

T. weitzeckeri complex

The species of this complex can be found in most of the Afrotropical region although each one has its particular distribution range. *Tetramorium boltoni*, *T. guineense*, *T. renae* and *T. snellingi* are forest species, distributed throughout the Guineo-Congolian forest zone while the rest of the complex lives in open habitats in Eastern and Southern Africa. As opposed to the petiolar shape in the *T. edouardi* complex, species of the *T. weitzeckeri* complex all possess a distinctly squamiform petiolar node (e. g. Figs. 73, 74, 76, 77, 83, 85, 86), in dorsal view distinctly more than twice as wide as long, often much more (DPeI 219–367), in profile much more than twice as high as long (LPeI 25–43). The shape of the petiolar node in dorsal view is always elliptical (e. g. Figs. 74, 83, 86, 89) as opposed to the irregularly hexagonal shape observed in the *T. edouardi* complex. In addition, the development of the antennal scrobe within the *T. weitzeckeri* group resembles the condition in the *T. edouardi* complex. The scrobe is less strongly developed than in the *T. muralti* complex, usually shallow, narrow, and without a well-defined ventral margin (e. g. Figs. 75, 78, 87, 90). As in the *T. edouardi* complex, the cephalic sculpturation is never reduced, with at least seven longitudinal rugae between the frontal carinae (e. g. Figs. 75, 81, 84, 93, 96). The species complex can be further divided into species with standing hairs on the first gastral tergite (*T. boltoni*, *T. guineense*, *T. renae*, *T. snellingi*, *T. weitzeckeri*) and those without standing pilosity on this tergite (*T. bendai*, *T. humbloti*, *T. sepultum*, and *T. tanaense*).

Notes

It is important to mention that most species examined during this study showed a remarkable and higher than expected size variation. This leads to the conclusion that most total measurements are less useful in order to distinguish species, especially if there are only few specimens available per species. Consequently, it was avoided to base diagnostic decisions on size variation. Contrary to this, the use of indices proved to be more successful and was generally employed to support morphological characters and in delimiting morphometric species boundaries.

Although several of the treated species are widely distributed and common, the knowledge on the biology of the species group is relatively scarce. Most species seem to be terrestrial, nesting and foraging in the leaf litter or ground, although some species as *T. edouardi* and *T. philippwagneri* have been found foraging in the lower vegetation, too. Feeding habits of the group appear to be carnivorous as stated in Bolton (1980), and our own observations on Kenyan species as well as first data from stable isotope analysis support this view (G. F., unpublished).

Finally it has to be emphasized that the *T. weitzeckeri* species group as a whole and the defined species complexes must not necessarily reflect monophyletic clades within the genus. Bolton (1980) already noted the strong affinities of species of the *T. weitzeckeri* and *T. edouardi* complexes with members of the *T. grassii* and *T. squaminode* species groups. The general morphological appearance and some shared key characters, like the spatulate sting appendage, seem to suggest a close phylogenetic relationship and the only separating character is the antennomere count of 12 in the *T. grassii* and *T. squaminode* species groups. However, at present it is still difficult to decide if the *T. weitzeckeri* complex is more closely related to the *T. squaminode* species group because of the squamiform petiolar condition of both, or if it is derived from the *T. grassii* group and has developed the squamiform petiole independently from the *T. squaminode* group. Conversely the high nodiform petiolar shape in the *T. edouardi* complex implies a close relationship to the *T. grassii* group. During this study it was considered to split the *T. edouardi* complex from the rest of the *T. weitzeckeri* group and raise it to a species group of its own because of the high nodiform petiole which differs strongly to the squamiform petiole in the *T. muralti* and *T. weitzeckeri* complexes. However, after examination of all available *T. weitzeckeri* group material, this action based on a single character does not seem to be justified right now. A phylogenetic analysis integrating morphological with molecular data is necessary to reveal the natural history of the *T. grassii*, *T. squaminode*, and *T. weitzeckeri* species groups, as well as their relationships to other species groups