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AUTHORSHIP OF THE FAMILY-GROUP NAMES TARSONEMIDAE AND PODAPOLIPIDAE AND PRIORITY OF SCUTACARIDAE OVER PYGMEPHORIDAE (ACARI: HETEROSTIGMATA)

BY Evert E. LINDQUIST *

ABSTRACT: The following changes in authorship and priority of family-group names for heterostigmatic mites are made in accordance with the International Code of Zoological Nomenclature and in the interest of historical accuracy. 1) The name Tarsonemidae, with all of its coordinate categories (including tribe, subfamily, superfamily), should take CANESTRINI and FANZAGO, 1877, rather than KRAMER, 1877, as authors. 2) The name Podapolipidae should take EWING, 1922, rather than OUDEMANS, 1931, or VITZTHUM, 1931, as author. 3) The name Scutacaridae OUDEMANS, 1916, with all of its coordinate categories, has priority over Pygmephoridae CROSS, 1965, for whichever family-group taxon is recognized as a monophyletic lineage that comprises both of these sublineages.

THE FAMILY-GROUP NAME TARSONEMIDAE

Tarsonemidae was first published as a family-group name about a century ago by CANESTRINI and FANZAGO (1877), and independently by KRAMER (1877). This was only a year after the first genera of this family, Tarsonemus (= Chironemus Canestrini and Fanzago, 1876a, preoccupied name) and Dendroptus, were proposed by CANESTRINI and FANZAGO (1876b) and by KRAMER (1876), respectively, to accommodate the first described species of the group, Chironemus minusculus Canestrini and Fanzago, 1876a, Tarsonemus floricolus Canestrini and Fanzago, 1876b, Dendroptus kirchneri KRAMER, 1876, and Dendroptus robinii KRAMER, 1876. Only a year later, KRAMER (1877, p. 219), following personal correspondence with CANESTRINI, acknowledged that the name Tarsonemus had been published earlier than

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Dendroptus; he regarded Tarsonemus to have priority over Dendroptus, and the latter was treated thereafter as a junior subjective synonym.

Authorship of the family-group name Tarsonomidae has traditionally (VITZTHUM 1929, 1942, Oudemans 1931, 1937, André 1949, Radford 1950, Baker and Wharton 1952, Hughes 1959, Sasa 1965, Sevast'yanov 1978) been ascribed to Kramer (1877); yet that of the higher category name Tarsonemini (variously spelled as Tarsonomidi, Tarsonemina, or Tarsonemida, and treated anywhere from a level within a cohort to a separate order), has been attributed to Canestrini and Fanzago (1877). The reasons for this are obscure, but in any case are inconsistent with the International Code of Zoological Nomenclature (1964, 1985).

Canestrini and Fanzago (1877) named and clearly described the Tarsonomidae as a family, spelled by them as "Tarsonemini". The date of publication of the journal in which this description appeared was given as November 1877 (this was checked with the aid of Dr. Fausta PegaZano, Istituto Sperimentale per la Zoologia Agraria, Florence, while I was in Florence in March, 1977). Since this date is not further specified, it must be interpreted as 30 November 1877, in accordance with Article 21 of the International Code. Some ten years later, Canestrini (1888) referred to the paper by Canestrini and Fanzago (1877) as the one in which the family Tarsonemidae was instituted, and cited several contemporary acarologists who had accepted this family.

At very nearly the same time, however, Kramer (1877) published a general study on the systematics of mites, which included recognition of the Tarsonemidae as a family (with Dendroptidae equated as a junior synonym; see pp. 219-220). Other than the year, no month or more specific date of publication was given by the journal in which Kramer's work appeared (this was checked with the aid of Dr. H. Fechter in Munich, and Prof. H.-J. MülLer in Berlin, personal correspondence, April-October 1977; they indicated to me that Kramer's paper was divided between the second and third parts (Hefte) of the first volume (Band 1) for 1877, and Prof. MülLer speculated that it was probably published in April or May of that year; however, a more precise date than 1877 could not be ascertained). Therefore, the publication date must be interpreted as 31 December 1877, in the absence of evidence to the contrary, according to the International Code. Kramer, in subsequent papers, never claimed to have newly described the family Tarsonemidae in 1877, and no intention is apparent in this regard in his 1877 paper. In fact, Kramer himself (1878, p. 556) cited Canestrini and Fanzago as authors of the family Tarsonemidae!

