

**Description of *Zetela alphonsi* n.sp.
(Gastropoda: Trochidae: Solariellinae)
from Chile**

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ABSTRACT. *Zetela alphonsi* n. sp. is described and compared with similar *Solariella*-like species from deep waters around the world.

RESUME. *Zetela alphonsi* n. sp. est décrite et comparée avec des espèces analogues à l'aspect de type *Solariella* et provenant d'eaux profondes du monde entier.

INTRODUCTION

A few month ago, once again, Guido T. Poppe, well known shell collector from Belgium, entrusted me with shells from deep water off Chile. This reminded me that Trochidae from this area are relatively poorly known and seldom well illustrated. Especially, only a few authors seem to have studied the trochids from off Chile and, in this group, it seems a bit easier to find numerous data and illustrations about shells from the magellanic province (Dell, 1971, 1990; Forcelli, 2000) as to get some information about species from central (Rehder, 1971; Mc Lean & Andrade, 1982) and north Chile (Santa Maria, 1982). In this later case, it is often necessary to look for papers talking about neighbouring areas, like Peru or Galapagos Islands (Dall, 1919; Keen, 1971; Finet, 1995).

Nevertheless, the peculiar shape of the shells that initiated this paper, obviously *Solariella*-like, is very striking and reminds only weakly any known species from this area and belonging to this group of trochids. After further studies, it appears these shells belong to a species different from all described species..

Abbreviations

Repository

IRSNB : Institut royal des Sciences naturelles de Belgique, Bruxelles.

MNHN : Muséum national d'Histoire naturelle, Paris.

Other abbreviations (Text Fig.)

D : diameter

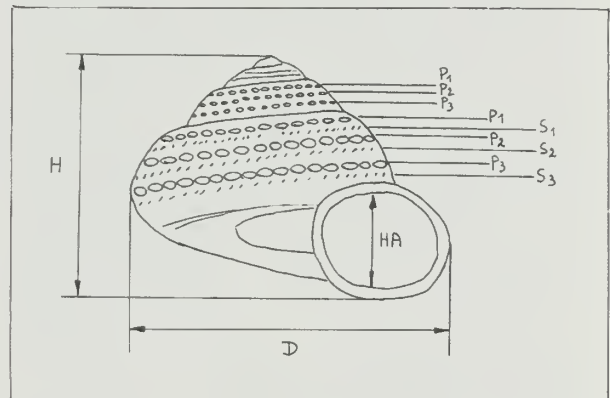
H : height

HA : height of aperture

P1, P2, P3, ... : primary cords (P1 is the most adapical)

S1, S2, S3, ... : secondary cords (S1 is the most adapical)

lv : live-taken specimens present in sample



SYSTEMATICS

Family: **TROCHIDAE** Rafinesque, 1815

Subfamily : **SOLARIELLINAE** Powell, 1951

Genus: *Zetela* Finlay, 1927

Type species: *Minolia textilis* Murdoch & Suter, 1906 (by original designation) - Recent, New Zealand.

Zetela alphonsi n.sp.

Figs 2-6

Type material. Chile, off Chiloé, trawled in 800 m on muddy bottoms, holotype MNHN, 15.5 x 11.9 mm (lv); paratype IRSNB, 11.5 x 9.8 mm (lv); paratype, 10.0 x 8.8 mm (lv), author's collection; paratype, 8.3 x 7.7 mm (lv), collection G.T. Poppe*.

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Other material. Chile, off Taltal, Antofagasta, trawled in 900-1000 m on muddy bottoms, 2 lv, coll. G.T. Poppe.

Diagnosis. A *Solariella*-like species, green iridescent, with a wide umbilicus, conspicuous tubular and shouldered whorls bearing three spiral cords and strong axial ribs.

Description. *Shell* rather large for the genus (height up to 15.5 mm, width up to 11.9 mm), higher than wide, thin, scalariform; spire high, 2x to 3.8x higher than aperture, widely umbilicate.

Protoconch of about 1.5 whorl (first whorl damaged in all specimens examined), sculptured by granules and a thick abapical spiral cord; apical fold rounded.

