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Tydeus rafalskii sp. n., a new tydeid mite from Poland
(Acari: Actinedida: Tydeidae)

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ABSTRACT. A new tydeid mite, *Tydeus rafalskii* sp. n. found in Poland is described and illustrated.

Key word: acarology, taxonomy, *Tydeidae*, new species, Poland.

INTRODUCTION

During my investigation on *Tydeidae* I found a new species of the subfamily *Tydeinae*, which is characterized by a special and rare kind of ornamentation, so called "basketweave" (BAKER 1965). I want to dedicate this species to the memory of my dear teacher, Professor Jan RAFALSKI.

The generic concept proposed earlier by the author (KAŻMIERSKI 1989b) is used in this paper. The setal designations and nomenclature follow KAŻMIERSKI (1989a) for the idiosoma, and ANDRÉ (1981a, 1981b) for the gnathosoma and legs. All the measurements are given in micrometers (μm).

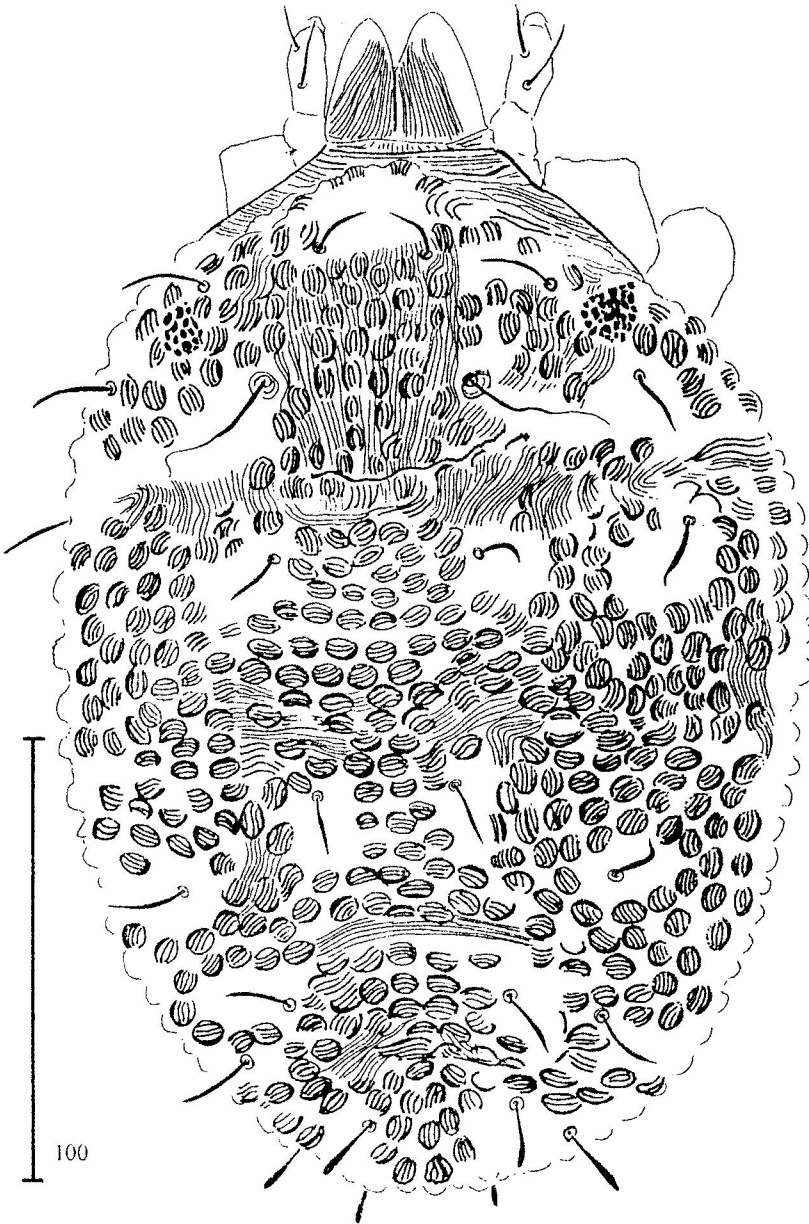
Tydaeus rafalskii n. sp.