For the above reasons, the family-group name Tarsonemidae should take Canestrini and Fanzago, 1877 as authors instead of Kramer, 1877. This was recognized by Berlese (1900), and most other authors up to the time of Oudemans (1923) and Vitzthum (1929), with the exception of Michael (1884, p. 43) who appears to have attributed Tarsonemidae to Kramer (1877) without mention of Canestrini and Fanzago (1877). The appropriate authorship and date of these family-group names should be listed chronologically as follows:

Tarsonemini Canestrini and Fanzago, 1877 [published Nov. 30]  
(= Dendroptidae Kramer, 1877 [p. 219, footnote line 10; published Dec. 31])  
(= Tarsonemidae : Kramer, 1877 [p. 219, footnote line 11, and p. 220, line 27; published Dec. 31])

Authorship of higher categories is not subject to the rules of the International Code. However, in the interests of stability and universality of usage, authorship of the cohort-group name Tarsonemina should continue to be ascribed to Canestrini and Fanzago, 1877. Treatment of this group as an order, Tarsonemida, by van der Hammén (1970, 1972) has not been supported or followed by most other authors (e.g., Krantz 1978, Kethley 1982) following a refutation of this concept by Lindquist (1976); further refutation is presented by Lindquist (in press).
THE FAMILY-GROUP NAME Podapolipidae

In subsequent years of the 19th century, additional species and genera were described and added to the family Tarsonomidae by various European workers, the details of which are given by Beer (1954), Cross (1965), and Beer and Nucifora (1965). The genera added, however, were ones now placed in other families of the Tarsonomina. Thus the group, recognized as the subfamily "Tarsonomini" by Berlese (1886) and as the family "Tarsonomina" by Canestrini (1888), comprised four genera, each of which is representative of separate families today: Tarsonomus Can. & Fanz., representing the Tarsonomidae; Pediculoides Targioni-Tozzetti, 1878, the Pyemotidae; Pygmehorus Kramer, 1877, the Pygmehoridae; and Disparipes Michael, 1884, the Scutacaridae. Berlese (1900) first proposed the Pediculoididae (= Pyemotidae Oudemans, 1937) as separate from the Tarsonomidae. His concept of Pediculoididae included genera later placed in Pyemotidae and Podapolipidae, whereas that of Tarsonomidae included genera later placed in Tarsonomidae and Scutacaridae. Subsequently, Berlese (1913) recognized three family-group taxa to constitute the Tarsonomidae, in following Paoli's (1911) proposal of the Disparipedidae (= Scutacaridae Oudemans, 1916) as a family-group separate from the Tarsonomidae. In their general systematic treatments of the Acari, Oudemans (1923) and Vitzthum (1929) followed Berlese (1913) in recognizing Tarsonomidae, Pediculoididae, and Scutacaridae as the three families of Tarsonomina.

In a paper surprisingly rarely cited by subsequent authors, Ewing (1922) presented a classification of the genera and families of Tarsonomina, arranged as a key. There, Ewing recognized four families of Tarsonomina, and was first to propose Podapolipidae as a family to accommodate the "peculiarly degenerate genus" Podapolipus Rovelli and Grassi, 1888. Yet, to my knowledge, this family name has never been credited to Ewing, but instead to Oudemans (1931), by subsequent authors. Apparently unaware of Ewing's (1922) work, Oudemans (1931) and Vitzthum (1931) independently recognized the Podapolipodidae (sic) as a separate family. To correct this oversight, I present the name with its original author and date, and its subsequent authors and dates, chronologically:

Podapolipodidae Ewing, 1922 (published August 4)
(= Podapolipodidae : Oudemans, 1931, published Nov. 1)
(= Podapolipodidae : Vitzthum, 1931, "completed" (Abgeschlossen) Oct. 1)

Curiously, Ewing's paper was not even cited in his own subsequent revisionary work on the Tarsonomidae (Ewing 1939), and this has contributed to its obscurity.

THE FAMILY-GROUP NAME Scutacaridae

Three families are included in the superfamily Pygmehorioidea Cross, 1965, according to recent concepts (Mahunka 1970, Krantz 1978, Kethley 1982): Pygmehoridae Cross, 1965, Microdispidae Cross, 1965, and Scutacaridae Oudemans, 1916. In accord with Articles 23 and 35-36 of the International Code of Zoological Nomenclature, which deal with the law of priority and with the coordinate status of all categories (including tribe, subfamily, family, and superfamily) in the family-group of names, the correct name for this superfamily is Scutacaroidea Oudemans, 1916.

This is all the more relevant in the light of current hypotheses that either one or both of the groups Scutacaridae and Microdispidae do not warrant separate family-level status (e.g., Savulkina 1981, Sevast'yanov 1977). In fact, 20 years ago, Cross (1965, see his dendrogram on p. 247) had already recognized that, phylogenetically, pygmehorids are evidently a paraphyletic group. If scutacarids have arisen within the pygmehorid stock, and are considered as a subfamily or a tribe within this lineage, then the correct name for this family is Scutacaridae Oudemans, 1916, instead of Pygmehoridae Cross, 1965.

A case could perhaps be referred to the Interna-
national Commission on Zoological Nomenclature for retention of the more junior name Pygmephoridae as the family and superfamily category name, in the interest of stability and universality of usage. However, this would be weakened by the fact that the name Pygmephoridae has been used as such for only 15 years, beginning with the work of MAHUNKA (1970).

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