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# A new bathyal species of *Atlantidrilus* (Oligochaeta, Tubificidae) from New Caledonia

by Christer ERSÉUS

**Abstract.** — *Atlantidrilus peregrinus* sp. nov. is described from 2225 m depth near Lifou (Loyalty Islands, New Caledonia) in the South Pacific. The species, which is the first record of the genus *Atlantidrilus* Erséus, 1982 from the Pacific Ocean, is closely related to its two congeners in the Northeastern Atlantic.

**Résumé.** — Description d'*Atlantidrilus peregrinus* sp. nov., tubificidé récolté au large de Lifou (îles Loyauté, Nouvelle-Calédonie), à 2225 m de profondeur. C'est la première fois qu'une espèce du genre *Atlantidrilus* Erséus, 1982 est signalée dans l'océan Pacifique; elle présente de fortes affinités avec ses congénères du Nord-Est de l'Atlantique.

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## INTRODUCTION

*Atlantidrilus* (subfamily Phallodrilinae) was established by ERSÉUS (1982) for two deep-sea species in the Northeastern Atlantic Ocean. During the French expedition BIOCAL on R.V. "Jean-Charcot", under the direction of Prof. C. LÉVI, in 1985, along a transect between New Caledonia and the Loyalty Islands in the South Pacific, a single tubificid oligochaete from bathyal depths was found and placed at my disposal [courtesy Dr. Jeanne RENAUD-MORNANT, Muséum national d'Histoire naturelle (MNHN), Paris]. The specimen represents a new species of *Atlantidrilus* and is thus the first record of the genus outside the Atlantic. The genitalia of the worm are very well preserved, and therefore it is regarded justifiable to describe this interesting new species on the basis of only one individual.

The holotype of *A. peregrinus*. sp. nov. was stained in paracarmine and mounted whole in Canada balsam by the author. It is deposited in the MNHN, Paris.

## *SYSTEMATIC DESCRIPTION*

### Genus **ATLANTIDRILUS** Erséus, 1982

#### **Atlantidrilus peregrinus** sp. nov.

(Fig. 1)

HOLOTYPE : MNHN n° UC 89, incomplete specimen, consisting of segments VII-XXI only (see Remarks), from BIOCAL Station KG 90 (gear used : Reineck corer) : SW of Lifou, Loyalty Islands (New Caledonia), in Loyalty Basin, 21°08′50″ S, 166°48′26″ E, 2225 m (1985).

ETYMOLOGY : Named *peregrinus*, Latin for "foreigner, stranger", indicating that the species is the first representative of *Atlantidrilus* found in the Pacific Ocean.

DESCRIPTION

Length of segments VII-XXI, 3.7 mm. Width at XI (compressed specimen), 0.18 mm. Clitellum extending over ½X-XII, but poorly developed. Somatic setae (fig. 1A) bifid with teeth equally thick and long, and with inconspicuous ligament uniting bases of the two teeth. Bifids 55-65 μm long, about 1.5 μm thick, 2-4 per bundle in the few anterior segments available,

