



Eutrephoceras subplicatum (Steinmann, 1895) is a junior synonym of *Eutrephoceras dorbignyanum* (Forbes in Darwin, 1846) (Cephalopoda, Nautiloidea) from the Maastrichtian Quiriquina Formation of Chile

Sven N. Nielsen^{a,*}, Christian Salazar^b

^a Institut für Geowissenschaften, Christian-Albrechts-Universität zu Kiel, Ludewig-Meyn-Straße 10, D-24118 Kiel, Germany

^b Institut für Geowissenschaften, Ruprecht-Karls-Universität Heidelberg, INF 234, D-69120 Heidelberg, Germany

ARTICLE INFO

Article history:

Received 17 February 2011

Accepted in revised form 26 May 2011

Available online 12 June 2011

Keywords:

Chile
Eutrephoceras
Maastrichtian
Nautilidae
Quiriquina Formation

ABSTRACT

Nautilus subplicatus Steinmann, 1895 is a latest Cretaceous species of nautiloid which is common in southern South America (Chile, Argentina) and the Antarctic Peninsula and which is best assigned to the genus *Eutrephoceras* Hyatt, 1894. *Nautilus dorbignyanus* Forbes in Darwin, 1846 and *Nautilus valenciennii* Hupé in Gay, 1854 are here considered to be senior synonyms which later authors have apparently overlooked. The type material of these two taxa is reillustrated. On the basis of this and additional material it is demonstrated that only a single nautiloid species occurs in the Quiriquina Formation of late Maastrichtian age. For this we propose to use *N. dorbignyanus* as the oldest available name.

© 2011 Elsevier Ltd. All rights reserved.

1. Introduction

In the process of revising (see Griffin and Nielsen, 2008) South American molluscan faunules collected by Darwin (1846) and Gay (Hupé in Gay, 1854) it has become apparent that the single Mesozoic nautiloid named by Forbes in Darwin (1846), i.e. *Nautilus dorbignyanus*, has been overlooked by subsequent workers. The same holds true for *Nautilus valenciennii*, the sole Cretaceous nautiloid named by Hupé (in Gay, 1854). These names are discussed in some detail, because the former is the oldest available name for a species which is common in the Quiriquina Formation (Fig. 1) of south-central Chile, and which also occurs in the Austral Basin of Argentina and the Antarctic Peninsula (Cichowski et al., 2005). Records from Angola (Howarth, 1965) were not revised and should be treated with caution. However, only material from Chile is discussed here. The late Maastrichtian age of the Quiriquina Formation has been recently confirmed by a revision of its ammonite fauna (Salazar et al., 2010).

Institutional abbreviations. To denote the repositories of material referred to in the text, the following abbreviations are used: CPUC, Colección Paleontológica, Universidad de Concepción, Chile; IfG,

Institut für Geowissenschaften der Christian-Albrechts-Universität zu Kiel, Germany; IPB, Steinmann Institut für Geologie, Mineralogie und Paläontologie, Bonn; MNHN, Muséum national d'Histoire naturelle, Paris; NHM, The Natural History Museum, London.

2. Systematic palaeontology

Order Nautiloidea de Blainville, 1825

Family Nautilidae de Blainville, 1825

Genus *Eutrephoceras* Hyatt, 1894

Type species. *Nautilus dekayi*, Morton, 1834 by original designation; Campanian, North America.

Eutrephoceras dorbignyanum (Forbes in Darwin, 1846) (Figs. 2–6)

*1846 *N. d'Orbignyanus* Forbes in Darwin, p. 265, pl. 5, fig. 1a and b v1854 *N. valenciennii* Hupé in Gay, p. 28, Conquiliología pl. 1, fig. 1 1887 *Nautilus* sp. Philippi, p. 33.

1895 *N. subplicatus* Steinmann, p. 65, pl. 4, figs. 1–3.

