

***Scaphella (Scaphella) gaudiati* n.sp.**
(Gastropoda: Volutidae: Scaphellinae)
a new volute from the Caribbean Sea

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ABSTRACT. *Scaphella (Scaphella) gaudiati* n. sp. is described on basis of four specimens collected off Saint-Martin (Sint-Maarten) and off Guadeloupe. This new species differs from other related species in color and pattern and is very distinctive from any other members of the genus.

INTRODUCTION

A recent examination of the genus *Scaphella* revealed a previously undescribed species in the collection of the Laboratoire de Malacologie, Muséum national d'Histoire naturelle, Paris (MNHN). Up to now known by only four specimens, the species is markedly distinct from other members of the genus warranting specific recognition.

Taxonomic placement

The genus *Scaphella* comprises several related polytypic taxa, which have been the subject of controversial classification at generic rank as well as at specific identification.

Based upon the shape of the radula, Pilsbry & Olsson (1953) split *Scaphella* into three genera:

-*Scaphella* s.s. with but a single long narrow cusp;

-*Clenchina* with a conic central cusp, flanked by two minute accessory cusps (synonym *Rehderia* Clench, 1946);

-*Aurinia* H. & A. Adams, 1853 with a pointed central cusp and two well-developed side cusps.

Weaver & du Pont (1970) and Bayer (1971) downgraded those three genera to a subgeneric rank of *Scaphella*, pointing out the minor taxonomic significance of that radula difference, especially between *Clenchina* and *Scaphella* s.s. which are now considered synonyms.

Though relegated into synonymy of *Scaphella* by Emerson & Old, jr. (1979) and Poppe & Goto (1992), the subgenus *Aurinia* deserves to keep its subspecific status: a chief feature, emphasized by Pilsbry & Olsson, is the thin callus covering the ventral side of the shell often incrusting a muddy deposit. Additional characters such as a complete

tricuspidate radula, light structure of the shell, lack of fasciole, obsolete columellar plaits, open pattern of irregularly spaced dots are sufficient to maintain the polytypic *Scaphella dubia* (Broderip, 1827) in its subgeneric status.

On the contrary, *Scaphella* s.s. includes species with a strong shell, a more or less pronounced fasciole, 2 to 4 well-defined columellar plaits, a dense spiral pattern of dots or bands, and a Y-shaped radula with or without vestigial side cups.

Based upon these conchological characters only, *Scaphella gaudiati* can be temporarily placed into *Scaphella* s.s., pending additional malacological information.

SYSTEMATICS

Family **VOLUTIDAE** Rafinesque, 1815

Subfamily **SCAPHELLINAE** H. and A. Adams, 1858

Genus *Scaphella* Swainson, 1832

Subgenus: *Scaphella* s.s.

Scaphella (Scaphella) gaudiati n. sp.

Figs 1-2, 6, 8-9

Type Locality

off Islet La Désirade, west Guadeloupe, Lesser Antilles, in 250 m (fish trap) living on sand and boulder substrate.

Type Material

Holotype (length: 89.0 mm, width: 33.3 mm), Laboratoire de Malacologie, MNHN, Paris, taken in fish trap from 250 meters depth, off Islet La Désirade, west Guadeloupe, by Yvon Adonis

(Fig 1). Paratype (length: 87.5 mm, width: 37.0 mm), Laboratoire de Malacologie, MNHN, Paris, taken in fish trap from 180 meters depth at "Sombrero", off St. Martin, by Daniel Gaudiati (Fig 2).

Other material

Two additional specimens from deep waters off La Guadeloupe have been examined, now both in private collections.

