The family Sarcophagidae is cosmopolitan in distribution and is one of the largest families of Oestroidea, containing 3,094 recognized species in nearly 173 genera (Pape et al. 2011). It has been generally agreed that this family is a natural assemblage of species, supported by phylogenetic studies based on morphological (Rognes, 1997; Pape 1992; Pape & Arnaud 2001) and molecular data (Kutty et al. 2010).

As the genus- and species-level identification of Sarcophagidae is based mainly on features of male terminalia, some species that were described based only on females initially in the genus Sarcophaga, are now treated as generically unplaced species or tentatively placed in some recognized genus. One of these is Nephochaetopteryx calida, described originally as Sarcophaga calida by Wiedemann (1830) based on a female from “Brazil”. Later, Wulp (1887) considered it as a species of his new genus Sarcophagula Wulp, 1887 and Brauer & Bergenstamm (1891) placed it under Sarcophagula occidua (Fabricius, 1794). Based only in the body length and color pattern presented in the original description, Lopes (1936) transferred S. calida to Nephochaetopteryx, but curiously the author did not included this species in the identification key to the species of Nephochaetopteryx. Additionally, there is no mention that S. calida has fully bristled vein R1 in the description of Wiedemann (1830), which is one of the synapomorphies imputed to Nephochaetopteryx (Lopes 1990).

According to Dodge (1968), disagreeing with Lopes (1936), N. calida does not belong to Nephochaetopteryx, because it does not show the diagnostic features of the genus. On the other hand, in the Catalogue of the Diptera of the Americas south of the United States, Lopes (1969) kept this species in Nephochaetopteryx. However, it is possible that at that time, when Dodge’s work was being published, Lopes’ catalogue was already in the editorial process, since some new species described by Dodge (1968) were not cited in this catalogue (Lopes 1969). Lastly, in the catalogue of the Sarcophagidae of the world, Pape (1996) also treated S. calida as a species of Nephochaetopteryx.

During the revision of the species of Nephochaetopteryx, we had the opportunity to examine the holotype of N. calida, housed in the Senckenberg Research Institute and Natural History Museum Frankfurt, Frankfurt, Germany. This specimen has vein R1 bare in the dorsal surface and thus cannot be treated as a species of Nephochaetopteryx. In addition, it is not a specimen of Tricharaea (Sarcophagula) occidua (Fabricius, 1794), as suggested by Brauer & Bergenstamm (1891), since it has a setose postallar wall. As the holotype is a partly damaged female, its fragile condition did not allow us to prepare and examine the genitalia. Thus, it is difficult to determine the genera of this species and Sarcophaga calida remains as an incertae sedis species.

Type-material examined. Holotype female of Sarcophaga calida, deposited in Senckenberg Research Institute and Natural History Museum Frankfurt, labeled as follows: “Brasilia/Freireiss” [white label with printed data]; “256” [green label with dark border, with handwritten data]; “Typus” [red label with dark border, with printed data]; “Nephochaetopteryx/calida WIEDEM.” [white label with printed data]. Specimen partly damaged covered by dead fungal hyphae, with right anterior and left posterior legs missing.
On the taxonomic status of *Nephochaetopteryx calida*

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