1909 *Nautilus blanfordianus* Kilian and Reboul, p. 8, pl. 1, figs. 1 and 2.

v1930 *Nautilus* (*Eutrephoceras*) *subplicatus*; Wetzel, p. 81.

? 1930 *Eutrephoceras* cf. *darupensis*; Wetzel, p. 82 (non Schlüter, 1876)

* Corresponding author.

E-mail address: nielsen@gpi.uni-kiel.de (S.N. Nielsen).

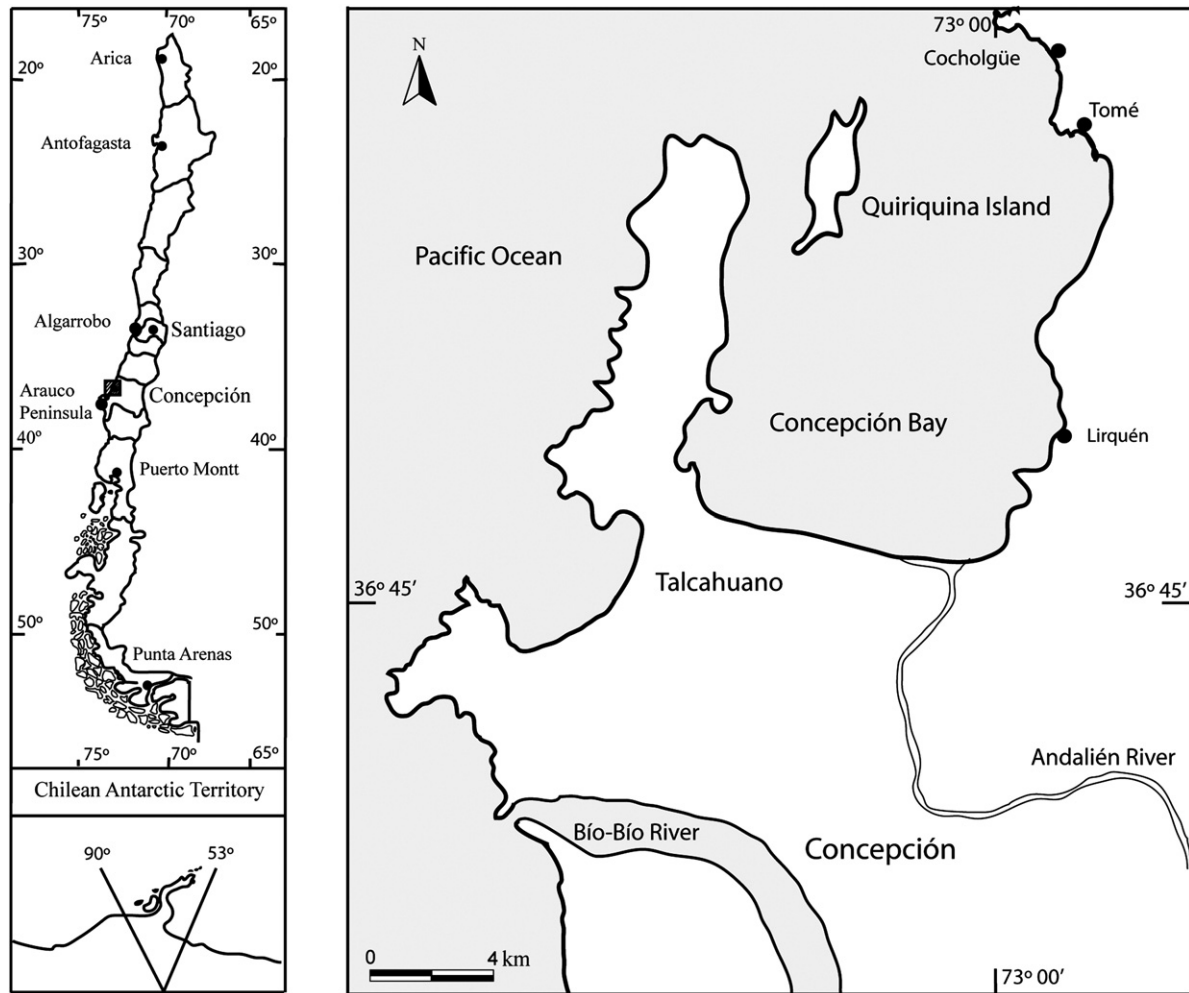


Fig. 1. Location of Quiriquina Island and other localities mentioned in the text. Modified from Salazar et al. (2010).

