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REDEFINITION OF THE GENUS *TRIOPHTYDEUS* THOR, 1932 (ACARI: ACTINEDIDA)

by

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The genus *Triophtydeus* Thor, 1932 is redefined from the study of the type-species, *T. triophthalmus* (Oudemans, 1929). The genus *Metatriophtydeus* André, 1980 is a junior synonym of *Triophtydeus*. Species belonging or likely to belong to the genus *Triophtydeus* are listed and generic and specific characters are discussed.

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INTRODUCTION

The genus *Triophtydeus* was created by Thor (1932) to receive *Tydeus triophthalmus* Oudemans, 1929, a tydeid mite characterized by the presence of three eyes. In the review by Thor (1933), the presence of three eyes is still the major feature of the genus *Triophtydeus* which, in that work, was comprising four species previously described by Oudemans in 1929.

In the generic revision of the Tydeidae published by Baker (1965), the leg chaetotaxy of the genus was studied for the first time. However, the leg chaetotaxy defined by Baker was not based on the type-species and did not correspond to the one of the new species described in the same paper.

In 1973, Kuznetzov & Livshitz also published a review of the Tydeidae and proposed the same leg chaetotaxy as Baker (1965). In a subsequent paper Kuznetzov & Livshitz (1973b), again published the same leg chaetotactic formulae and provided a key to five species (none of them corresponding to a species previously described by Oudemans). The next year, Kuznetzov described two new species belonging to the genus *Triophtydeus* but with a leg chaetotaxy quite different from the one previously attributed to that genus.

