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Study of Polish Tarsonemidae X. Description of *Tarsonemus pumilis* n. sp.
(Acari: Heterostigmae)

[With 3 text-figs.]

Badania nad rodziną Tarsonemidae X. Opis *Tarsonemus pumilis* n. sp. (Acari:
Heterostigmae)

Abstract. The autor describes the new species of mites of the genus *Tarsonemus* CANESTRINI et FANZAGO, 1886 from Poland, most similar to *Tarsonemus lucifer* (SCHAARSCHMIDT, 1959).

Tarsonemus pumilis n. sp.
Female

Body length 165 μm^* (136—165 μm^{**}), body width 72 μm (68,8—72,0 μm).

Dorsal side (Fig. 1): Idiosoma 155 μm (128—160 μm) long with granulation. Pseudostigmatic organ 17,5 μm (14,5—17,6 μm) long, capitate, with numerous little spines. Main tracheal trunks equal narrow. Propodosomal shield without dorsal apodeme. Lengths of setae: v- 13,5 μm (12,0—13,6 μm), sc- 17,5 μm (16,8—19,2 μm), hue- 12 μm (12,0—13,6 μm), hui- 11 μm (10,4—12,0 μm), do- 5,2 μm (4,0—5,5 μm), lue- 5 μm (5,0—6,4 μm), lui- 6,5 μm (5,6—6,5 μm), sa- 4 μm (4,0—4,5 μm). Distances among setae: v-v 21 μm (20,8—21,5 μm), sc-sc 34,5 μm (32,0—34,5 μm), hue-hue 72 μm (68,8—74,4 μm), hui-hui 54 μm (52,8—56,0 μm), do-do 27 μm (27,0—28,8 μm), lui-lui 12 μm (11—12 μm), sa-sa 21,5 μm (21,6—24,0 μm), v-sc 26,5 μm (25,5—27,2 μm). Setae v, sc, hue, hui, lue smooth, hairlike, fine ending. Setae do, lui, sa stout, coarse, blunt ending. Distance between pits on tergite IV almost equal as distance between setae lui.

Ventral side (Fig. 2): Gnathosoma 20 μm (19,0—20,8 μm) long, 16 μm (16,0—17,6 μm) wide, triangular in outline. Palpi cylindrical appro-

* — dimension of the holotype

** — dimension among five paratypes.

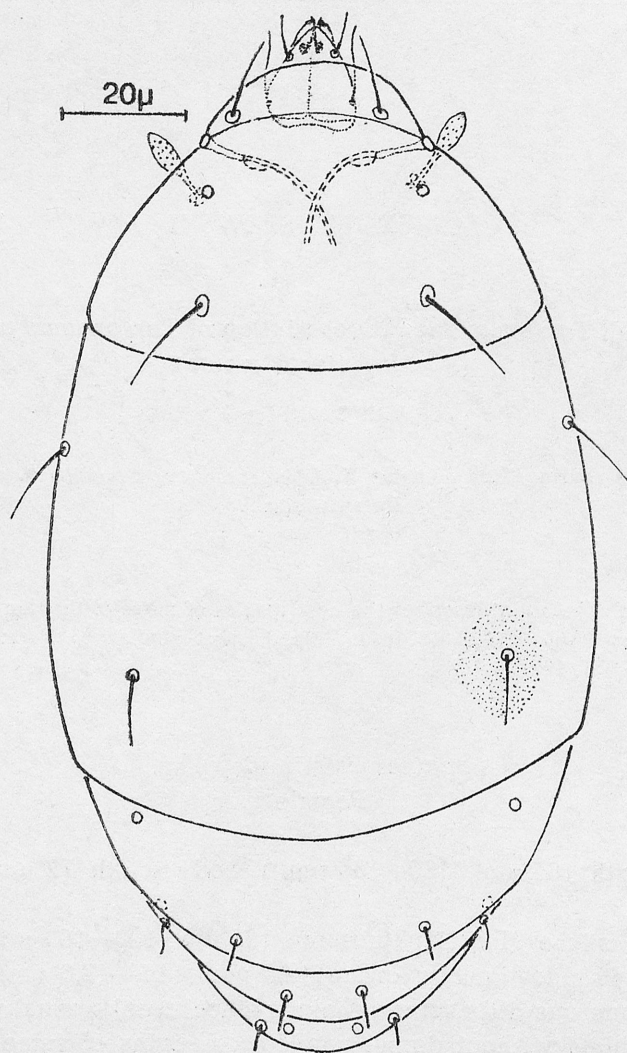


Fig. 1. *Tarsonemus pumilis* n. sp. Dorsal side of the female

ximate, directed anteriorly. Pharynx $10,5\ \mu\text{m}$ ($10,4\text{--}12,0\ \mu\text{m}$) long, $3,2\ \mu\text{m}$ ($3,2\text{--}4,0\ \mu\text{m}$) wide, slightly enlarged posteriorly, with muscular walls, with any glandular structures near its posterior extremity. Cheliceral stylets short inconspicuous, fully retractable. Internal dorsal setae on gnathosoma longer than ventral one. Postpalpal setae present.