Teleoconch up to 4.5 convex tubular whorls, bearing spiral cords and prosocline threads, with one subsutural shoulder. Suture visible, slightly canaliculated.

First teleoconch whorl convex, sculptured by 2 granular primary cords and strong prosocline ribs, producing axially elongated nodules at intersections; P1 and P2 similar in size and shape, evenly distributed on whorl; number of axial ribs of about 25. Subsequent whorls with sutural ramp with rounded rim, gently sloping on second whorl, becoming almost horizontal on last whorl and producing obvious shoulder at first quarter. On second whorl, P3 appearing near suture, weaker than P1 and P2. On third whorl, P3 staying weaker than others; axial ribs becoming slightly finer and more numerous by intercalation, producing therefore smaller granules. On last whorl, axial ribs evanescent; very weak secondary spiral cords S1 and S2 appearing between P2 and P3.

Aperture subcircular, lip thin at rim; peristome complete in fully adults specimens; outer lip with weak angulations corresponding to external spiral cords; inner lip meeting outer lip at a strong basal angulation.

Base convex, sculptured as last whorl, with 3 or 4 spiral cords, cord around umbilical area strongest; crowded axial riblets, weakly lamellose, producing weak nodules at intersections with spiral cords. Umbilicus very wide, funnel-shaped, with angulate rim bordered with most internal spiral cord of base; wall convex; sculptured within by fine axial threads, occasionally (paratype 2) by 1 granular spiral cord near rim.

Colour of protoconch and first whorl of teleoconch dark green, subsequent whorls light green iridescent aperture nacreous within.

Operculum horny, multispiral, with short growing edge and about 12 volutions.

Discussion. The new species belongs undoubtedly to the subfamily Solariellinae. The genus *Lamellitrochus* Quinn, 1991 could be a right choice for it, but I follow Marshall (1999) who state, based

on conchological and anatomical arguments, that this genus is a junior synonym of *Zetela* Finlay, 1927.

The peculiar shape of *Zetela alphonsi* n.sp. implies that it can hardly be confused with another known species from Chile.

The description of the new species remember nevertheless *Calliotropis illota* (Watson, 1886) (Fig 1) from South Chile and Patagonia, but this species has a spire less elevated without distinct shoulder, bears 4 spiral cords instead of 3 with nodules horizontally, not axially, elongated (*vide* original description).

Zetela alphonsi n.sp. may be compared to *Calliotropis nyssona* (Dall, 1919), but this species from Japan and China is smaller and bears about 8 spiral cords; moreover, the granules of the subsutural cord are pointed.

The new species is also superficially similar to *Zetela amnectens* Marshall, 1999 from New Zealand and *Lamellitrochus pourtalesi* (Clench & Agayo, 1939) from West Atlantic, but these species are smaller and show a very different shape with 3 keels.

Etymology. The new species is named after our friend Alphonse Thielemans, Belgium, who was a faithful member of the Belgian Malacological Society and who unfortunately passed away in 2000.

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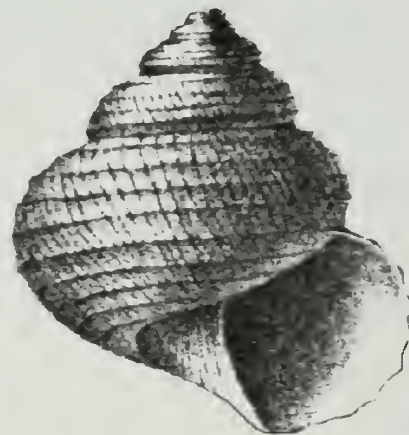


