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New raphitomine gastropods (Gastropoda: Conidae: Raphitominae) from the South-West Pacific

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Abstract

Based on material stored in Muséum National d'Histoire Naturelle (MNHN) eight new species collected from bathyal depths in South West Pacific archipelagos (Solomon Islands and Fiji) are described. The new species belong to the rather poorly known genera *Acanthodaphne* Bonfitto et Morassi, 2006, *Acamptodaphne* Shuto, 1971, *Buccinaria* Kittl, 1887, *Cryptodaphne* Powell, 1942 and *Mioawateria* Vella, 1954 all belonging to subfamily Raphitominae Bellardi, 1875 in the family Conidae Fleming, 1822. *Acamptodaphne eridmata* sp. nov. has a broad distribution being reported from the Solomon Islands and Taiwan. Finding of the new species here discussed in South West Pacific archipelagos provides a significant extension to the previously known geographical range of these raphitomine genera.

Key words: Systematics, Conoidea, turriform gastropods, *Cryptodaphne*, *Acamptodaphne*, *Mioawateria*, *Acanthodaphne*, *Buccinaria*, new species, deep sea biodiversity

Introduction

The conoidean family Turridae (*sensu* Powell, 1966) is the largest in Mollusca with more than 11, 350 species group taxa both Recent and fossil described worldwide (Tucker 2004). Because of the extraordinary species diversity and variability in shell features, the family level classification of Turridae *s. l.* has traditionally been very controversial, with authors recognizing different numbers of subfamilies varying from none to 15 (Bouchet & Warén 1980; McLean 1971). Based on anatomical, radular and shell features, Taylor *et al.* (1993) performed a cladistic analysis which led to subdivision of Turridae into five families (Drilliidae, Pseudomelatomidae, Strictispiridae, Turridae and Conidae). Under their classification, the concept of family Turridae has been considerably restricted, while some groups previously assigned to Turridae have been transferred to Conidae. Kohn and McLean (1994) advocated using of more shell characters and inclusion of fossil taxa (more than one-half of the taxa listed by Tucker, 2004 are fossils) while Rosenberg (1998) showed that the results of Taylor *et al*. cannot be reproduced. The new classification has however recently been supported by molecular evidence (Puillandre *et al.* 2008).

As remarked by previous authors (Bouchet *et al*. 2009; Sysoev 1997), maximum species diversity within "turrids" is found in offshore and deep-sea gastropod assemblages where, however, many species appear extremely scarce in terms of number of specimens. For this reason, knowledge of deep-sea "turrids" is still inadequate. Recently, we had the opportunity to study some lots of "turrids" collected during a series of dredgings performed by French research vessels in the South-West Pacific archipelagos. Bouchet *et al.* (2008) traced the history of French deep-sea expeditions in the tropical South and West Pacific. As a consequence of these major efforts in sampling deep-water benthos, 1409 and 1308 species of "turrids" were collected from New Caledonia and other South Pacific tropical island groups (Vanuatu, Fiji, Tonga and the Marquesas) respectively, with a limited overlap in species composition. The total figure of "turrids" from the South Pacific may however reach 5,000 species, most of which are undescribed (Bouchet *et al*. 2008). To date, only

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