Propodosomal plate $35\ \mu\text{m}$ ($35\text{--}36\ \mu\text{m}$) long, $26,5\ \mu\text{m}$ ($25,6\text{--}28,0\ \mu\text{m}$) wide, with granulation. Its edge almost straight between ends of apodemes I and II. Anterior edge of propodosomal plate with wide layer of integument as Fig. 2.

Apodemes relatively distinct. Anteromedian apodeme extending beyond apodemes II, not united with transverse apodeme, with nodule be-

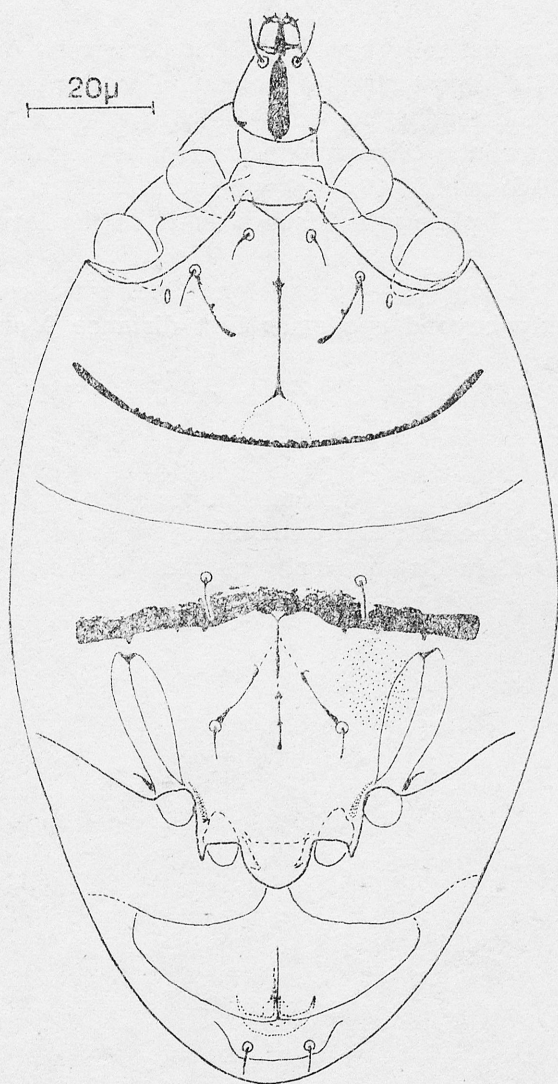


Fig. 2. *Tarsonemus pumilis* n. sp. Ventral side of the female

tween apodemes I and II. Apodemes II not united with anteromedian apodeme, with nodules in the middle part, ending with a small nodules and recurved and transverse apodeme continuous, without weakened areas. Posteromedian with thickenings and weakened areas, bifurcated at anterior extremity, not bifurcated posteriorly, not extending anteriorly to the level of setae *cx III*, and posteriorly extending the level of setae *cx IV*.

Branches of posteromedian apodemes bifurcation are poorly visible because metapodosomal plate is strongly sclerotized in this region. Apodemes III very strong, wide, with thickenings joining medially and ex-

tending laterally distinctly beyond anterior extremity of trochanters III.

Apodemes III almost straight, with thickenings, weakened in their anterior part and extending posterolaterally to setae *cx IV*.

Posteromedian lobe of metapodosomal plate (tegula) $8\text{ }\mu\text{m}$ ($7,2\text{--}10,4\text{ }\mu\text{m}$) long and $10,5\text{ }\mu\text{m}$ ($9,6\text{--}10,5\text{ }\mu\text{m}$) wide, rounded.

Metapodosomal plate with distinct teeth on the level of trochanters IV.

Setae *cx I* $5,2\text{ }\mu\text{m}$ ($4,8\text{--}5,5\text{ }\mu\text{m}$) long fine, whiplike, sharply ended, placed distinctly beyond apodemes I in distance $9\text{ }\mu\text{m}$ ($9,0\text{--}10,4\text{ }\mu\text{m}$) between them.

Setae *cx II* $5,5\text{ }\mu\text{m}$ ($7,2\text{--}8,8\text{ }\mu\text{m}$) long, fine, whiplike, sharply ended, placed on anterior ends of apodemes II in distance $21\text{ }\mu\text{m}$ ($21\text{--}22\text{ }\mu\text{m}$) between them.

Setae *cx III* $6,5\text{ }\mu\text{m}$ ($5,5\text{--}6,5\text{ }\mu\text{m}$) long and *cx IV* $5\text{ }\mu\text{m}$ ($5,0\text{--}5,6\text{ }\mu\text{m}$) long, similar to setae *cx I* and *cx II*. Setae *ca* short ($5\text{ }\mu\text{m}$ ($4,8\text{--}5,5\text{ }\mu\text{m}$) long) stiff, placed in distance between them almost equal wide of tegula.

