la isla de Annobón. (13) Oribatid mites (1st series) (*Acari*, *Oribatei*). Eos, Madrid, **44**: 405—423, 24 ff.
- SHALDYBINA E. S. 1967. K izucheniyu rotovogo apparata ceratozetid (*Oribatei*). Uch. zap., Horki, **66** (ser. biol. nauk): 205—216, 13 ff.

STRESZCZENIE

Praca zawiera opis *Dolicheremaeus bartkei* sp. n., nowego gatunku mechowca (*Acari*, *Oribatei*) z północnego Wietnamu, dyskusję jego przynależności systematycznej oraz uzupełnienie klucza AOKIEGO (1967) do gatunków rodzaju *Dolicheremaeus* JACOT.

РЕЗЮМЕ

В работе содержится описание *Dolicheremaeus bartkei* sp. n., нового вида пащирного клеща (*Acari*, *Oribatei*) из северного Вьетнама, обсуждение его систематической принадлежности, а также дополнение определителя Аокия (1967) видов рода *Dolicheremaeus* JACOT.

T a b l e 1

Chaetotaxy in *D. bartkei* sp. n. I.

seta	ro	la	ex	in	ta	te	ti	ms	r ₁	r ₂	r ₃	p ₁	p ₂	p ₃
shape and surface	△	△	△	□	⊠	⊠	⊠	⊠	⊠	⊠	⊠	⊠	⊠	⊠
holo-type	RLN 14,9	18,9	6,6	22,3	20,6	20,1	17,9	21,3	19,5	21,0	15,9	16,0	17,0	17,0
para-type	RLN 15,6	19,8	4,7	21,6	19,0	19,2	17,8	20,1	18,9	20,0	16,2	17,9	19,1	19,8

seta	ad ₁	ad ₂	ad ₃	ro-ro	la-la	ex-ex	in-in	ta-ta	te-te	ti-ti	ms-ms
shape and surface	⊙	⊙	⊙								
holotype	RLN 11,8	9,7	9,1	17,0	13,1	34,3	17,0	35,4	53,3	27,5	35,8
paratype	RLN 12,3	12,7	10,9	17,3	12,2	32,2	13,0	36,8	56,2	29,9	40,0

- ⊠ - intermediate between thorn-like and bristle-like slightly roughened,
- ⊙ - thorn-like /weakly blunt at tip/ and weakly barbed,
- △ - whipe-like /with a flagelliform tip/ and slightly roughened,
- - bristle-like and slightly roughened, ○ - thorn-like.

Table 2
Chaetotaxy of *D. bartkei* sp. n. II

	length of notogastral setae		distances of notogastral setae						length of adanal setae		
holotype	$ms > r_2 > ta > te > ti > r_1$ $p_2 = p_3 > p_1 = r_3$		$r_3-r_3 > p_3-p_3 > te-te > p_2-p_2 > ms-ms >$						$ad_1 > ad_2 > ad_3$		
paratype	$ms > r_2 > ta > te > r_1 > ti$ $p_2 = p_3 > p_1 = r_3$		$ta-ta > r_1-r_1 > r_2-r_2 > ti-ti > p_1-p_1$						$ad_2 > ad_1 > ad_3$		
seta		r_2-r_2	r_1-r_1	r_3-r_3	p_1-p_1	p_2-p_2	p_3-p_3	$ta-te$	$te-ti$	$te-ms$	$ag-ag$
holotype	RLN	29,2	30,9	70,2	15,2	41,6	63,0	20,2	12,9	24,1	29,6
paratype	RLN	35,8	36,7	76,6	19,1	47,3	68,7	20,1	14,5	21,0	27,7

Table 3
Chaetotaxy of legs I—IV in *D. bartkei* sp. n.

leg	<i>Tr</i>	<i>Fe</i>	<i>Ge</i>		<i>Ti</i>		<i>Ta</i>		
	t	t	t	(s)	t	(s)	t	(s)	(f)
I	?	4	4	(2)?	6	(2)	18	(2)	(1)
II	?	?		?	4	(1)	17	(2)	(0)
III	2	4	2	(1)	3	(1)	15	(0)	(0)
IV	1	2	2	(0)	3	(1)		?	

Table 4
Relative length of tarsi (*Ta*) and tibiae (*Ti*) of legs I—IV in *D. bartkei* sp. n.

leg	relative length		<i>Ti/Ta</i> in length		length/height of <i>Ta</i>	
	<i>Ta</i>	<i>Ti</i> holotype	paratype	holotype	paratype	holotype
I	90.84	81.34	1.88	1.86	1.95	2.08
II	90.41	64.25	1.53	1.47	2.03	2.14
III	100	77.46	—	1.61	—	2.87
IV	—	100	—	—	—	—

Table 5

Shape and surface structure of tarsus /Ta/ setae in *D. bartkei* sp. n.











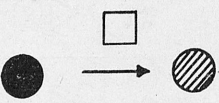
seta Ta										
	ft	tc	it	p	u	s	a		pv	
I	△? → ● dorsally	△ ●	△ ●	△ ●	△ ●	△ ●	△ → ● ventrally		□ ● ventrally	
II	□ ● dorsally	△ ●	△ ●	△ ●	○ ●	□ → ● ventrally	△ → ● ventrally		□ ● ventrally	
III	□ ● dorsally	△? ●	△ ●	△ ●	○ ●	□ → ● ventrally	△ → ● ventrally		□ ● ventrally	

- - thorn-like /blunt at tip/,
 □ - bristle-like /pointed at tip/,
 △ - whip-like /with a flagelliform tip/,
 ● - distinctly barbed,
 ◐ - weakly barbed,
 ◑ - slightly roughened,
 ○ - glabrous.

Table 6

Shape and surface structure of tibia /Ti/ setae in

D. bartkei sp. n.

Ti \ seta	d	l	v*	v''
I	 dorsally		 ventrally	 ventrally
II			 ventrally	 ventrally
III			 ventrally	 ventrally
IV			 ventrally	

Redaktor zeszytu: prof. dr W. Szymczakowski

PAŃSTWOWE WYDAWNICTWO NAUKOWE — ODDZIAŁ W KRAKOWIE — 1974

Nakład 700+90
Zam. 443/73

Ark. wyd. 1,5

Ark. druk. 1 $\frac{1}{16}$

Papier druk. sat. kl. III 70×100 80 g
Cena zł 10,—

DRUKARNIA UNIwersytetu Jagiellońskiego w Krakowie