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The genus *Emitrombidium* Lombardini, 1949 (Actinotrichida: Trombidiidae) resurrected

JOANNA MĄKOL[1, 3] & SEVGI SEVSAY[2]

[1]*Institute of Biology, Department of Invertebrate Systematics and Ecology, Wrocław University of Environmental and Life Sciences, Kożuchowska 5B, 51-631 Wrocław, Poland. E-mail: joanna.makol@up.wroc.pl*

[2]*Department of Biology, Science and Literature Faculty, Erzincan University, 24030, Erzincan, Turkey*

[3]*Corresponding author*

Abstract

Emitrombidium giocondi **sp. nov.**, a second species of *Emitrombidium* is described based on postlarval forms originating from Turkey. The history of the genus is retraced. The previous conjectures about the uncertain family affiliation of *Emitrombidium* are clarified and the genus is reinstated as a member of Trombidiidae. Hitherto records suggest the Mediterranean and Pontic distribution of the genus.

Key words: *Emitrombidium*, Parasitengona, new species, postlarval forms, Turkey

Introduction

Emitrombidium was erected by Lombardini (1949) in order to accommodate one species, *Emitrombidium variepilosum* Lombardini, 1949, based on a single female collected in the botanical garden in Rome. No other findings of the genus, originally associated with Trombidiidae, have been announced since the original description. Superficial diagnoses provided by Lombardini (1949), both for the genus and species, have raised some doubts as to the family affiliation of the newly described taxa. The main doubts concerning the identity of *Emitrombidium* concerned the peculiar shape of the dorsal opisthosomal setae, not known in other genera of Trombidiidae, combined with the lack of characteristics of the pedipalp (Southcott 1986; Mąkol 2007). Robaux (1967) and Vercammen-Grandjean (1973) assigned *Emitrombidium* to Trombidiinae. Neither Robaux (1967) nor Vercammen-Grandjean (1973) provided any comments on the identity of the genus. Southcott (1986) placed *Emitrombidium* among taxa referred to as doubtful or excluded from Trombidiinae. Mąkol (2000), when cataloguing the Trombidiidae, regarded *Emitrombidium* and *E. variepilosum* as taxa incertae sedis. The quest for the type specimen of *E. variepilosum*, carried out by the senior author, failed. The type material of the taxa described by Lombardini is deposited in the Istituto Sperimentale per la Zoologia Agraria, Firenze, however no trace of *E. variepilosum* was found [Dr. Roberto Nannelli, pers. communication].

In view of the loss of the type specimen, the insufficient data contained in the original description, and the lack of any further records for more than half a century, Mąkol (2007) classified *Emitrombidium* Lombardini, 1949 as nomen dubium, and confirmed doubts concerning its affiliation with Trombidiidae. The genus was not mentioned in any of the inventories provided by Mąkol and Wohltmann (2012, 2013). Here we provide the results of the recent finding of representatives of *Emitrombidium* in Turkey. In order to support to the stability of nomenclature, we refrain from describing a new genus.

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Discussion

Emitrombidium remains known exclusively from active postlarval forms. The present distribution of the genus encompasses localities known from Italy and Turkey. Due to the availability of only two records, the genus should be regarded as extremely rare. In the case of both species, any unique characteristics of the collection place does explain the rarity of findings, as similar microhabitats, within various biogeographic zones, are continuously examined for the presence of terrestrial Parasitengona mites. The placement of *Emitrombidium* in Trombidiidae, predominantly based on the shape of crista metopica, eyes, structure of palps and termination of tarsi I–IV, should not raise doubts. The shape of dorsal opisthosomal setae as observed in *Emitrombidium* has not been hitherto recorded within Trombidiidae. Two pairs of genital papillae have been observed in all hitherto examined specimens of *E. giocondi* **sp. nov.**, indicating that this character state is shared by deutonymphs and adults of *E. giocondi* **sp. nov.**, whereas it remains unknown for *E. variepilosum*. The level of sclerotization as well as the density of setation in specimens representing *E. giocondi* indicate they are the adult instar. Alas, neither the eggs typical of gravid females nor genital apparatus of males were observed in our specimens, thus the only indicator of sex, the shape of tarsus I, should be treated as tentative character that would support the hypothesis of adults being examined. The sex-dependent differences in the shape and/or length of the tarsus of the first leg have been hitherto observed in some members of Trombidiidae (e.g. *Caenothrombium* Oudemans, 1927), whereas no respective differences were found in deutonymphs (Mąkol 2007). Up to the present, the same number of genital papillae in deutonymphs and adults has been stated for members of *Calyptostoma* (Calyptostomatidae), possessing two pairs of papillae and - within Trombidiidae - for some *Allothrombium* spp., having three pairs of papillae (Mąkol 2007). Moreover, partial or complete reduction of third pair of genital papillae has been stated for adults of *Wohltmannella* Mąkol, 2007. The distribution pattern known for *Wohltmannella* (Mąkol 2007), as well as some morphological traits (e.g. the shape of chelicera, details of the structure of DS) may point to close affiliation with *Emitrombidium*, however the latter should be supported by further research. The subfamily affiliation of *Emitrombidium* within Trombidiidae (excl. Allothrombiinae, due to the presence of pseudopulvillus in active postlarval forms of the latter subfamily), seems to be more problematic and should remain tentative until data on larvae are available. Several genera known exclusively from larvae are known within Trombidiidae (Mąkol and Wohltmann 2012). The possible congenericity of any of these genera with *Emitrombidium* can, however, be confirmed only by means of experimental rearing or through comparison of DNA sequences obtained for larvae and postlarval forms.

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References

Lombardini, G. (1949) Acari nuovi. *Redia,* Series II, 34, 67–74.

Mąkol, J. (2000) Catalogue of the World Trombidiidae (Acari: Actinotrichida: Trombidioidea). *Annales Zoologici*, 50 (4), 599–625.

Mąkol, J. (2007) Generic level review and phylogeny of Trombidiidae and Podothrombiidae (Acari: Actinotrichida: Trombidioidea) of the World. *Annales Zoologici*, 57 (1), 1–194.

Mąkol, J. & Wohltmann, A. (2012) An annotated checklist of terrestrial Parasitengona (Actinotrichida: Prostigmata) of the World, excluding Trombiculidae and Walchiidae. *Annales Zoologici*, 62 (3), 359–562. http://dx.doi.org/10.3161/000345412x656671

Mąkol, J. & Wohltmann, A. (2013) Corrections and additions to the checklist of terrestrial Parasitengona (Actinotrichida: Prostigmata) of the World, excluding Trombiculidae and Walchiidae. *Annales Zoologici*, 63 (1), 15–27. http://dx.doi.org/10.3161/000345413x666075

Robaux, P. (1967) Contribution a l'étude des Acariens Trombidiidae d'Europe. I. Etude des Thrombidions adultes de la Péninsule Ibérique. II. Liste critique des Thrombidions d'Europe. *Mémoires du Muséum National d'Histoire Naturelle*, Série A (Zoologie), 46 (1), 1–124.

Southcott, R.V. (1986) Studies on the taxonomy and biology of the subfamily Trombidiinae (Acarina: Trombidiidae) with a critical revision of the genera. *Australian Journal of Zoology*, *Supplementary Series*, 123, 1–116. http://dx.doi.org/10.1071/ajzs123

Vercammen-Grandjean, P.H. (1973) Sur les status de la famille des Trombidiidae Leach, 1815 (Acarina: Prostigmata). *Acarologia*, 15 (1), 102–114.