

Steps toward conserving the family-group name *Psilidae* (Insecta: Diptera): Reversal of precedence for *Psilidae* Walker, 1853 (*nomen protectum*) and *Psilomyiidae* Macquart, 1835 (*nomen oblitum*) and invoking Article 35.5 for the precedence of *Psilidae* Walker, 1853 over *Loxoceridae* Macquart, 1835

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Abstract. The family-group name *Psilidae* (based on the nominal genus *Psila* Meigen, 1803) is found to date from Walker, 1853 and is a junior synonym of *Psilomyidae* Macquart, 1835 [corrected spelling as “*Psilomyiidae*”] (based on the nominal genus *Psilomyia* Macquart, 1835). *Psilomyiidae* has not been used as valid since 1899 and *Psilidae* is in current use in a vast number of publications, which allows for reversal of precedence (ICZN Code Article 23.9) with *Psilidae* Walker, 1853 qualifying as *nomen protectum* and *Psilomyiidae* Macquart, 1835 as *nomen oblitum*. *Psilidae* Walker, 1853 is also younger than *Loxoceridae* Macquart, 1835, but Article 35.5 mandates that *Psilidae* Walker, 1853, which is in prevailing usage, is not to be displaced by the older family-group name *Loxoceridae* Macquart, 1835, currently in use at the tribal level (a lower rank).

The family *Psilidae* is a well-known Diptera family-group name for what are commonly known as rust flies, whose larvae live in stems, tubers or roots. Several species are economically important in that they are pests in agriculture and horticulture. One species especially, *Psila rosae* (Fabricius, 1794), the carrot rust fly, causes damage to carrots and other crops such as parsnip, celery and parsley. The family is widespread in temperate climates around the world and currently comprises 415 species in 11 genera (Evenhuis & Pape 2024).

In his catalog of family-group names of Diptera, Sabrosky (1999: 261) treated the name *Psilidae* as valid, but he also listed “*Psilomyidae*” Macquart, 1835 [corrected spelling as *Psilomyiidae*] and *Loxoceridae* Macquart, 1835 as older names for the family. Latreille (1829: 525) proposed the new replacement name *Psilomyia* for the nominal genus *Psila* Meigen, 1803, because he considered Meigen’s name to “*diffère trop peu de celle déjà donné à un genre d’hémiptères*”, perhaps *Psylla* Geoffroy, 1762. Macquart (1835: 416) followed Latreille’s use of the name *Psilomyia* and proposed the family-group name “*Psilomyidae*” [corrected spelling as “*Psilomyiidae*”], basing the name on the nominal genus *Psilomyia*. Macquart (1835: 372) also proposed the family-group name *Loxoceridae*, based on *Loxocera* Meigen, 1803. Both nominal genus-group taxa *Psilomyia* and *Loxocera* are currently treated within the family *Psilidae* (e.g., Evenhuis & Pape 2024).

Step One

Apparently, no one has as yet commented on Sabrosky (1999) giving the valid name for rust flies as Psilidae, and at the same time indicating that the oldest name for the family was not based on the genus *Psila*, but on its unjustified replacement name *Psilomyia* Latreille, 1829. Similarly, the priority of Loxoceridae Macquart, 1835 over Psilidae Walker, 1853 is unambiguously apparent from Sabrosky (1999), but it has so far not been picked up in the literature.

The oldest family-group name based on the genus *Psila* Meigen, 1803 is “Psilides” Walker (1853: 148) [corrected spelling as “Psilidae”]. Following priority and accepting Psilomyiidae Macquart, 1835 over Psilidae Walker, 1853 would threaten stability in nomenclature. Psilidae is in current use and has appeared in a large number of works (over 1,900 hits on Google Scholar for the last 50 years); while Psilomyiidae (or any of its alternative spellings) has not been used as a valid name since 1899; last usage found for this paper was by Acloque (1897, as “Psilomyini”). [The mention of “Psilomydes” in Sabrosky (1941: 737) was not a use as a valid name but merely mentioned in a history of the family Chloropidae.] I therefore establish Psilidae Walker, 1853 to have precedence over Psilomyiidae Macquart, 1835 by reversal of precedence in accordance with Article 23.9.2 (I.C.Z.N. 1999), which requires “at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years” using Psilidae as a valid name (see Appendix). The family-group name Psilidae Walker, 1853 is accordingly a *nomen pro-rectum* and the family-group name Psilomyiidae Macquart, 1835 a *nomen oblitum*.

Step Two

Step One fixes only a part of the problem with regard to the family-group name Psilidae. There are two further steps needed to resolve the problem and conserve the family-group name Psilidae. Macquart (1835: 372) proposed the family-group name Loxoceridae (based on *Loxocera* Meigen, 1803. Step Two resolves this by invoking Article 35.5 (I.C.Z.N. 1999): “If after 1999 a name in use for a family-group name taxon [...] is found to be older than a name in prevailing usage for a taxon at higher rank in the same family-group taxon [...] the older name is not to displace the younger name.” Psilidae Walker, 1853 (the younger name and at a higher rank) is in prevailing usage as to my knowledge no other scientific name is currently used for the rust flies, and this name is therefore not to be replaced by Loxoceridae Macquart, 1835 (the older name currently in use at a lower rank, as Loxocerini).

Step Three

One more step is needed to fully resolve the situation and conserve Psilidae Walker, 1853. This study discovered that the earliest use of a family-group name with the root “Psil-“ is by Fallén (1812), who proposed the name “Psilotes” [corrected spelling as “Psilidae”] for a group of Hymenoptera based on the genus *Psilus* Panzer, 1801. It is currently used at the tribal level (as Psilini) in the family Diapriidae (e.g., Masner & Garcia 2002). Although Psilidae Fallén, 1812 is older than the family-group name Diapriidae Haliday, 1833, in which the tribe Psilini currently resides, Diapriidae is retained through prevailing usage under ICZN Code Art. 35.5 (see Notton 2014). The fact that Psilidae Fallén, 1812 is older than Psilidae Walker, 1853 means that either the oldest available family-group name in Psilidae (Diptera) (which is Loxoceridae Macquart, 1835) would have to be used in place of Psilidae Walker, 1853; or an application be made to the ICZN Commission to remedy the situation (in my opinion the better option). To alleviate the problem, an application is being

prepared for submission to the ICZN Commission to request resolution of the homonymy of the two family-group names based on the root “*Psil-*” by asking that a different spelling be used for *Psilini* Fallén, 1812, and be based on the root “*Psilus-*”, thus giving *Psilusini* Fallén, 1812, thereby conserving the spelling of *Psilidae* Walker, 1853.

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APPENDIX

List of 31 works by 23 different first authors (more than 30 authors in total) using the family-group name Psilidae as valid in the last 50 years (since 1974).

- Angell, C.** 2023. Replacement names for two Asian species of *Psila* Meigen, 1803, sensu lato (Diptera, Psilidae). *Bionomina* **34**: 45–49.
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- Carles-Tolrá, M.** Two new species of Psilidae and Tethinidae from Spain (Diptera). *Bollettino della Società Entomologica Italiana* **124**: 250–253.
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