Description

Shell of moderate size, up to 89 mm in length, fusiform and strong. Protoconch large for the genus (diameter: 6.7 mm on the holotype), with one and a half whorls, smooth and partially submerged within second whorl (Fig. 6). Shape rounded with worn top slightly flattened. Teleoconch of six moderately convex smooth whorls bearing growth striae only, without the reticulated sculpture seen in related species. Surface shiny. Body whorls slightly shouldered. Suture indented. Aperture elliptical and elongated. Outer lip thick with parietal wall thinly glazed. Columella straight with two well-developed plicae; a third adapical one seems to be represented by a white callus, becoming conspicuous nodosity on the paratype. Siphonal notch absent; fasciole ill-defined. Yellowish-ivory with nine to ten very close set broad spiral brown bands.

Pattern and shape of the four known specimens show no noticeable variation.

Animal and radula unknown.

Comparison

In overall shape *Scaphella gaudiati* is most similar to *Scaphella neptunia* (Clench & Aguayo, 1946) but differs by an absence of the spots and spirally incised lines which adorn the holotype of *S. neptunia* (Fig. 5). Shape and width of the protoconchs of both species are similar, but the calcarella which is prominent on *S. neptunia* seems absorbed into the protoconch of *S. gaudiati* (Figs. 6-7). Though *S. neptunia* is represented by two juvenile specimens only, a relationship with *S. gaudiati* can be pointed out but the smooth surface and the different pattern of the latter preclude any confusion.

Due to the pattern of banding, *S. gaudiati* bears a superficial resemblance to *Scaphella (Scaphella) gouldiana* (Dall, 1889) which has a smaller protoconch (Fig. 8), a sculptured spire, a more convex outline, and have two weak columellar plaits (Figs. 3-4). The surface sculpture of *S. gouldiana* is finely to coarsely reticulated (Fig. 10), never as smooth as in *S. gaudiati* (Fig 9).

The outline of *Scaphella gaudiati* is almost similar to *Scaphella (Scaphella) atlantis* (Clench, 1946) but the former differs in having a much larger

protoconch. *S. gaudiati* exhibits a pattern of broad brown banding whereas *S. atlantis* exhibits rows of small brown spots and a finely reticulated surface. The columella of *S. atlantis* have three well pronounced plaits.

In overall shape *S. gaudiati* coarsely resembles *Scaphella junonia* (Lamark, 1804). *S. gaudiati* differs in having a larger non-reticulated protoconch and the distinctive banding pattern as opposed to spiral rows of spots in *S. junonia*.

Etymology

This species is named after Mr. Daniel Gaudiati, the fisherman who collected the first specimen.

