

On the permanent invalidity of certain eucerine bee names (Hymenoptera: Apidae: Eucerini)

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The new updated checklist of the bees of Morocco (Sentil *et al.* 2025) uses two names for bees in the tribe Eucerini Latreille, 1802 which have a complicated nomenclatural history. Specifically, these are *Eucera nigra* Lepeletier, 1841 and *Tetralonia nigrifacies* Dours, 1873. These two names are permanently invalid, as detailed below, and cannot be used under the provisions of the ICZN (1999) Code, Article 59.3, which states: “A junior secondary homonym replaced before 1961 is permanently invalid unless the substitute name is not in use and the relevant taxa are no longer considered congeneric, in which case the junior homonym is not to be rejected on grounds of that replacement”. Both criteria must be met in order for a replaced name to become valid again, and the former criterion is not met for either name.

Eucera nigra Lepeletier, 1841

Lepeletier (1841: 126) described *Eucera nigra* in the female sex from Oran (Algeria). Friese in Dalla Torre (1896: 225) considered Lepeletier’s taxon to be preoccupied by *Macrocerca nigra* Lepeletier, 1841 which was described on page 112. Both Dalla Torre and Friese considered the genus *Macrocerca* Latreille, 1810 (nec. Meigen, 1803, a Dipteron genus) to be the same genus as *Eucera* Scopoli, 1770, hence rendering *Eucera nigra* Lepeletier a junior secondary homonym of *Macrocerca nigra* Lepeletier. Whilst today *Tetralonia* Spinola, 1838 (the replacement name for Latreille’s *Macrocerca*) is considered to be distinct from *Eucera* (Freitas *et al.* 2023), at the time of Dalla Torre and Friese a broad generic concept was followed. Friese in Dalla Torre (1896: 225) therefore proposed the name *Eucera aterrima* Friese, 1896, a name which is currently in use (e.g. Risch 2001; Mazzeo 2019), with the former publication uncertainly forming the combination *Eucera nigrita* ssp. *aterrima* Friese, 1896.

Dorchin (2023: 15) treated *Eucera nigra* as a valid name, designating a lectotype and treating the name as senior to *Eucera subvillosa* Lepeletier, 1841, citing ICZN Article 24.2 as the First Reviser in choosing one concurrently published name over the other. However, this choice is secondary to the fact that Friese in Dalla Torre (1896) had already acted as the First Reviser in judging *Eucera nigra* Lepeletier to be a junior secondary homonym of *Macrocerca nigra* Lepeletier. Because this action was published before 1961, and the replacement name *Eucera aterrima* is still in use, the provisions of Article 59.3 apply; *Eucera nigra* Lepeletier is permanently invalid regardless of the fact that the genera *Eucera* and *Tetralonia* are no longer considered congeneric. The oldest available name, *Eucera subvillosa*, therefore becomes valid, with *E. aterrima* as a junior subjective synonym.

Tetralonia nigrifacies Dours, 1873

Dours (1873: 323) described this species in the female and male sexes from Algeria and France, from what was probably a mixed type series (Dorchin 2023; Ghisbain & Rosa *et al.* 2023). Considering *Tetralonia* to be congeneric with *Eucera*, rendering *Tetralonia nigrifacies* a junior secondary homonym of *Eucera nigrifacies* Lepeletier, 1841, Dalla Torre & Friese (1895: 57) provided the replacement name *Eucera commixta* Dalla Torre & Friese, 1895.

In the literature, the name was sometimes used with *Eucera* and *Tetralonia* separated into different genera, such as by Dusmet (1928: 280) who reported *Tetralonia nigrifacies* Dours from Algeria and Morocco and explicitly considered it to be senior to *commixta* (thus implicitly considering it to be an unnecessary replacement name). However, other authors followed Dalla Torre & Friese’s treatment; Saunders (1908: 260) reported *Eucera (Macrocerca) commixta* from Algeria, so there was therefore already confusion as to the correct name to apply to this taxon.

The name *Eucera commixta* is currently in use (Nieto *et al.* 2014; Lhomme *et al.* 2020; Ghisbain & Rosa *et al.* 2023), and over time, the concept has shifted to apply to a *Eucera (Synhalonia)* Patton, 1879. Dorchin (2023: 29) revised the original concept of *Tetralonia nigrifacies*, and concluded that even if the original type material was lost, it could be recognised as a *Tetralonia* (not *Eucera (Synhalonia)*), and designated a neotype from Mascara (Algeria).

However, as is true for *Eucera nigra* Lepeletier, the replacement name *Eucera commixta* was also provided before 1961, and this name is currently in use. Even if the use of the name is incorrect relative to the original specific concept of Dours and recent neotype designation, this does not affect the provisions of the Code. Article 59.3 is clear that *Tetralonia nigrifacies* is permanently invalid regardless of the fact that the genera *Eucera* and *Tetralonia* are no-longer considered congeneric. Following the neotype designation and fixation of the species-level concept, the valid name is therefore *Tetralonia commixta* (Dalla Torre & Friese, 1895) **comb. nov.**

Nomenclatural stability in the genera *Eucera* and *Tetralonia*

Generic-level concepts in eucerine bees have been extremely unstable over time due to their highly challenging morphological classification (Michener 2007; Dorchin *et al.* 2018; Freitas *et al.* 2023). Whilst the broad concept of *Eucera* used by Dalla Torre & Friese (1895) and Dalla Torre (1896) is no longer followed (Freitas *et al.* 2023), this has been highly changeable over time. As recently as 2018, *Tetralonia* was synonymised under *Eucera* (Dorchin *et al.* 2018), before it was resurrected by Freitas *et al.* (2023).

The problem of these changing generic concepts and their impact on specific taxon names was, at least for these two taxa, already resolved by Dalla Torre and Friese by providing replacement names. The resurrected use of *Eucera nigra* Lepeletier and *Tetralonia nigrifacies* Dours is not only not Code-compliant, but actively contributes to nomenclatural confusion in this challenging group of bees. Not following the Code, and judging validity of names based only on whether the genera in which they were described are currently treated as distinct would result in a situation of *name alpha* being valid before 2018, *name beta* being valid between 2018–2023, and then returning to *name alpha* as valid after 2023. In this case, the replacement names outlined above have been valid since 1896 and 1895, respectively, and will remain valid at a specific level regardless of which generic classification approach is adopted.

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