DESCRIPTION

Idiosoma. Holotype tritonymph : length 236 / width 175 ; paratype tritonymph : 235 / 161.

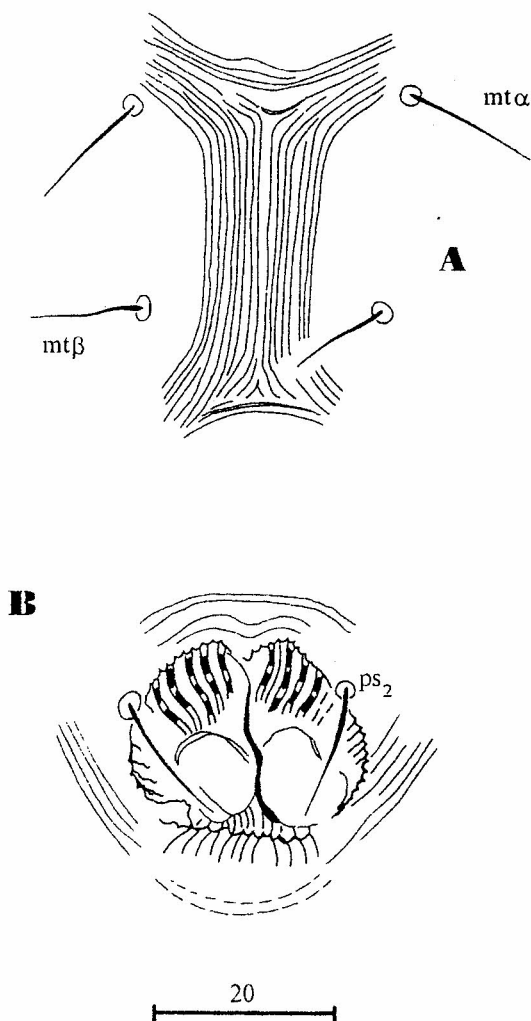
All the measurements given below refer to the holotype.

Dorsal side. Dorsal ornamentation consists of striated granules ("basketweave pattern"). Between setae *d1* the striae on the granules lie transversally. On aspidosoma