Remark

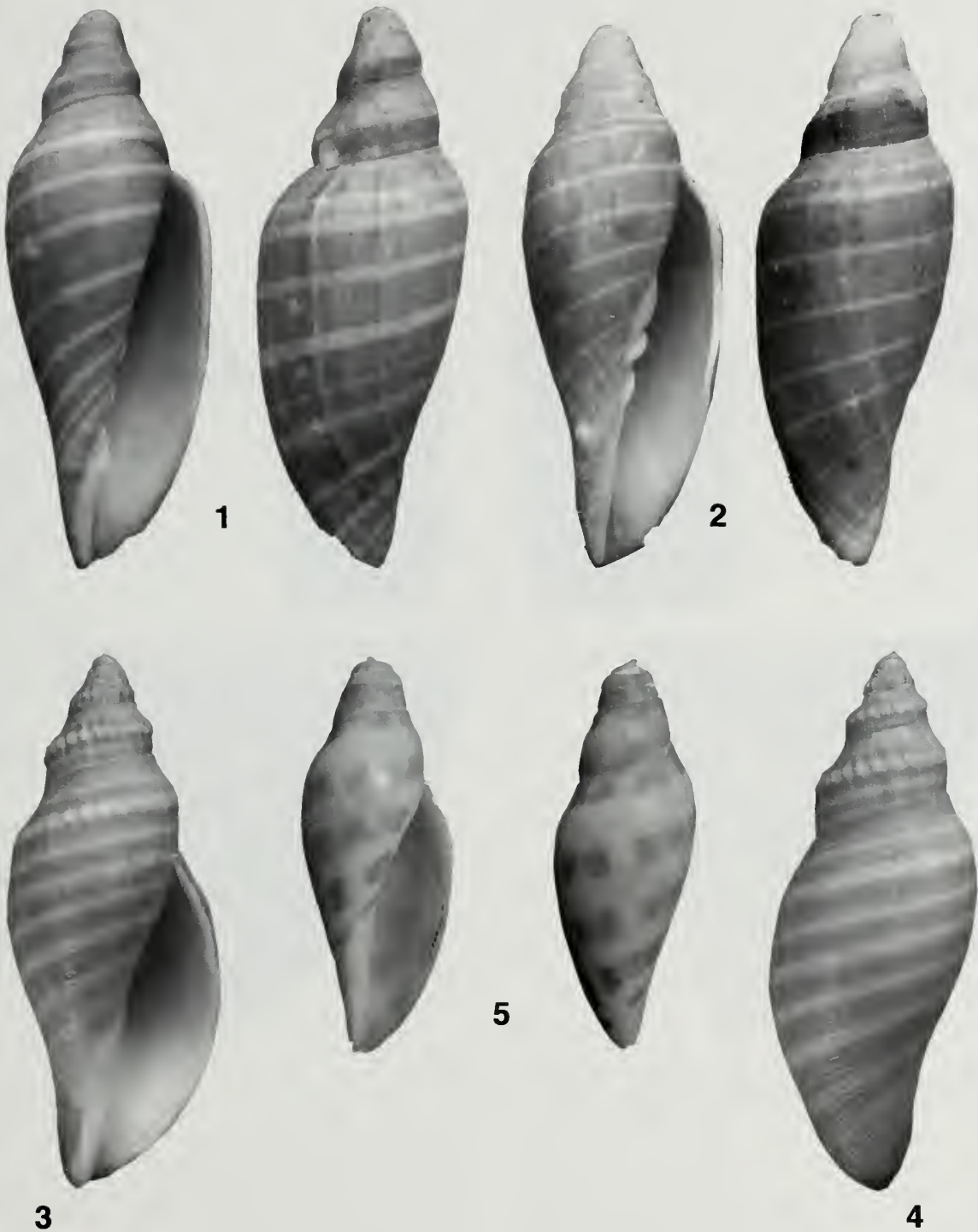
This recent discovery of a new species of *Scaphella* s.s. in deep water off the Lesser Antilles extends the range of the genus far westwards from the currently known one restricted to the Gulf of Mexico, Cuba and Florida. Its deep-water habitat permits supposition of a more extended distribution than the one we know today.

