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THE GENUS TYDEUS (ACARI : PROSTIGMATA : TYDEIDAE) 
IN SOUTHERN SWEDEN ; SIX NEW SPECIES.

by Faten MOMEN * and Lars LUNDQVIST **

SUMMARY : During a survey of tydeid mites associated with plants in southern Sweden, several species new to science were found, of which six belonging to the genus *Tydeus* are described here. *T. nytebodensis* n.sp. was collected from lichens on twigs of *Picea abies*; *T. parainflatus* n.sp. was found on leaves of *Corylus avellana*, and *Prunus padus*; *T. octomaculatus* n.sp. from lichens and moss on ground; *T. caputoperio* n.sp. from grasses and lichens (*Cladonia* sp.) on ground; *T. exiguelitteratus* n.sp. from bark of fallen tree, and lichens on branches on ground; and *T. danielssoni* n.sp. from grasses and bark from a dead pine tree, and moss layer on ground. *Lorryia polita* Kuznetzov, 1975, *L. danuta* Kazmierski, 1978, *Retetydeus catenulata* Thor, 1931, and *Paralorryia magna* Kuznetzov, 1973, are transferred to the genus *Tydeus*. The male of *T. polita* is described for the first time. Six species are reported new to Sweden. A key to females of the twelve species so far known to Sweden is given.


INTRODUCTION

Tydeid mites are frequently encountered in moss, litter, soil, bird nests, stored products, on plants, and on insects (MARSHALL, 1970; MOMEN, 1990; MOMEN & SINHA, 1991). Only a few reports have dealt with the foraging habits of tydeid mites. Some species may utilize fungi (EL-BAGOURY, 1978), others pollen (KNOP & HOY, 1983), eriophyid mites (SCHRUT, 1972; HESSEIN & PERRING, 1986), and nematodes (SANTOS et al., 1981). ANDRÉ (1986) discussed the ecology of mites living in epiphytic lichens and emphasized the need for meticulous investigation on the food preferences of tydeid mites.

In this report, the first to deal with the family

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Tydeidae from Sweden, we will describe six new species of the genus *Tydeus*. They were found in southern Sweden on bark and leaves of trees and in moss and lichens on living or decaying trees. The mites were extracted in Berlese funnels and mounted individually on microscopic slides in a gum-chloralhydrate medium. Measurements are given either as min.-max., or as means based on 2-8 observations.

In a series of papers, ANDRÉ (1980, 1981a, b) presented a valuable review of the organotaxy of Tydeidae. However, in his taxonomic works he did not always follow the Code of Zoological Nomenclature, which has caused some disagreement concerning generic concepts of the family (cf. KAZMIERSKI, 1989). However, in order not to further increase the instability of the situation, we follow ANDRÉ’s generic concept which, in our view, has taxonomic advantages.

Holotypes are deposited in the collection of the Zoological Museum, Lund University. Paratypes are deposited at the British Museum (Natural History), and at the National Research Centre, Plant Protection Department, Cairo, Egypt.

**LOCALITIES**

Mites were collected from the following fourteen localities:

