

Evolution of *Janthina* and *Recluzia* (Mollusca: Gastropoda: Epitoniidae)

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ABSTRACT. Fossil and living neustonic gastropods referred previously to Janthinidae are revised and included in Epitoniidae. Species recognized in *Janthina* Röding, 1798 (= *Iodes*, *Iodina* and *Amethistina* Mörch, 1860, *Hartungia* Bronn, 1861, *Heligmope* Tate, 1893, *Violetta* Iredale, 1929, *Parajanthina* Tomida & Itoigawa, 1982, and *Kaneconcha* Kaim, Tucholke & Warén, 2012) are *J. typica* (Bronn), Messinian–early Piacenzian (latest Miocene–early late Pliocene), c. 7–3.0 Ma (New Zealand, southern Australia, Japan, Morocco, dredged off Brazil, Madeira, Gran Canaria I., Selvagem Grande I., and Santa Maria I., Azores); *J. krejci* sp. nov., Zanclean (early Pliocene), c. 4.8–4.3 Ma (Santa Maria I.); *J. chavani* (Ludbrook), late Piacenzian–early Calabrian (latest Pliocene–early Pleistocene), 3.0–c. 1.7 Ma or later (New Zealand, southern Australia, Japan, mid-Atlantic ridge); *J. globosa* Swainson, living, and two late Pliocene–early Pleistocene records (Jamaica, Philippines); and *J. exigua* Lamarck, *J. janthina* (Linnaeus), *J. pallida* Thompson, and *J. umbilicata* d’Orbigny, all Holocene only. *Janthina* evolved from a benthic epitoniid resembling *Alora* during Messinian (late Miocene) time, and feeds mainly on colonial cnidarians (*Physalia*, *Velella*, *Porpita*). The extinction of *Janthina typica* and origination of *J. chavani* at 3.0 Ma (end of the Pliocene climatic optimum) potentially is useful for world Pliocene correlation. The two *Recluzia* species, *R. johnii* (Holten) and *R. lutea* (Bennett), feed on floating Minyadidae anemones. *Recluzia* has no fossil record and evolved independently during Holocene time from a benthic epitoniid resembling *Alexania* and *Surrepifungium*. Adaptation to a neustonic habit evolved twice in Epitoniidae. Twenty-two neotypes and six lectotypes are designated.

KEYWORDS. Biostratigraphy; cosmopolitan; fossil record; neustonic gastropods; Pleistocene; Pliocene; phylogeny

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