ACKNOWLEDGEMENTS

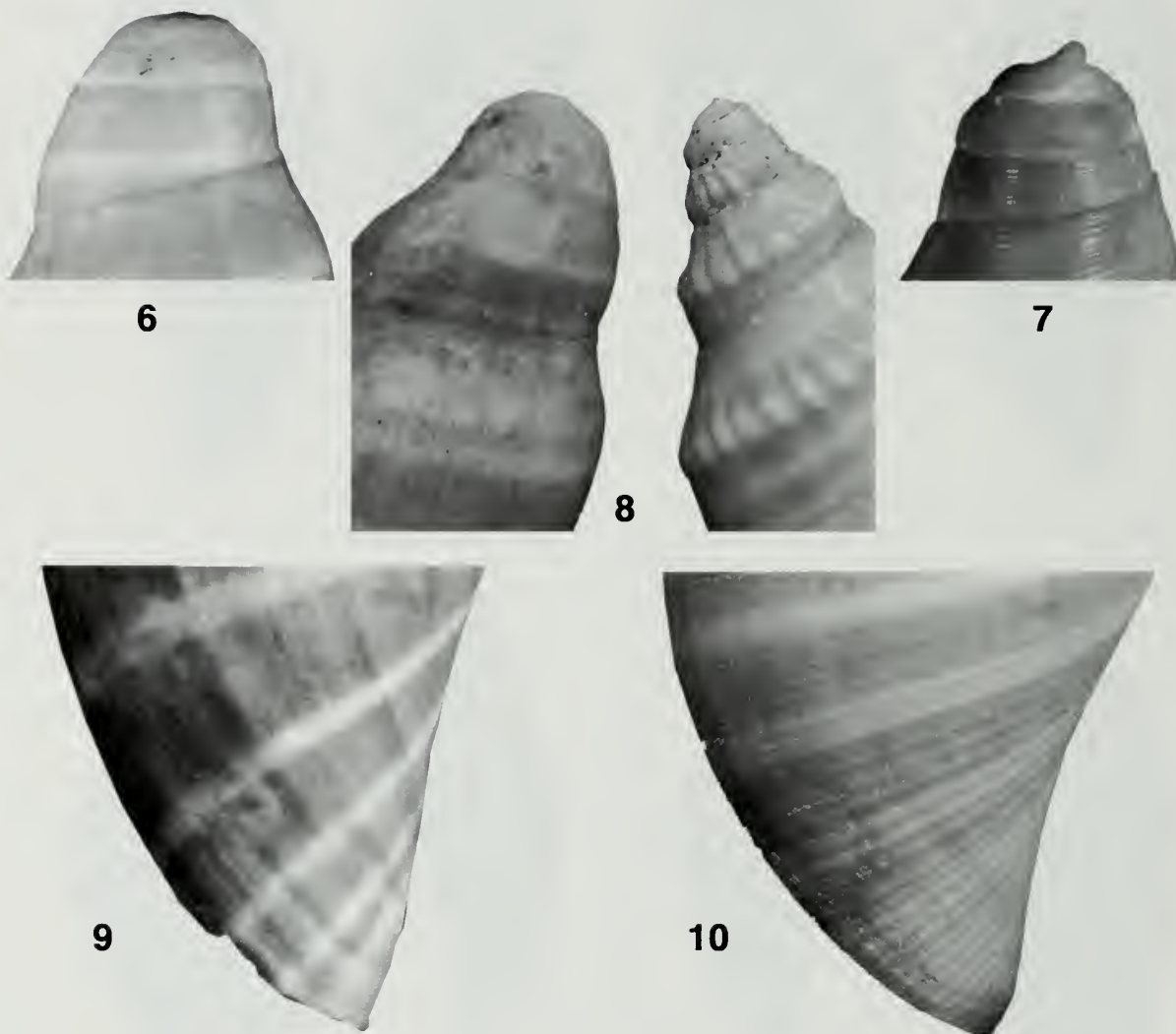
We are grateful to Jean-Pierre Pointier of the Laboratoire de Malacologie, EPHE-CNRS, Perpignan, France who the first recognized this species as unidentified and to Dominique Lamy for giving the holotype to the MNHN. We would like to thank also Dr. Jerry Harasewych, Division of Mollusks, U. S. National Museum, Washington, D.C., U.S.A. who allowed access to the collection for comparative studies. Mr. Adam Baldinger, Museum of Comparative Zoology, Harvard University, Cambridge Massachusetts who provided the loan of type specimens for comparative purposes.

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1-2. *Scaphella* (*S.*) *gaudiati* n.sp. 1. Holotype MNHN; 2. Paratype MNHN; 3-4. *Scaphella* (*S.*) *gouldiana* (Dall, 1887). Florida, coll. Bail; 5. Holotype of *Scaphella* (*S.*) *neptunia* (Clench & Agayo, 1940). Jamaica, MCZ 119025



6. Protoconch of the holotype; 7. Protoconch of *S. neptunia*; 8. Compared spires of *S. gaudiati* and *S. gouldiana*; 9. Surface structure of *S. gaudiati*; 10. Surface structure of *S. gouldiana*