1. Alnarp, Agricultural University, 6 km N Malmö (N 55° 32’ ; E 13° 04’). Samples of leaves and bark from old, un sprayed apple trees, and whole plants, including roots, of strawberry.
2. Baggeboda, 4 km W Olofström (N 56°16’ ; E 14°28’). Tall pine trees with thick layer of lichens (Cladonia sp.) on ground.
3. Dalby Norreskog, 9 km E Lund (N 55°41’; E 13°21’). Dense forest with deciduous trees, *Fagus sylvatica*, *Corylus avellana*, *Fraxinus excelsior*, *Prunus padus*.
4. Dunshtult, near Urshult, 38 km S Växjö (N 56°32’ ; E 14°48’). Mixed, very dense forest of moderate (ca 5 m) height. *Picea abies*, *Pinus silvestris*, *Betula pubescens*, *Quercus robur*, *Sorbus aucuparia*, and *Alnus glutinosa*.
5. Ivöklack, 20 km NE Kristianstad (N 56°08’ ; E 14°24’). Old, abandoned limestone quarry. Calcareous, but water permeable, dry soil.
6. Kaffatorp, 17 km SW Olofström (N 56°12’ ; E 14°18’). Old apple orchard.
7. Lahibiagrottan, Kullaberg, 13 km N Högannäs (N 56°18’ ; E 12°27’). On the stony south-facing slope of a cliff that juts out into the sea. Sparse vegetation of *Pinus sp.*, *Prunus spinosa*, *Quercus robur*, and *Euonymus europaea*.
8. Linnebjer, 7 km ENE Lund (N 55°44’ ; E 13°18’). Mixed forest, bushes (*Corylus avellana*, *Crataegus oxyacantha*) and tall deciduous trees (*Betula pubescens*, *Quercus robur*, *Sorbus aucuparia*, *Thilia cordata*).
9. Lund, Hospital garden, near Dept. of Zoology (N 55°43’ ; E 13°12’). Planted ornamental trees around small pond.
10. Nyteboda, 11 km NW Olofström (N 56°20’ ; E 14°23’). Old (ca 200 years) coniferous forest with tall trees of *Picea abies* and *Pinus silvestris*. Deep moss layer and grass on ground.
11. Prästtorpsjögn, 7 km N Höör (N 55°59’ ; E 13°34’). Deciduous forest. Tall trees of *Quercus robur* and *Fagus sylvatica*.
13. Södra Åreda, 11 km E Växjö (N 56°54’ ; E 14°59’). Dense coniferous forest of *Picea abies* mixed with single deciduous trees of *Fagus sylvatica* and *Sorbus aucuparia*. Thick moss layer.
14. Vomb, 23 km E Lund (N 55°41’ ; 13°33’). Coniferous forest, with *Pinus silvestris* of moderate height. Ground vegetation grasses, with many lichens (Cladonia sp.).

**Genus Tydeus** Koch, 1835, sensu André, 1980.

The genus *Tydeus* is characterized by: dorsum with 10 pairs of setae (l2 and h1 missing); seta p1 anterior to p2; 4 pairs of aggenital and 6 pairs of genital setae; epimeral formula: 3-1-4-2; leg setal patterns as: I : 8(1)-3-3-1, II : 6(1)-2-2-3-0, III : 5-2-1-2-1, IV : 5-2-1-1-0.

**Key to females of the genus Tydeus in Sweden.**

1. Dorsum completely reticulated ........................................ 2
   — small reticulated area, or few reticulated elements, or without reticulated area on anterior part of prodorsum .................................................. 8
2. Dorsum uniformly reticulated, without discrete sections .................................. 3
   — dorsum divided into discrete sections ................................ 5
3. Trichobothrium flagellate, smooth; dorsal body setae broadly expanded, smooth ...... *T. parainflatus* n.sp.
— trichobothrium blunt distally, faintly serrate; dorsal body setae long, blunt, sparsely serrate.......... 4

4. Dorsal body setae long (25-33 µm); terminal eupathidium on palp bidental; seta k on tibia I divided
   T. hughesae Momen and Sinha
— dorsal body setae very long (44-48 µm); terminal eupathidium on palp and seta k on tibia I simple .... T. reticulata Oudemans

5. Reticulate pattern of dorsum divided into 6 sections; most dorsal body setae lanceolate, serrate (Fig 2).
   T. polita (Kuznetzov)
— reticulate pattern of dorsum divided into 6, 9 or 13 sections; most dorsal body setae lanceolate, serrate and curved 6

6. Trichobothrium rod-like; dorsal setae h2 blunt and expanded distally; reticulate pattern of dorsum divided into 6 sections
   T. nytebodensis n.sp.
— trichobothrium flagellate; dorsal setae h2 lanceolate, tapering distally; reticulate pattern of dorsum divided into 9 or 13 sections 7

7. Dorsum with 9 reticulated sections
   T. catenulata Thor
— dorsum with 13 reticulated sections
   T. maga (Kuznetzov)

8. Without reticulated area on anterior part of prodorsum
   T. maga (Kuznetzov)
— small reticulated area or few reticulated elements on anterior part of prodorsum

9. Distinct reticulated area on anterior part of prodorsum

10. Reticulated elements on anterior part of prodorsum

11. Dorsal body setae simple, nude; terminal eupathidium on palp bidentate
    T. caputoperio n.sp.
— dorsal body setae lanceolate, serrate; terminal eupathidium on palp thick, simple
    T. octomaculatus n.sp.