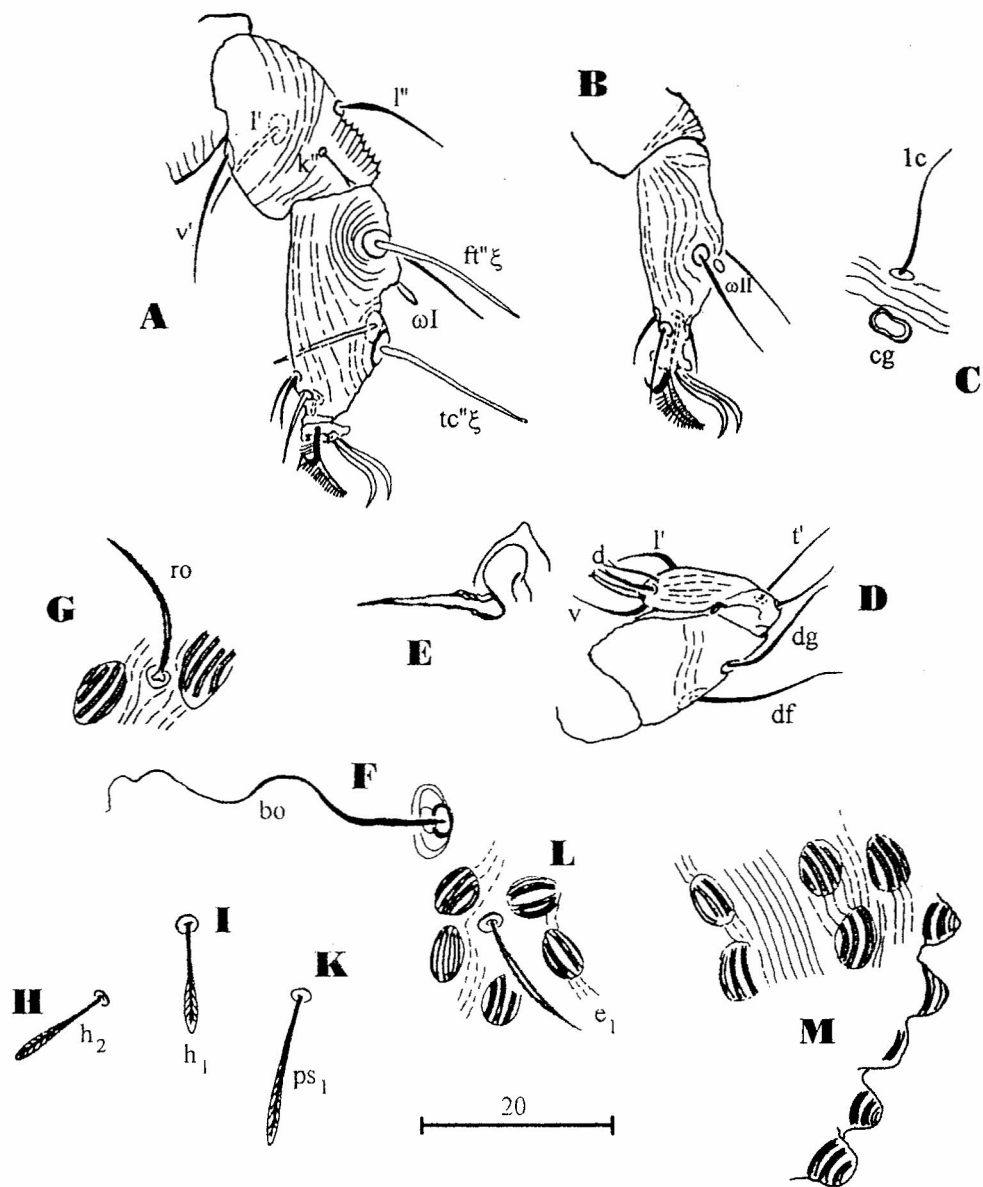


1. *Tydeus rafalskii* sp. n. Holotype tritonymph: dorsal view of body

the striae are oriented longitudinally. Eyes present. Bothridial setae (*bo*) whip-like, flabby, much longer than the other dorsal setae. The latter are of varied shape: "caudal" setae, i. e. setae *h1*, *h2* and *ps1* are flat, broadened and rounded distally; in fact, they have a central pith with lateral, relatively long teeth, surrounded by smooth frame. The rest of dorsal body setae are narrowly lanceolate, slightly serrate and sharply ended. Setae *ps2* are similar to ventral setae: nude and acute. Lengths of setae



2. *Tydeus rafalskii* sp. n. Holotype tritonymph; ventral view: A - striation of metasternal region. B - anal region: paraproctal lips and setae *ps₂*



3. *Tydeus rafalskii* sp. n. Holotype tritonymph: A - tibia, tarsus and apotel I (right, adaxial), B - tarsus and apotel II (right, adaxial), C - coxal organ, D - palpus (left, adaxial), E - cheliceral stylet, F - bothridial seta *bo*, G - aspidosomal seta *ro*, H - seta *h2*, I - seta *h1*, K - seta *ps1*, L - seta *e1* with fragments of "basketweave pattern", M - details of ornamentation

are as follows: *bo* - 48, *ro* - 18, *la* - 21, *ex* - 20, *cl* - 15, *c2* - 18, *dl* - 15, *el* - 19, *fl* - 16, *f2* - 20, *hl* - 15, *h2* - 17, *ps1* - 17, *ps2* - 16. Distances between homologous setae: *cl-cl*: 45, *dl-dl*: 30, *el-el*: 95, *fl-fl*: 49, *hl-hl*: 32, *ps1-ps1*: 21. Distance between *fl* and *hl* on one side is 28. Lyrifissures situated typically for the genus, although very poorly visible.