Lastly in the revision I published in 1980, the genus *Triophtydeus* was not

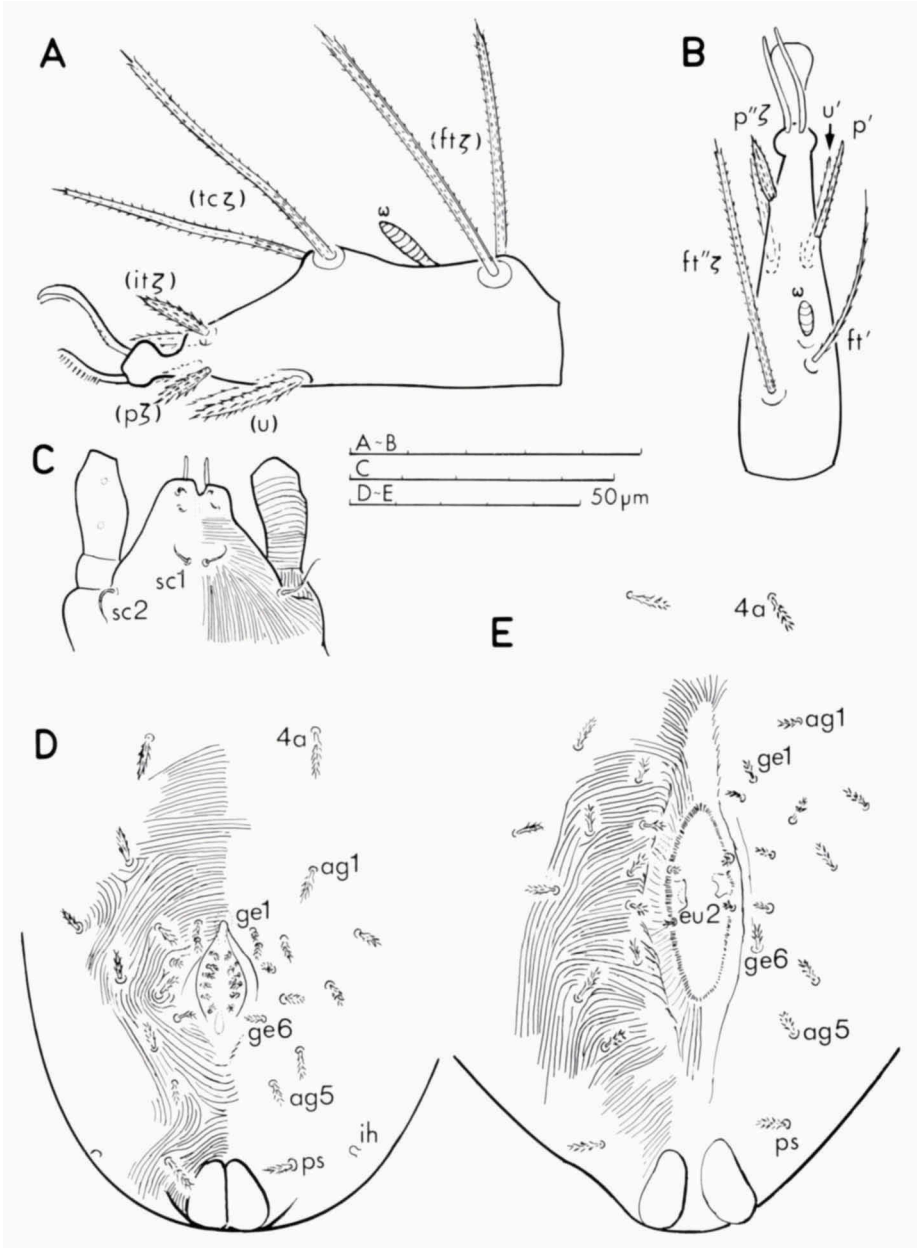

Fig. 1. *Triophtydeus triophthalmus* Oudemans. A. Antiaxial view of tarsus I; B. dorsal view of tarsus II; C. ventral view of gnathosoma; D. genital area of the male; E. genital area of the female.

mentioned at all as the type was in need of remounting. As none of the authors previously mentioned have been studying the type of *Tydeus triopthalmus* – the type-species of the genus – it has been necessary to redescribe that species and redefine the genus accordingly.

MATERIALS AND METHOD

The type series of *T. triophthalmus* included four slides. Unfortunately one of them (slide no. 1) has been lost. Slide no. 2 contains one protonymph and slide no. 3, one deutonymph. Slide no. 4 contains one male and one female. All slides are labelled "*Tydeus triophthalmus* Oudms 1929, Museum Leiden, verz. A. C. Oudemans, cat.no. . ., Faure" and "*Rhamnus cathartica*, Dahlem, 17. VIII.21 Dr. Zacher misit".

Slide no. 4 has been dismounted and both adults were studied in lactic acid in concavity slide although a few setae were missing and specimens were quite flattened. In addition both adults were embedded in a thin layer of an unidentified substance which was found to be insoluble either in water, alcohol or lactic acid, or in any organic solvents. It was nevertheless possible to study accurately the two specimens which were remounted separately (slides 4a en 4b). The female is designated as lectotype.

Data not available from the type-series (e.g. chaetotaxy of the larva and tritonymph) are based on the study of *Metatriophtydeus lebruni* André, 1980.

Redefinition of the genus *Triophtydeus*

Diagnosis. – *Prodorsum*: recurved; three eyes. *Opisthosoma*: dorsal chaetotaxy: 11 setae (l_2 missing); poroidotaxy: 4; genital organotaxy: Ad (2, 6-6-5 or 4), T (4-4), D(2-2), P (0-1); epimeral formulae: Ad & T (3-1-3-3), D (3-1-3-2), P (3-1-2-0), L (3-1-2). *Legs*: chaetotaxy I(10-5-3-5-1) II (6-2-2-4-1) III (5-1-2-1-1) IV (5-2-2-(1-2)-0) in adult and tritonymph, deutonymph[1]): I (10-4-3-4-1) II (6-2-2-4-0) III (5-1-2-1-1) IV (5-2-2-(1-1)-0), protonymph: I (8-4-3-4-0) II (6-2-2-4-0) III (5-2-1-1-0) IV (5-0-0-0-0), larva: same chaetotaxy as the protonymph but without leg IV; adult eupathidia on tarsus I: (*ft*), (*tc*), (*it*) and (*p*), on tibia I: *l*", on tarsus II: *ft*" and *p*", on tarsi III and IV: *ft*; larva with simple anabasis; solenidiotaxy: 2; femur IV usually divided in the adult. Palp: (6-2-2) + ω with a triple eupathidium at the tip.

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1) The deutonymph leg chaetotaxy was incomplete and misleading in my revision of 1980.

Iconography. – dorsal habitus: figs. 16 and 17 in Thor (1932) or fig. 43 in Thor (1933), fig. 6A in André (1980); genital area: see figs. 1D and E; tarsi I and II: see figs. 1A and B; tarsus IV: fig. 15D in André (1980); palp tarsus: figs. 6B in André (1980).

Synonymy. – The genus *Metatriophtydeus* André, 1980 is a junior synonym of *Triophtydeus* Thor, 1932. The species previously described under the former name are thus transferred to the genus *Triophtydeus*.

Type-species. – *Tydeus triophthalmus* Oudemans, 1929 by original designation. Fig. 1 supplements the previous descriptions.

DISCUSSION AND CONCLUSIONS

Obviously, the presence of three eyes is no longer a character sufficient to discriminate the genus *Triophtydeus*[1]). Similarly, the presence of two femora IV is withdrawn from the key-characters of the genus; indeed, *Triophtydeus* exhibits what is called an *ontogenetic bipartition* of femora IV by Grandjean (1954). In *T. lebruni*, for instance, femur IV is undivided in the protonymph but is divided in the deutonymph and next stases. This phenomenon – already known in several actinedid families (Bdellidae, Cunaxidae, Pachygnathidae, etc.) – has not yet been described in Tydeidae. This clearly means that the set of organotactic formulae above mentioned is the only character allowing the recognition of the genus.

