



The life cycle of *Eucheilota medusifera* ? (Torrey, 1902), comb. nov. [=*Campalecium medusifera*] (Cnidaria: Hydrozoa: Lovenellidae) from the Bay of Biscay (northeastern Atlantic), including a description of the adult medusa

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Abstract

The life cycle of *Campalecium medusifera* ? Torrey, 1902 (Cnidaria: Hydrozoa) was traced in the laboratory from material collected from the Bay of Biscay (northeastern Atlantic). Both newly released and one-month-old male medusae with fully-grown gonads are described, with remarks on their biology and behaviour. The adult medusa corresponds with the diagnosis of *Eucheilota* McCrady, 1859, and the species is reassigned from Haleciidae Hincks, 1868 to Lovenellidae Russell, 1953. The genus *Campalecium* Torrey, 1902 can be considered valid only if the characters of a species with *Halecium*-like polyps and *Eucheilota*-like medusae are considered of generic significance. Instead, the species studied here is assigned to *Eucheilota*, as *E. medusifera* ? (Torrey, 1902) (comb. nov.), and *Campalecium* is considered a likely synonym of that genus. The medusa is different from *Lovenella cirrata* (Haeckel, 1879), type species of the genus *Mitrocomium* Haeckel, 1879, previously suggested to have been linked to the same hydroid in the Mediterranean. A supposed connection between medusae of *L. cirrata* and *Halecium*-like hydroids cannot be supported, and assigning these hydroids to *Mitrocomium* is rejected. Future studies may prove that *Halecium*-like hydroids release medusae of diverse genera within the family Lovenellidae.

Key words: Cnidaria, Hydrozoa, *Campalecium*, adult medusa, *Eucheilota*, Bay of Biscay, northeastern Atlantic

Introduction

The metagenetic life cycle of hydrozoans (phylum Cnidaria, class Hydrozoa) has two different phases, a benthic polyp and a planktonic medusa. Traditionally, each phase was studied by different scientists, resulting in separate names and systems of classification, with the consequent taxonomic problems. Efforts have been underway for more than a century to link hydroids and their medusae and to eliminate the dual classification and nomenclature in the Hydrozoa. Although in the recent years meaningful works have continued that effort (see Bouillon 1985; Bouillon & Boero 2000a, 2000b; Bouillon *et al.* 2004, 2006; Schuchert 2006, 2007), the current classifications are still provisional.

Double nomenclature in a given species is eliminated when its polyp and medusa stages are linked and assigned the same binomen following the Principle of Priority. Genetic data could be used to address these double nomenclatural problems, but few if any examples of this potential solution have been documented. The most common way to link hydroids and medusae of the same species has been by tracing the life cycle in the laboratory (Werner 1968). Some authors have obtained medusae of both sexes from the plankton and reared the polyps (see Rees & Russell 1937; Russell 1949; Werner 1968); whereas others have reared the medusae after the polyps (see Russell 1936; Rees 1939; Brinckmann 1959; Boero 1987; Bouillon & Boero 1987). Despite these efforts, most of the life cycles of hydromedusae are still unknown (Boero & Sarà 1987), and 'life cycle elucidation is still a priority for the study of this group' (Bouillon *et al.* 2004: 246).