Ventral side. "Basketweave pattern" covers only a marginal portion of the venter of the opisthosoma. Main ventral part of the body is striated. Between {*mt* α } and between {*mt* β } the striae are oriented longitudinally. Two genital pores well developed. Genital tritonymphal chaetotaxy: *ge* - 4, *ag* - 4. Paraproctal lips are strongly striated. Epimeral formula: 3-1-4-2.

Gnathosoma. Visible anteriorly to the anterior edge of aspidosoma. Cheliceral stylets similar in length to the palpal tarsus. Eupathidium (*p* ζ) insignificantly bent, narrowed distally, but with goblet-shaped tip. Seta *d* bifurcate. Minute seta *ba* relatively well developed (only slightly shorter than the width of palpal tarsus). Palpal organotaxy: 6+ ω - 2 - 2. Measurements: cheliceral stylet - 16, palpal femur-genu - 18/9, *df* - 18, *dg* - 16, *t'* - 11, *t''* - 8, palpal tarsus - 15/4.5, (*p* ζ) - 6.

Legs. Chaetotaxy: I (8 - 3+*k''* - 3 - 3 - 1), II (6 - 2 - 2 - 2 - 0), III (5 - 2 - 1 - 1 - 1), IV (5 - 2 - 1 - 1 - 0). Solenidiotaxy: 2 (ω I + ω II). Coxal organ "biscuit-shaped", with two pores. Tarsus + apotel I: length - 27, width - 9, height - 12. Length of ω I - 3.5, *ft'* - 14, *ft''* ζ - 16, *k''* - 5.5 (femulus *k''* forked terminally), ω II - 1.5. Empodial hooks (*om*) present and well developed.

LOCALITY

Holotype and paratype (tritonymphs): Central Poland. Sieradz district. Near Potok settlement (ca. 4 km. from Złoczów town). Mixed forest dominated by beech. From moss, bark and agaric on fallen birch trunk.

Coll. Jan RAFALSKI and Andrzej KAŻMIERSKI, 03 June, 1986.

TYPE REPOSITORY

The holotype tritonymph (slide No T-0296/P-9), as well as tritonymph paratype (slide No T-0296/P-6) are deposited in the Department of Animal Morphology, Adam Mickiewicz University in Poznań (author's collection).

REMARKS

Prior to the revision proposed by ANDRÉ (1979, 1980) all species with "basketweave" ornamentation were included in the genus *Tydulosus* BAKER, 1965 (BAKER 1965, KUZNETZOV and LIVSHITZ 1973), which comprised four members. These were: *T. granulatus* (CANESTRINI, 1886) from Egypt, *T. lolitae* BAKER, 1965 from England, *T. dumosus* KUZNETZOV, 1973 from Crimea and *T. visendus* KUZNETZOV 1973 from Crimea. According to the systematic concept proposed by KAŻMIERSKI (1989b) three of them belong to the genus *Lorryia* OUDEMANS (*granulosus*, *dumosus* and *visendus*), and one - to the genus *Tydeus* KOCH (*lolitae*). The new species is most similar to

Tydeus lolitae with respect to its leg chaetotaxy, as well as to the arrangement of striae in dorsocentral region. The differences between the two species are as follows:

Tydeus lolitae (BAKER, 1965)

1. Empodial hooks (*om*) absent
2. Palpal eupathidium (*p* ζ) stright, rod-like without goblet-shaped tip
3. Dorsal body setae smooth

Tydeus rafalskii sp.n.

1. Empodial hooks (*om*) present
2. Palpal eupathidium (*p* ζ) slightly bent, narrowed distally, with goblet-shaped tip
3. Dorsal body setae serrate

NOTE ADDED IN PROOF

Recently a fifth species with "basketweave" ornamentation has been described by MOMEN and LINDQUIST (Acarologia, 37 (4), 1996). This species, *Tydeus maculatus* differs from *T. rafalskii* in spatulate setae *e1*, *f1* and *f2*, in lacking empodial hooks (*om*) and in the shape of seta *d* on palpal tarsus, which is simple.

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