

## The antennae of *Sarcophaga tibialis* (Diptera: Sarcophagidae) examined by scanning electron microscopy

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*Sarcophaga tibialis* Macquart (Diptera: Sarcophagidae) is a species of medical and veterinary importance, causing human gastrointestinal myiasis in Europe and human traumatic myiasis in North Africa. The species was recently found in association with *Lucilia sericata* (Meigen) (Diptera: Calliphoridae) in a case of traumatic myiasis involving a domestic cat in Italy. The present study examines, by scanning electron microscopy (SEM), the ultrastructural anatomy of the antennae and their different types of sensilla in both sexes of *S. tibialis*. The morphology of the three antennal segments of *S. tibialis* is similar to that of other Sarcophagidae and calyptrate flies. The microtrichia, present in variable number on all antennal segments, and the chaetic sensilla on the scape and pedicel are morphologically similar to those found in other Sarcophagidae and Calyptratae species. The arrangement of the setiferous plaques and the morphology of the bulbous setae are similar to those reported for *Sarcophaga bullata* Parker (Diptera: Sarcophagidae). The microperforations associated with chaetic sensilla and with setiferous plaques are described for the first time in *S. tibialis*. Styloconic sensilla have been previously described in *Sarcophaga argyrostoma* (Robineau-Desvoidy) (Diptera: Sarcophagidae) and *Wohlfahrtia nuba* Wiedemann (Diptera: Sarcophagidae), but the clavate sensilla, previously described in *W. nuba*, have never been observed in other Sarcophagidae species. As in other Sarcophagidae and Calyptrate species, in *S. tibialis* the number of olfactory pits is higher in females in comparison to males, and their number is apparently the only morphological feature distinguishing the male antenna from the female one. The clusters of basiconic-like sensilla found in *S. tibialis* have never been described in any other sarcophagid species, but similar structures have been found in *Protophormia terraenovae* (Robineau-Desvoidy) (Diptera: Calliphoridae). The ultrastructural investigations by SEM of the antenna of *S. tibialis* and of its sensilla provide a basis for electrophysiological studies of chemoreceptors associated with relevant biological activities such as feeding, mating and larviposition, and are also useful to compare the antennal structures of this species to those of other species of Sarcophagidae.