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Hidden diversity within the polychaete *Onuphis eremita sensu lato* (Annelida: Onuphidae)—redescription of *O. eremita* Audouin & Milne-Edwards, 1833 and reinstatement of *Onuphis pancerii* Claparède, 1868

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Abstract

Onuphis eremita, type species of the genus, and *Onuphis pancerii*, originally from La Rochelle (France) and Gulf of Naples (Italy) respectively, are two of the earliest described species of the family Onuphidae. Yet, the definition of the former was extremely confused, the latter was considered its synonym for nearly a century, and types do not exist. We have examined a large amount of material, old museum collections and newly collected specimens from the European Atlantic and Mediterranean and conclude that both, *O. eremita* and *O. pancerii*, are valid species. The most obvious differences are that *O. eremita* is a slender species with only tridentate pseudocompound hooks while *O. pancerii* is much more robust and has pseudocompound hooks with bi- and tridentate (or even multidentate) tips. Neotypes have been designated for both species and the two taxa are redescribed and illustrated. We regard *O. eremita sensu stricto*, as redefined on the neotype here, to be restricted to the European Atlantic and western and central Mediterranean; other records need to be re-evaluated. Some specimens of both species were collected with eggs (~ 200 µm diameter) protruding through openings in the body wall, and some *O. eremita* had ect-aquasperm, suggesting that reproduction is by broadcast spawning and indirect development.

Key words: ect-aquasperm, European Atlantic, Mediterranean Sea, neotypes, reproduction, taxonomy, type species

Introduction

Onuphis eremita Audouin & Milne-Edwards, 1833 and *Onuphis pancerii* Claparède, 1868 are two of the earliest described species of the polychaetous annelid family Onuphidae Kinberg, 1865. Yet, the definition of the former has been confused and the latter has been considered its synonym for nearly a century. *Onuphis eremita* is the type species of the genus *Onuphis* Audouin & Milne-Edwards, 1833, which named and objectively defined the family Onuphidae (Malmgren 1866), although the species was originally included within the family Eunicidae Berthold, 1827 (Audouin & Milne-Edwards 1833). The term “onuphis” is derived from the ancient Greek, ‘on’ meaning sun and ‘ophis’ meaning snake. The onuphid serpentine shape along with its iridescent colouration, commonly golden or opaline, account for the etymology of its name. In its long history, the taxonomic identity of *O. eremita* has been extremely controversial, confounded by vague descriptions, redescriptions based on material across a wide geographic range without reference to type material and the establishment of dubious synonymies over the course of the last century (e.g. Fauvel 1919; 1923). As a result, the taxonomic status of the species has remained confused and the relationships to its two subspecies and similar species unclear.

Onuphis eremita was originally described from the sandy shore of La Rochelle, France, being characterised as follows: opalescent colour with two rows of reddish patches on the dorsal anterior end; one pair of small eyes on the prostomium; long antennae; simple branchiae from chaetiger 1, three branchial filaments near the 20th chaetiger, increasing gradually to five or six; living in thin cylindrical tubes, constructed from sand grains and bound by a mucous substance (which gives it the specific Latin name “eremita” (hermit) derived from the Greek

and *O. pancerii* and their re-descriptions, will elucidate the presumed cosmopolitanism of *O. eremita* and facilitate the clarification of the real distribution of both species as well as descriptions of new species within the *O. eremita* species complex.

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