12. Dorsal body setae aciculate
    T. daniessoni n.sp.
— dorsal body setae strong, serrate, curved
    T. exiguelitteratus n.sp.

Tydeus nytebodensis n.sp.
(Figs 1-7)

ADULT FEMALE (Fig. 1). Dorsum 251-254 µm; width 168-171 µm, completely reticulated and divided into 6 discrete sections by striae. The reticulated cells are hexagonal with distinct lobes. Dorsal body-setae are lanceolate, curved, except h2 which is broadly expanded and blunt distally.
Setal measurements: p1 and p2 subequal 37 µm, p3 34 µm, s 41 µm, d1 and d3 subequal 34 µm, d2 and d4 subequal 32 µm, d4 and b4 subequal 35 µm, l1 34 µm, l5 37 µm, h2 17 µm, ps 22 µm.
All legs possess two claws and an empodium. Empodium without claws (Figs 2-5). Solenidion on tarsus I slender, about 4 µm. Seta k on tibia I simple (Fig 2).
Setal pattern of palpus: 6(1)-2-2; terminal eupathidium thick and simple, seta d forked, and seta ba slender, short (Fig 7); palptarsus (17 µm) longer than movable chelae (10 µm).
Aggenital and genital setae setiform (Fig. 6).

MALE: unknown

TYPE DATA. Holotype, female, slide no. 5491, 10 female paratypes: Nyteboda (Loc. 10); ex lichens on twigs of Piceaabies, leg. LUNDQVIST; 3 tri­tonymph paratypes, Kaffatorp (Loc. 6), ex bark of old apple tree, leg. LUNDQVIST.

ETYMOLOGY. The species name is an adjectif derived from the type locality.

REMARKS. This new species is similar to T. catenulata (Thor, 1931), described from Norway, and Lorryia relhaniae Ueckermann & Meyer, 1979, from South Africa. All three species have strong and lanceolate dorsal setae, a reticulated dorsum, and trichobothrium flagellate. Tydeus nytebodensis n.sp. is distinguished from T. catenulata and L. relhaniae by having the trichobothrium strong and rod-like, seta h2 broadly expanded and blunt distally, and the terminal eupathidium on palp longer than moveable chelae. (10 µm).

Tydeus parainflatus n.sp.
(Figs 8-14)

ADULT FEMALE (Fig. 8). Dorsum 295-298 µm, width 193-195 µm. Dorsum completely reticulated. Five rosette-like areas marking muscle attachments
between setae $l_1$ and $d_1$, $d_2$ and $d_3$, $d_3$ and $d_4$. Dorsum with stout, smooth setae. Setae $p_1$, $p_2$, $p_3$, $l_1$ and $d_1$ rod-like; $d_2$ and $d_3$ slightly enlarged distally. All other dorsal setae are broadly expanded and blunt distally. Trichobothrium smooth and flagellate.

Setal measurements: $p_1$, $p_2$, $p_3$ and $l_1$ subequal 15 μm, $d_1$ 16 μm, $d_2$, $d_3$ and $l_4$ subequal 17 μm, $d_4$ 15 μm, $d_5$ and $l_5$ subequal 18 μm, $h_2$ 16 μm, $s$ 33 μm, $ps$ 22 μm.

Each apotele with two claws and an empodium. Empodium without claws (Figs 9-12). Solenidion on tarsus I long (7 μm) and slender; solenidion on tarsus II short (4 μm); seta $k$ on tibia I forked (Figs 9-10).

