

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

BY Evert E. LINDQUIST \*

## NOMENCLATURE ACAROLOGICAL

**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.

## NOMENCLATURE ACAROLOGIQUE

**RÉSUMÉ :** Quelques changements au sujet de l'auteur et de la priorité des noms du groupe-famille des acariens heterostigmatiques sont effectués, conformément au Code International de Nomenclature Zoologique et dans l'intérêt de l'exactitude historique. 1) Le nom Tarsonemidae, avec toutes ses catégories coordonnées (incluant tribu, sous-famille, superfamille), doit prendre CANESTRINI et FANZAGO, 1877, plutôt que KRAMER, 1877, comme auteurs. 2) Le nom Podapolipidae doit prendre EWING, 1922, plutôt que OUDEMANS, 1931, ou VITZTHUM, 1931, comme auteur. 3) Le nom Scutacaridae OUDEMANS, 1916, avec toutes ses catégories coordonnées, a la priorité sur Pygmephoridae CROSS, 1965, pour n'importe quel taxon du groupe-famille est reconnu comme une lignée monophyletique comprenant ces deux sous-lignées.

## 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 CANES-

TRINI 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

\* Biosystematics Research Institute, Agriculture Canada, Ottawa, Canada.

*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 Tarsonemidae 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 Tarsonemidi, 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 Tarsonemidae 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 PEGAZZANO, 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 HAMMEN (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 Tarsonemidae 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 Tarsonemina. Thus the group, recognized as the subfamily "Tarsonemidi" by BERLESE (1886) and as the family "Tarsonemini" by CANESTRINI (1888), comprised four genera, each of which is representative of separate families today : *Tarsonemus* Can. & Fanz., representing the Tarsonemidae ; *Pediculoides* Targioni-Tozzetti, 1878, the Pyemotidae ; *Pygmephorus* Kramer, 1877, the Pygmephoridae ; and *Disparipes* Michael, 1884, the Scutacaridae. Berlese (1900) first proposed the Pediculoididae (= Pyemotidae Oudemans, 1937) as separate from the Tarsonemidae. His concept of Pediculoididae included genera later placed in Pyemotidae and Podapolipidae, whereas that of Tarsonemidae included genera later placed in Tarsonemidae and Scutacaridae. Subsequently, BERLESE (1913) recognized three family-group taxa to constitute the Tarsonemina, in following PAOLI's (1911) proposal of the Disparipedidae (= Scutacaridae Oudemans, 1916) as a family-group separate from the Tarsonemidae. In their general systematic treatments of the Acari, OUDEMANS (1923) and VITZTHUM (1929) followed BERLESE (1913) in recognizing Tarsonemidae, Pediculoididae, and Scutacaridae as the three families of Tarsonemina.

In a paper surprisingly rarely cited by subsequent authors, EWING (1922) presented a classification of the genera and families of Tarsonemina, arranged as a key. There, EWING recognized four families of Tarsonemina, 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 :

Podapolipidae 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 Tarsonemidae (EWING 1939), and this has contributed to its obscurity.

# THE FAMILY-GROUP NAME SCUTACARIDAE

Three families are included in the superfamily Pygmephorodea Cross, 1965, according to recent concepts (MAHUNKA 1970, KRANTZ 1978, KETHLEY 1982) : Pygmephoridae 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 Scutacarodea 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, pygmephorids are evidently a paraphyletic group. If scutacarids have arisen *within* the pygmephorid 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 Pygmephoridae Cross, 1965.

A case could perhaps be referred to the Interna-

tional 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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