

## RESEARCH NOTES

**SPERMOPHORE MORPHOLOGY REVEALS A NEW  
SYNAPOMORPHY OF *OECOBIUS* AND *UROCTEA*  
(ARANEAE, OECOBIIDAE)**

The cribellate spider genus *Oecobius* Lucas 1846 and the ecribellate genus *Uroctea* Dufour 1820 had long been considered as distantly related taxa, according to Bertkau's (1882) basal division of araneomorphs into cribellate and ecribellate spiders. Their remarkable similarities were considered as convergences, until the investigations of Millot (1931), Gerhardt (1928, 1933), Glatz (1967) and Baum (1972) clearly indicated a close phylogenetic relationship between the two genera. Both morphological (anal cone, mouth parts, female internal genitalia) and ethological characters (web construction, prey catching, sperm induction) united the genera. Baum (1972), who investigated the genitalia of Oecobiidae, found a constriction of the male pedipal sperm-reservoir (spermophore, Fig. 1) in the "median apophysis" in the four *Uroctea* species examined as well as in *Oecobius annulipes*. Nevertheless she stated several times that there were no direct synapomorphies in the male pedipalps of the two genera.

In the course of a current investigation of the palpi of male spiders, representatives of more than 50 spider families have been analyzed after preparation of histological serial sections (embedding medium: ERL-4206 epoxy resin; section thickness: 1  $\mu$ m; staining with a mixture of 1% azure 2 and 1% methylene blue in a 1% aqueous borax solution at 80 °C for 10 sec.). This study has shown that only *Oecobius* [examined: *O. cellariorum* (Dugès 1836)] and *Uroctea* [examined: *U. durandi* (Latreille 1809)] have a spermophore constriction (Fig. 1) and that the fundi (which Baum could not see) are highly enlarged. The fact that this constriction in both genera is situated in the median apophysis (oecobiid tegular lobe II of Coddington 1990) strengthens its homology.

In order to evaluate the phylogenetic significance of this character, representatives of closely

related taxa were also investigated. *Uroecobius ecribellatus* Kullmann & Zimmermann 1976, which was regarded as the sister taxon of Oecobiinae + Urocteinae by Kullmann & Zimmermann (1976), does not show any spermophore constriction. Neither do *Hersilia* and *Tama* (both: sp. indet.), representatives of the family Hersiliidae, which is considered as sister family of Oecobiidae (Coddington & Levi 1991). This supports the placement of *Uroecobius* outside of Oecobiinae (*Oecobius* and *Platoecobius*) + Urocteinae (*Uroctea* only), but gives no hint with respect to Hersiliidae.

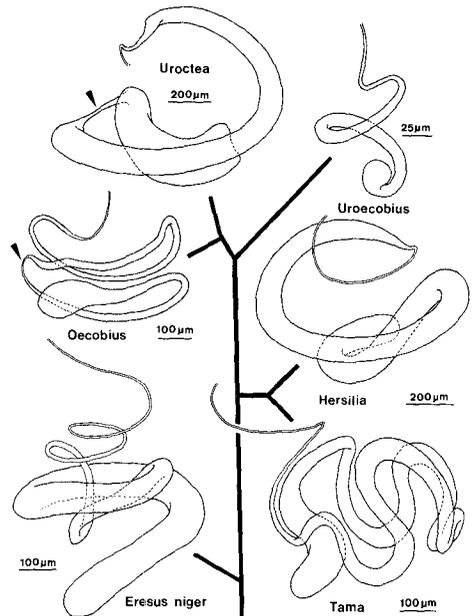


Figure 1.—Spermophore morphology of five representatives of Eresoidea *sensu* Coddington & Levi (1991). The dendrogram is derived from Coddington & Levi (1991) and Kullmann & Zimmermann (1976). Given is the inner surface (the cavity) of each spermophore. Arrows indicate constricted region.

The functional significance of the spermo-phore constriction is not clear.

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