Setal pattern of palpus 6(1)-2-2. Terminal eupatidium thick and simple; seta $d$ simple, and seta $ba$ short and slender (Fig. 13). Palptarsus (18 μm) longer than moveable chelae (16 μm),

Aggenital and genital setae all setiform (Fig. 14).
Fig. 8-14: *Tydeus parainflatus* n.sp., adult female.

Fig. 15: *Tydeus octomaculatus* n.sp., adult female. Dorsal view.
MALE. Unknown.

**TYPE DATA:** Holotype, female, slide no. 5577, Lund (Loc 9), ex leaves of Corylus avellana, leg. LUNDQVIST; 8 female, and 3 tritonymph paratypes, Dalby Norreskog (Loc. 3), ex leaves of Corylus avellana and Prunus padus, leg. LUNDQVIST.

**ETYMOLOGY:** Because of the similarity with *T. inflatus*, the new species is named *parainflatus* (para, Lat. = alike).

**REMARKS:** The new species is similar to *T. inflatus* Momen, 1988, sampled from twigs of apple trees, Dublin, Ireland. It can be distinguished by having five, not three, pairs of rosette-like structures on dorsum, seta k on tibia I forked and by having strong and serrate setae on legs.

**NOTES:** Momen (1988) drew only leg I of *Tydeus inflatus*, but we have re-examined the holotype. The setae on all legs of *T. inflatus* are smooth and simple, and seta k on tibia I is simple (not forked).

**Tydeus octomaculatus** n.sp. (Figs 15-23)

**ADULT FEMALE** (Fig. 15): Length of body 334-341 μm; width 212-217 μm. Dorsum with four pairs of rosette-like areas marking muscle attachments between setae *d1* and *d2*, *d2* and *d3*. Small reticulated area on the anterior portion of the prodorsum. Dorsal body-setae slightly lanceolate, strongly serrate except the trichobothrium which is filiform and smooth. Dorsal body striae with lobes (Fig. 16). Setal measurements: *p1* 17 μm; *p2* 16 μm; *p3* 20 μm; s 60 μm; *d1*-*d4* subequal 19 μm; *d5* 17 μm; *h2* 12 μm; *l1* and *l4* subequal 17 μm; *l5* 16 μm; *ps* 14 μm.

Each apotele with two claws and an empodial hook (Figs 19-22). Solenidion on tarsus I long and slender (7 μm). Solenidion on tarsus II short (3 μm); seta *k* on tibia I forked (Figs 19-20).

Gnathosoma completely covered dorsally by anterior projection of prodorsum. Setal pattern of palpus 6(1)-2-2; terminal eupathidium thick and simple, seta *d* simple, seta *ba* short and slender (Fig. 17). Moveable digit (26 μm) longer than palpatarsus (15 μm). Aggenital and genital setae setiform (Fig. 18).

**ADULT MALE:** Similar to female except for the genital area. Anterior eugenital flap with three pairs of setae, posterior eugenital flap with a single pair of setae (Fig. 23).

**TYPE DATA:** Holotype, female, slide no. 5525, allotype, male, slide no. 5526, 2 female and 1 male paratypes, Ivoklack (Loc. 5), ex moss on ground, leg. LUNDQVIST; 1 female paratype, slide no. 5578, Vomb (Loc. 14), ex lichens mixed with moss on ground, leg. LUNDQVIST.

**ETYMOLOGY:** Noun in apposition from octo (Lat. = eight) and maculatus (Lat. = mark, spot) referring to the eight rosette areas on the dorsum.

**REMARKS:** The new species is similar to *Paralorryia nunica* Livshitz, 1973, a species that also has small reticulated areas on the anterior portion of prodorsum, and lanceolate, serrate setae (Livshitz et al. 1973). *Tydeus octomaculatus* n.sp. is distinguished from *P. nunica* by having four pairs of rosette areas instead of only one. Furthermore, in *T. octomaculatus* n.sp. the empodia are hooked and the moveable digits long.