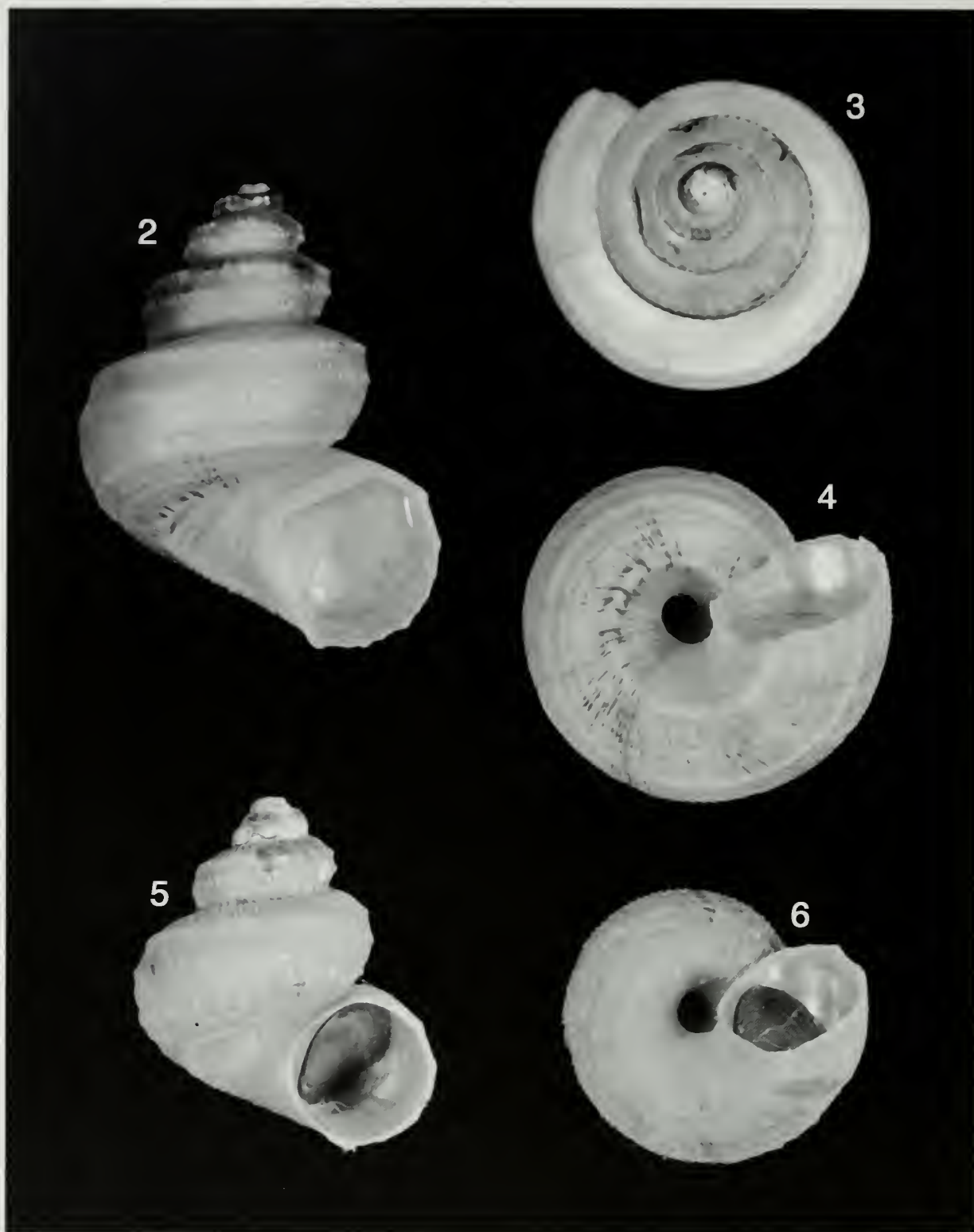
Fig. 1 *Calliotropis illota* (Watson, 1886) (from Watson)

	H	D	HA	H / HA	H / D
holotype	15,5	11,9	5,6	2,8	1,3
paratype 1	11,5	9,8	5,1	2,3	1,2
paratype 2	10,0	8,8	5,0	2,0	1,1
paratype 3	8,3	7,7	4,0	2,1	1,1
specimen 1	9,1	7,5	3,7	2,5	1,2
specimen 2	9,3	7,6	4,2	2,2	1,2

Table 1. - *Zetela alphonsi* : Shells measurements in mm – sample of 6 specimens.

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Figures 2-6. *Zetela alphonsi* n.sp.

2-4. Holotype MNHN, Chile, off Chiloé, 15.5 x 11.9 mm.

5-6. Paratype IRSNB, Chile, off Chiloé, 11.5 x 9.8