As a result, the status of numerous species currently assigned to the genus *Triophtydeus* is undetermined. Indeed, 8 species have been described under the name *Triophtydeus* and 21 have been transferred to this genus. Out of these 29 species, four have been previously withdrawn from the genus (table 1)

Original name	transferred to
1. *Tydeus erebus* Strandtmann 1967 (1)	*Apotriophtydeus*
2. *Tydeus tilbrooki* Strandtmann 1967 (1)	*Pretriophtydeus*
3. *Tydeus wilkesi* Strandtmann 1967 (1)	*Apotriophtydeus*
4. *Triophtydeus alaskensis* Baker 1965	*Apotriophtydeus*

(1) previously transferred to the genus *Triophtydeus* by Baker (1970).

Table 1: List of species withdrawn from the genus *Triophtydeus* by André (1980).

1) In this respect, I have to mention that Dr. V. Vacante sent me a few specimens collected from trees in Sicilia and belonging to the genus *Tydeus*. They were typical of this genus in every respects except that they had three eyes.

and 20 correspond to dubious cases and need further description and/or reassignation (table 2). Only five of them really belong to the genus *Triophtydeus*. The five species are *T. triophthalmus* (Oudemans 1929), *T. craveni* Wood 1965, *T. flatus* Livshitz, 1973[2]), *T. immanis* Kuznetzov, 1973[2]) and *T. lebruni* (André, 1980).

Original name	Status	Author responsible for the transfer to *Triophtydeus*
1. *Tydeus bakeri* Brickhill 1958	-	Baker (1970)
2. *Trombidium celer* Hermann 1804 ?	-	Baker (1970)
3. *Triophtydeus celticus* Evans 1954	-	
4. *Tydeus coccophagus* Ewing 1911	-	Baker (1970)
5. *Tridilatydeus fastidius* Baker 1946	-	Baker (1965)
6. *Tridilatydeus fragarius* Baker 1944	x	Baker (1965)
7. *Tridilatydeus globiferus* Baker 1944	-	Baker (1965)
8. *Tydeus hanseni* Baker 1946	-	Baker (1970)
9. *Tridilatydeus hirsutus* Baker 1944	-	Baker (1965)
10. *Triophtydeus ineditus* Kuznetzov 1974	+	
11. *Tridilatydeus korsmeiri* Baker 1943	-	Baker (1965)
12. *Tydeus mildredae* Baker 1943	-	Baker (1970)
13. *Tridilatydeus minutus* Baker 1946	-	Baker (1965)
14. *Triophtydeus mundus* Kuznetzov 1974	+	
15. *Tydeus pinicolus* Oudemans 1929	-	Thor (1932)
16. *Tridilatydeus robustus* Baker 1944	-	Baker (1965)
17. *Tydeus sampsoni* Baker 1946	-	Baker (1970)
18. *Tridilatydeus stonei* Baker 1943	-	Baker (1965)
19. *Tydeus tiliarum* Oudemans 1929	-	Thor (1933)
20. *Tydeus viridis* Oudemans 1929	-	Thor (1933)

Status :

- : the status is undetermined as no chaetotactic data were published ;
+ : the chaetotaxy published differs from that of *Triophtydeus* ;
x : this species was redescribed from Crimea by Kuznetzv & Livshitz (1973b) but the chaetotaxy published differs from that of *Triophtydeus*.

Table 2: List of *Triophtydeus* species whose status is dubious.

2) I have not seen these species; however, the original description agrees very well with the generic definition.

So far, *T. craveni* seems to be unique in having only four pairs of aggenitals in the adult. Unfortunately, data published in the literature do not allow a proper identification of the other species and no key is available. Characters likely to characterize the species are, for instance, the shape of solenidia or the eupathidial state of some setae (the above definition could be easily modified on that point). The striation pattern (i.e. the direction, width and density of striae) varies also from one species to another but this character is very difficult to show in a drawing. Subcapitular setae, *sc2*, are S-shaped and very lateral in *T. triophthalmus* as noted by Thor (1932, 1933) but they are similar in *T. lebruni*. The latter species could be a junior synonym of *T. triophthalmus* as I am unable to demonstrate any difference between them. However, this problem and many others related to specific identifications of *Triophtydeus* will remain unsolved as long as a revision of the genus *as a whole* (i.e. based on all species previously described) is not contemplated.

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