**Tydeus caputoperio** n.sp. (Figs 24-32)

**ADULT FEMALE** (Fig. 24): Length of body 259-270 μm; width 162-171 μm. Dorsum with three pairs of rosette-like areas marking the muscle attachments between setae *d1* and *d2*, *d2* and *d3*. Small reticulated area on the anterior portion of the prodorsum. Dorsal body striae aciculate. Dorsal body striae with lobes (Fig. 25). Setal measurements: *p1*-*p3* subequal 20 μm; s 55 μm; *d1* 18 μm; *d2* and *d3* subequal 19 μm; *d4* and *d5* subequal 17 μm; *l1* and *l4* subequal 18 μm; *h2* and *ps* subequal 11 μm.

Each apotele with two claws and an empodial hook (Figs 26-29). Solenidion on tarsus I long (7 μm) and cone shaped. Solenidion on tarsus II short (3 μm). Seta *k* on tibia I forked (Figs 26-27).
FIG. 16-23: *Tydeus octomaculatus* n.sp., adult female (16-22).

FIG. 24: *Tydeus caputoperio* n.sp., adult female, dorsal view.
FIG. 25-32: *Tydeus capitoperio* n.sp.


*Fig. 33: Tydeus exiguelitteratus* n.sp., adult female, dorsal view.
Setal pattern of palpus 6(1)-2-2. Terminal eupathidium thick and bidentate distally, whereas seta v simple and seta d forked (Fig. 30). Moveable digit of chelicera (14 μm) shorter than palptarsus (22 μm).

Aggenital and genital setae setiform (Fig. 32).

ADULT MALE: Similar to female except for the genital area. Anterior eugenital flap with three pairs of setae, posterior eugenital flap with a single pair of setae (Fig. 31).

TYPE DATA: Holotype, female, slide no. 5488, allotype, male, slide no. 5477, 8 female and 1 male paratypes: Nyteboda (Loc. 10), ex grasses, leg. LUNDQVIST; 1 female, 3 male paratypes, Vomb (Loc. 14), ex lichens (Cladonia sp.) on ground, leg. LUNDQVIST.

ETYMOLOGY: Noun in apposition derived from c aput op e rio (Lat = covering the head), referring to the distinct reticulated area covering the anterior portion of prodorsum.

REMARKS: The new species is similar to Para lorryia subularis Kuznetzov, 1972 in having all dorsal setae aciculate, and longitudinal striation between setae d2. It differs from P. subularis in having a small reticulated area on the anterior part of the prodorsum, three rosette-like areas, and a cone-shaped (not slender as in P. subularis) solenidion on tarsus I.

Tydeus exiguelitteratus n.sp.
(Figs 33-40)

ADULT FEMALE (Fig. 33): Length of body 178-183 μm; width 117-119 μm. A few reticulated elements scattered on the anterior portion of the prodorsum. Dorsum with three pairs of lateral ‘dimples’ (rather than rosettes) formed by the striae. Striae vague, with round lobes (Fig. 38). Dorsal setae strong, serrate and curved except the trichobothrium, which is filiform and smooth. Setal measurements: p1-p3 subequal 12 μm; s 36 μm; d1-d4 subequal 14 μm; d5 and h2 subequal 12 μm; l1 13 μm; l4 and l5 subequal 14 μm; p5 8 μm.

All legs terminate in two claws and a hairy empodium, the latter with a claw (Figs 34-37). Solenidion on tarsus I long and slender (9 μm). Solenidion on tarsus II short (3 μm). Seta k on tibia I forked (Figs 34-35).

Setal pattern of palpus: 6(1)-2-2. Terminal eupathidium thick and bidentate distally, seta d forked, seta ba short and slender (Fig. 39). Moveable digit of chelicera (14 μm) slightly longer than palptarsus (11 μm).

Aggenital and genital setae setiform (Fig. 40).

ADULT MALE: Unknown.

TYPE DATA: Holotype, female, slide no. 5565, 4 female paratypes, Prästorpsjön (Loc. 11); ex bark of fallen tree, lichens on branches on ground, leg. LUNDQVIST.

ETYMOLOGY: Noun in apposition derived from exigu e (Lat. = insignificant) and litteratus (Lat. = furnished with writing), referring to the vague striation of the dorsum.