1953 *Eutrepheceras simile* Spath, p. 40, pl. 12, fig. 4, pl. 13, figs. 1–5.

1955 *N. blanfordianus*; Hünicken, pp. 32, 61, 98, 101.

1955 *E. simile*; Cecioni, p. 143.

1965 *E. simile*; Hünicken, p. 50, pl. 1, figs. 1–4, pl. 7, fig. 5.

? 1965 *E. simile*; Howarth, p. 399.

? 1980 *E. simile*; Blasco de Nullo et al., p. 491, pl. 5, figs. 11–13.

1982 *E. simile*; del Valle et al., p. 278, table 30.3.

v1986 *E. subplicatum*; Stinnesbeck, p. 187, pl. 6, figs. 1–3.

1992 *E. simile*; Marenssi et al., p. 95.

2005 *E. subplicatum*; Cichowolski et al., p. 271, figs. 5–7.

Type material. The holotype of *N. d'Orbignyanus* is NHM C 2613, from the Quiriquina Formation at Tomé near Concepción (Darwin, 1846: 126), Chile; that of *N. valenciennii* is MNHN A32679, from 'the green chalks of Quiriquina Island,' Chile. Of *N. subplicatus* there are three syntypes from Quiriquina Island, Chile, according to Steinmann (1895); one in Santiago (his pl. 4, fig. 1) and two in Strasbourg, France (his pl. 4, figs. 2 and 3). Cichowolski et al. (2005) designated one of the latter (Steinmann, 1895, pl. 4, fig. 2) as lectotype of the species. Since the authors failed to state the taxonomic purpose for this designation, it can be considered invalid according to ICZN Article 74.7.3 (ICZN, 1999). There are no molluscs present in the Steinmann Collection at Strasbourg (J.-C. Horrenberger, in litt., 2009), nor have any Mesozoic cephalopods

been identified in the Philippi Collection at Santiago (D. Frassinetti, pers. comm., 2007), which means that the syntypes of *N. subplicatus* should be considered lost. To fix the status of *N. subplicatus*, the holotype of *N. dorbignyanus* is here designated as its neotype.

Other material. Wetzel (1930, pp. 81–82) noted five specimens of *N. (E.) subplicatus* and three of *N. (E.) cf. darupensis*, the latter considered 'possibly conspecific with *N. valenciennii*' [sic]. The IfG type collections contain three unnumbered specimens of *N. subplicatus* (Wetzel Collection), while ten more, catalogued as coming from Quiriquina, are housed at the Museum für Naturkunde, Berlin (D. Korn, in litt., 2010). The Berlin material has not been revised for the present note because it is not a type material. Stinnesbeck's (1986) material is contained in the IPB type collection, while hitherto unpublished specimens from the Quiriquina Formation at Cocholgué are housed in the CPUC.

Description. Shell nautilonic, involute with tiny umbilicus, subglobular to globular, whorl section inflated, whorl breadth exceeding whorl height (Wb/Wh ratio between 1.19 and 1.55, see Fig. 7); flanks rounded; maximum whorl breadth in dorsal third; venter rounded. Ornament in younger specimens consisting of very fine rectiradiate and flexuous lirae, smoothly convex in the umbilical area, convex at mid-flank to ventral area; lirae cross-venter in concave sinus; adult specimens with flattened flanks and fine, rursiradiate growth lines.

Download English Version:

<https://daneshyari.com/en/article/4747423>

Download Persian Version:

<https://daneshyari.com/article/4747423>

[Daneshyari.com](https://daneshyari.com)