

Towards a better knowledge of *Sarcophaga* (*Heteronychia*)

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The subgenus *Heteronychia* Brauer & Bergenstamm, which currently contains approximately 100 valid species, is one of the three largest subgenera of *Sarcophaga* Meigen, together with *Liosarcophaga* Enderlein (approx. 90 species) and *Sarcorohdendorfia* Baranov (approx. 60 species). It is widespread across the Palaearctic Region, with high species richness in both the Mediterranean area and Central Asia. The only records of *Heteronychia* species from other biogeographical regions refer to Oriental parts of China and Japan, and to Pakistan. Prior to the recently re-adopted widened concept of *Sarcophaga* s.l., *Heteronychia* was usually subdivided into several genera and subgenera. More or less well-outlined definitions of these taxa, as well as definitions embracing most species now listed under *Heteronychia*, have been provided by several authors. However, a clear definition of the current concept of *Heteronychia* does not exist in the literature, and relationships within and among species-groups remain largely uninvestigated. A 3-year Ph.D. project has been initiated, the two principal aims of which are: a) to review the taxonomy of *Heteronychia* under its present, wide concept; b) to carry out a phylogenetic analysis of the subgenus based on a morphological character matrix. The latter objective will be tackled by using mainly features of the adult morphology, and many characters are expected to be found in the highly complex structures of the male terminalia. During a recent visit to the Zoological Museum, Copenhagen, the genital structures of over 50 species of *Heteronychia* and 3 species of the closely related subgenus *Discachaeta* Enderlein were documented using SEM microscopy. These images represent a great increase in our knowledge of structures such as juxta, harpes, vesica, median and lateral styles, and contribute to a more precise definition of the subgenus. A phylogenetic analysis of the group, based also on these newly documented characters, will bring further insight into