REMARKS: Tydeus exiguelitteratus n.sp. is distinct by having strong, serrate dorsal setae, three pairs of lateral dimples, and a few reticulated elements on the anterior part of the prodorsum. This combination of characters separates the species from all congeners.

In three of the five females of the new species the dimples on the dorsum were less pronounced than in the other two, and the striation was continuous across the invagination forming the dimple.

Tydeus danielssoni n.sp.
(Figs 41-49)

ADULT FEMALE (Fig. 41): Length of body 235-240 μm; width 154-157 μm. Dorsum with two pairs of rosette-like areas marking the muscle attachments between setae d1 and d2, d2 and d3. Reticulated elements rather than a small reticulated area on the anterior portion of the prodorsum. Dorsal setae aciculate. Dorsal stria with lobes (Fig. 47). Setal measurements: p1 13 μm; p2 14 μm; p3 15 μm; s 48 μm; d1-d5 subequal 13 μm; l1 14 μm; l4 and l5 subequal 15 μm; h2 and p5 subequal 12 μm.
Each apotele with two claws and an empodium, empodia without claws (Figs 42-45). Solenidion on tarsus I long (6 μm). Solenidion on tarsus II short (2 μm). Seta k on tibia I forked (Figs 42-43).

Setal pattern of palpus: 6(1)-2-2; terminal eupathidium thick and bidentate distally, whereas seta v simple and seta d forked (Fig. 46). Moveable digit of chelicera (15 μm) longer than palptarsus (10 μm).

Aggenital and genital setae setiform (Fig. 49).

**ADULT MALE**: Similar to female except for the genital area. Anterior eugenital flap with three pairs of setae, posterior eugenital flap with a single pair of setae (Fig. 48).

**TYPE DATA**: Holotype, female, slide no. 5475, allotype, male, slide no. 5474; 7 female and 15 male paratypes: Nyteboda (Loc. 10), ex grasses and bark from dead pine tree, leg. LUNDQVIST; 4 female
Fig. 42-49: *Tydeus danielssoni* n.sp.
Adult female, 42. — Leg I. 43. — Leg II. 44. — Leg III. 45. — Leg IV. 46. — Palp. 47. — Striation pattern on dorsum. 48. — Adult male, genital region. 49. — Adult female, genital region.
and 8 male paratypes: Pråsttorpasjôn (Loc. 11), ex moss layer on ground, leg. Lundqvist; 5 female and 2 male paratypes, Södra Åreda (Loc. 13), ex spruce forest with a dense moss layer, leg. R. Danielsson.

**ETYMOLOGY:** Named after Dr. Roy Danielsson, Lund, who provided us with material of the new species.

**REMARKS:** Tydeus danielssoni n.sp. was collected together with T. caputoperio n.sp. and the two were initially confused. However, the clawless empodium and short palptarsus of T. danielssoni make it possible to distinguish between them even at relatively low magnification. The species can also be separated from T. caputoperio by having few reticulated elements on the anterior portion of prodorsum, rather than a distinct reticulated area, and by having oJ slender, as opposed to cone-shaped in T. caputoperio.

*Tydeus polita* (Kuznetzov, 1975) new combination
(Figs 50-58)

*Lorryia polita* Kuznetzov, 1975

**ADULT FEMALE** (Fig. 50): Length of body 291-299 µm; width 200-212 µm. Dorsum covered with reticulate pattern, divided into 13 discrete sections by striae. The reticulation is conspicuous, consisting of irregular platelets connected to each other by black, I-formed spines along the sides and with triangular spines in the corners (Fig. 51).

All dorsal setae lanceolate, curved and slightly serrate except for the trichobothrium, which is filiform and smooth. Setal measurements: p1 23 µm; p2, p3, d1 and d4 subequal 24 µm; d2 and d5 subequal 25 µm; d3 26 µm; l1 23 µm; l4 25 µm; l5 26 µm; h2 and ps subequal 14 µm; h2 in ventral position; s 67 µm.

