



## Phylogeny and re-definition of the genus *Melanophora* (Diptera: Rhinophoridae), with description of a new species from Sardinia\*

PIERFILIPPO CERRETTI<sup>1,2</sup> & THOMAS PAPE<sup>3</sup>

<sup>1</sup>Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco Fontana” – Corpo Forestale dello Stato, Via Carlo Ederle 16/a, I-37100 Verona, Italy. E-mail: pierfilippocerretti@yahoo.it

<sup>2</sup>Dipartimento di Biologia Animale e dell’Uomo, Sapienza Università di Roma, Viale dell’Università 32, I-00185 Rome, Italy. E-mail: pierfilippo.cerretti@uniroma1.it

<sup>3</sup>Natural History Museum of Denmark, Zoological Museum, Department of Entomology, Universitetsparken 15, DK-2100 Copenhagen, Denmark. E-mail: tpape@snm.ku.dk

\*In: Cerretti, P., Mason, F., Minelli, A., Nardi, G. & Whitmore, D. (Eds), *Research on the Terrestrial Arthropods of Sardinia (Italy)*. Zootaxa, 2318, 1–602.

### Abstract

A cladistic analysis of the genus *Melanophora* Meigen, 1803 (type-species: *Musca grossificationis* Linnaeus, 1758 [= *Musca roralis* Linnaeus, 1758]) is presented and the generic delimitation is critically redefined. The nominal genus-group taxon *Bequaertiana* Curran, 1929 (type-species: *Bequaertiana argyriiventris* Curran, 1929) is synonymised with *Melanophora* Meigen **syn. nov.** The following new combinations are proposed: *Melanophora argyriiventris* (Curran, 1929) **comb. nov.** and *Melanophora basilewskyi* (Peris, 1957) **comb. nov.** *Melanophora chia* **sp. nov.** from SW Sardinia is described, illustrated and compared with the other known species of the genus. The male of *Melanophora asetosa* Kugler, 1978 is described for the first time. *Melanophora basilewskyi* (Peris, 1957) is recorded from Kenya for the first time.

**Key words:** *Melanophora*, *Bequaertiana*, phylogeny, systematics, Sardinia, new species, new combinations

### Introduction

The genus *Melanophora* was erected by Meigen (1803) to include the single species *Musca grossificationis* Linnaeus, 1758 [= *Musca roralis* Linnaeus, 1758]. The genus has largely been maintained as monotypic, defined by some very characteristic features like the long-petiolate wing cell  $r_{4+5}$  and a marked sexual dimorphism in the shape of the antennal arista (bottlebrush-like in the male, usually bare in the female) as well as in the wing pattern (females with a whitish spot at the tip, males without). This sexual dimorphism is so pronounced that it led Robineau-Desvoidy (1830) to accommodate females of *Melanophora roralis* in the genus *Melanophora*, and males of the same species in his new genus *Illigeria*.

The nominal species *Melanophora helicivora* Goureaux, 1843 was bred from a snail and therefore could not reasonably be a member of the exclusively woodlouse-parasitising Rhinophoridae. Only after Séguy (1941: 386) had placed it in the Tachinidae and Pape (1986: 17) tentatively suggested an assignment to the Calliphoridae was its true identity discovered: Pape (1996: 35) synonymised it with *Nyctia halterata* (Panzer, 1798) of the Sarcophagidae.

Kugler (1978) described *Melanophora asetosa* from Israel, which by sharing a number of the distinctive features of *M. roralis* at least superficially would seem to fit nicely as a sister species to the latter. However, as mentioned by Pape (1986) the sparse morphological evidence available actually pointed to *M. asetosa* being more closely related to the Afrotropical genus *Bequaertiana* Curran, 1929 than to *M. roralis*.