



## Validity and interpretation of *Murcia* Koch, *Trichoribates* Berlese and their type species (Acari: Oribatida: Ceratozetidae)

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In the literature there is much confusion about the identity and taxonomic position of two common oribatid mite species in the family Ceratozetidae: *Oribates setosus* C.L. Koch, 1839, and *Murcia trimaculata* C.L. Koch, 1835. Related to these problems, there are contrary opinions about the validity of two ceratozetid genera, *Murcia* Koch, 1835 and *Trichoribates* Berlese, 1910, and the identity of their type species. Important conclusions on these issues have been proposed in the past (Jacot 1929; Pérez-Iñigo 1993) but these were not followed in an important recent catalog (Subías 2004). In the following, we summarize and comment on the history of these problems, and argue in the context of the current ICZN rules to preserve nomenclatural stability.

### A. The identity of *Oribates setosus* C.L. Koch

1) In his classic, multiyear work *Deutschlands Crustaceen, Myriapoden und Arachniden* (CMA), C.L. Koch (1839, CMA 30.19) proposed *Oribates setosus*. The description and illustration of this species was clearly based on the adult stage of a pterogasterine oribatid mite.

2) Koch (1843: 98) grouped *O. setosus* together with *O. picipes* Koch, 1839 (CMA 30.15), *O. fuscipes* Koch, 1844 (CMA 38.9; the description was not yet published in 1843), *O. mollicomus* Koch, 1839 (CMA 30.20) and *O. angulatus* Koch, 1839 (CMA 30.21) as species group “β” of *Oribates* Dugès, 1834. [note: Koch divided the genus *Oribata* Latreille, 1802 – which included all named oribatid species at that time – into eight genera, omitting the first genus *Oribata*. Michael (1884) discussed the different systematic concepts and obviously regarded *Oribates* sensu Koch as junior synonym of *Oribata* s. str.] Koch characterized this group as having a small pteromorph, a lamella with protruding cusp, a claviform sensillus and an oval notogastral shape (characters translated from Koch’s terminology into modern usage; see Weigmann (2006)).

3) Michael (1884: 243; pl. 7, figs. 3–12) described and illustrated the adult and tritonymph of what he considered *Oribates setosus*. He also assumed that his illustrated “nymph is probably the creature described by Koch under the name of *Murcia trimaculata*” (1884: 245); i.e., in his opinion the two names were probably synonyms (see B.4, below). However, Michael’s work was based on a misidentification, as discussed below, and the species he studied is referred to herein as “*Oribata setosa* sensu Michael (non-Koch).” Because his descriptions and illustrations were relatively good, we believe that Michael’s specimens belonged to a species named more than a century later: *Trichoribates myrica* Gjelstrup & Solhøy, 1994. This species has so far been reported from the type-locality in Iceland and from Germany (Weigmann 2006).

4) Michael (1888: 578) discussed an unusual variability among British populations of *Oribata setosa* sensu Michael (non-Koch), regarding the relative length of the lamellar cusp. It seems probable that these observations relate instead to two or more species. For example, the elongated lamellar cusp of the adult in his illustration (Michael 1884: pl. 7, fig. 3) looks like that of *T. myrica*, but the “variants” could relate to other species of *Trichoribates* reported from England (Luxton 1996), including *T. novus* Sellnick, 1928, *T. monticolus* (Trägårdh, 1902) and *T. trimaculatus* auct. (in the sense of modern authors since Willmann 1931; see Weigmann 2006: 388; see also section D, below).

5) Berlese (1887; AMS 43.4) published an interpretation of *Oribates setosus* Koch clearly different from that of Michael (1884). Later, in 1910, he transferred this “*Oribates setosus* sensu Berlese (non-Koch)” to *Trichoribates* Berlese, 1910 (see below: section D).

6) Sellnick (1928: 11) proposed the genus *Fuscozetes*, with the type species *Oribates fuscipes* Koch, 1844, and included *Oribates setosus* Koch, 1839 as a second species, with the following indication: “synon. *setosus* Koch non *setosus* Berlese, Michael [etc.]”. This combination, *Fuscozetes setosus* (C.L. Koch), has remained generally accepted.

### B. The type species and date of publication of *Murcia* C.L. Koch

1) C.L. Koch (1835, CMA 3) first used the genus name *Murcia* while applying it to two species, also newly proposed at that time. These were *Murcia trimaculata* Koch (CMA 3.21) and *Murcia acaroides* Koch (CMA 3.22). He selected no type species.