Each apotele with two claws and an empodial hook (Figs 54-57). Solenidion on tarsus I long (10 µm) and slender, solenidion on tarsus II short (3 µm). Seta k on tibia I forked (Figs 54-55).

Setal pattern of palpus: 6(1)-2-2. Terminal eupathidium thick and bidentate, seta ba short, seta d forked (Fig. 52). Moveable digit of chelicera (15 µm) longer than palptarsus (8 µm).

Aggenital and genital setae setiform (Fig. 53).

**ADULT MALE:** Length 261-270 µm; width 182-194 µm. Other features similar to female except for genital area; anterior eugenital flap with three pairs of setae, posterior eugenital flap with a single pair of setae (Fig. 58).

**COLLECTION DATA:** 3 females, 1 male, slide no. 5527, collected from moss layer, Ivökllack (Loc. 5). leg. Lundqvist.

**REMARKS:** Kuznetzov (1975) described the female of *T. polita* from specimens found in moss in the surroundings of the town of Tbilisi, Georgia. According to André’s (1980) definition, *L. polita* should be placed in the genus *Tydeus*. The male has not, to our knowledge, been previously found. Our specimens collected in moss in southern Sweden agree with Kuznetzov’s description, with the exception of setae h2, which is 14 µm in our specimens but 23 µm in those from Georgia (Kuznetzov 1975).

*Tydeus hughesae* Momen and Sinha, 1991

**COLLECTION DATA:** 5 females from Alnarp (Loc. 1), ex bark of apple tree; 4 females and 1 male from Stenöffa (Loc. 12), ex bark of apple tree; 2 females from Vomb (Loc. 14), ex lichens on pine-trunk; 2 females and 1 nymph from Lahibiagrottan, Kullaberg (Loc. 7), ex bark of *Sambucus nigra*; 1 female from Pråsttorpasjôn (Loc. 11), ex moss on ground; 1 female from Dunshult (Loc. 4) ex bark of *Picea abies*.

**REMARKS:** In six of the seventeen specimens from Sweden, either one or both of the h2 setae differ from the normal (long, blunt, Fig. 59). In two specimens both h2 setae are tapering distally and the left-side setae are shorter than on the right side (Fig. 60). In three specimens the seta on one side is tapering distally and shorter than on the other side (Figs 61, 62). In one specimen one seta is blunt and the other aciculate (Fig. 63). Inconsistency in the shape or number of setae from one body side to the
other in the family Tydeidae have been reported by Kazmierski (1989, 1990) in genital and aggenital area, and Momen & Lundqvist (1993) in leg chaetotaxy.

_T. hughesea_ Momen and Sinha has been collected from stored wheat at Glenlea, Manitoba, from stored oats and hay straw at Lawrencetown, Nova Scotia, and from St. Jean, Quebec.

In the original description by Momen & Sinha (1991) the name was spelled in two different ways: _hughesea_ and _hughesae_, respectively. However, since the suffix -ea makes no sense in Latin, the correct spelling must be _hughesae_.

**Tydeus maga** (Kuznetsov, 1973), new combination

*Paralorryia maga* Kuznetsov, 1973

**Collection data:** 2 females, 2 males and 2 nymphs from Vomb, (Loc. 14), ex lichens (*Cladonia* sp.) on ground.
**Remarks:** Inconsistency in the number of ps setae was observed in one specimen (1 ps seta on the right side and 2 on the left side).

*T. maga* was originally collected from tree-shrub and grass in the Nikitsky Botanical Gardens, Yalta, Ukraine (Kuznetsov & Livshitz, 1973).

**Tydeus danuta** (Kazmierski, 1978) new combination

*Lorryia danuta* Kazmierski, 1978

**Collection data:** 16 females and 5 males from Linnebjer (Loc. 8), ex debris under hazel.

**Remarks:** *T. danuta* has been collected from soil sample in mixed forest in Middle-east Poland.

**Tydeus reticulata** Oudemans, 1928

**Tydeus reticulatus**, Oudemans, 1928  
*Lorryia reticulata*, (Oudemans, 1929)
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