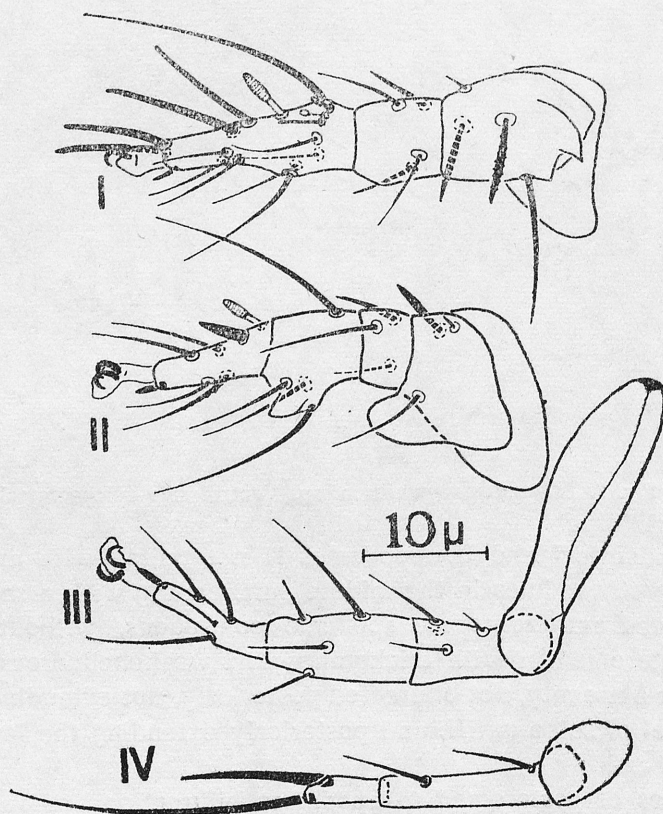


Fig. 3. *Tarsonemus pumilis* n. sp. Legs I—IV of the female

Legs (Fig. 3): Excluding trochanters leg I and III longer than leg II. Claws on legs I to II almost equal size, moderately large, well developed. Pulvilli of legs I to III membranous, well developed. Setae *Ta ν* of leg I to III spinlike.

Formula of setae on particular segments of leg I: Tbt/12+1+2+2, Ge/4, Fe/4. Solenidion *Taa* 4,2 μ m (4,2—4,8 μ m) long, placed in proximal part of the segment. Setae *Ta ζ* and *Ta τ* placed slightly distally in relation to the middle of the segment, little longer than setae *Ta φ* and *Ta τ* placed on the segments top. Solenidion *Tia* 2,4 μ m (1,8—2,5 μ m) long. Eupatidium *Ti β* with swollen end. Eupatidium *Ti γ* rodlike. Femur with sharp process. Formula of setae on particular segments of leg II: Ta/4+2+1, Ti/4, Ge/3, Fe/3. At the tarsus base is inserted solenidion *Taa* 3,5 μ m (4 μ m) long, similar to its homolog on leg I. Spin *Ta β* is placed distally in relation to solenidion *Taa*. Tibia and femur provided with processes as fig. 3. Formula of setae on particular segments of leg III: Ta/4+1, Ti/4, Fge/4.

Leg IV 22,5 μ m (20,8—22,5 μ m) long almost equal combined length of femurogenu III and tibia III. Subapical segment of leg IV slightly less than 3 times longer than apical one. Seta *prs* 5,5 μ m (5,0—5,5 μ m) long and seta *dis* 5,5 μ m (6,4—8,0 μ m) long, very fine. Seta *sta* 11,5 μ m (11,5—14,4 μ m) long, at the base wider than seta *tms*, 23 μ m (24—28 μ m) long.

Male and larvae unknown.

Remarks: *Tarsonemus pumilis* n. sp. is similar to *Tarsonemus lucifer* (SCHAARSCHMIDT, 1959) (KALISZEWSKI, in press b; SCHAARSCHMIDT, 1959) and differs from its by following features:

T. pumilis n. sp.

1. Anterior edge of propodosomal plate on the level of trochanters I without teeth (Fig. 2)
2. Anterior edge of propodosomal plate between anterior ends of apodemes I and II straight or slightly concave (Fig. 2).
3. Apodemes III joined in the middle part of metapodosomal plate (Fig. 2).

T. lucifer (SCHAARSCHMIDT)

1. Anterior edge of propodosomal plate on the level of trochanters I with 2 teeth.
2. Anterior edge of propodosomal plate between ends of apodemes I and II distinctly convex.
3. Apodemes III not joined.

Locus typicus: The female holotype (slide no D-569) and 9 ♀♀ paratypes were collected on June 26, 1968 in sample of litter and soil from association *Querceto-Carpinetum*, 1 km S off Kwidzyna by J. RAFAŁSKI. Species are kept in collection of Department of Animal Morphology A. Mickiewicz University.

Nomenclature of idiosoma and legs used in this paper is based on KALISZEWSKI (in press a), SUSKI (1966, 1967). Nomenclature of gnathosoma is based on LINDQUIST (1971).

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STRESZCZENIE

Autor opisuje nowy gatunek z rodzaju *Tarsonemus* CANESTRINI et FANZAGO 1886, znaleziony w Polsce.

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