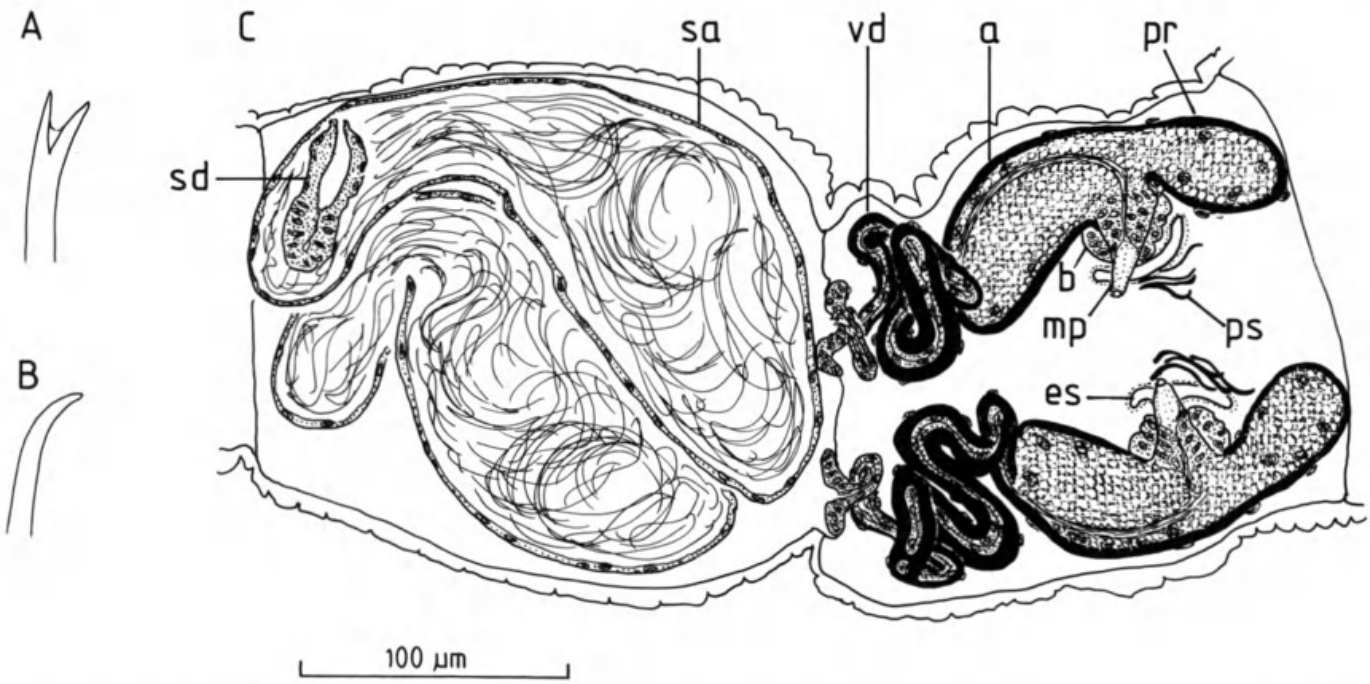


FIG 1. — *Atlantidrilus peregrinus* sp. nov. : A, free-hand drawing of somatic seta ; B, free-hand drawing of penial seta ; C, ventral view of genitalia.

a, atrium ; b, bulb surrounding tapering part of atrium ; es, epidermal slit ; mp, male projection ; pr, prostate gland ; ps, penial seta ; sa, spermathecal ampulla ; sd, spermathecal duct ; vd, vas deferens.

2-3 per bundle in postclitellar segments. Ventral setae of XI modified into penial bundles, each of which contains 4 slightly sigmoid, single-pointed setae (fig. 1B; 1C, ps). Penial setae somewhat thicker, and appear shorter than somatic setae, but exact length unknown. Male pores on a pair of small, styliform projections (fig. 1C, mp), at some distance from each other, approximately in lines of ventral somatic setae, posteriorly in XI. Exact position of spermathecal pores not certain, but they appear located near lateral lines, anteriorly in X.

Male genitalia (fig. 1C, vd, a) paired. Vas deferens up to about 15 μm wide, long and coiled, and heavily muscular for most parts; muscular layer up to 4-5 μm thick. Vas deferens entering atrium somewhat subapically. Atrium oval-to-comma-shaped, about 100 μm long, 41-43 μm wide, with granulated and ciliated inner epithelium and 3-4 μm thick outer lining of muscles; lumen of atrium running very close to one (dorsal?) side through most of atrium. Ectal part of atrium tapering and terminating in male projection. Cells surrounding tapering part of atrium forming an indistinct bulb immediately inside male projection. A compact prostate gland (fig. 1C, pr) broadly attached to posterior face of, and immediately ental to tapering part of, atrium. Prostate surrounded by a thick layer of muscles continuous with lining of atrium proper. Narrow, somewhat curved slit (invagination of epidermis) located between male projection and bundle of penial setae. Spermathecae (fig. 1C, sa, sd) with short ducts (apparently without granulated wall; see Remarks) and very large, thin-walled ampullae; latter occupying a great part of segment X and filled with random masses of sperm.

### Remarks

The segment numbers noted in the description are based on the assumption that the genitalia in *A. peregrinus* are located in X and XI as is normal for Tubificidae. This can only be confirmed, however, when specimens with intact anterior ends are found.

The new species is very similar to the other two members of the genus, *A. styloatriatus* (Erséus, 1979) and *A. quadrisetis* Erséus, 1982 (see Erséus, 1979, 1982). It is, however, distinguished from both by its stouter atria (only about 2 × longer than wide; atria in *styloatriatus* and *quadrisetis* about 4 × longer than wide), and the very thick muscular lining covering most of its male ducts, including the prostate glands (muscular lining present, but very thin in other two species). It is further distinguished from *A. styloatriatus* by the more posterior location of its prostate glands (these glands attached to middle of atrium in *styloatriatus*), and from *A. quadrisetis* by its lack of granulation in the wall of the spermathecal ducts (at least no such granulation visible in the available specimen).

Distribution and habitat : Known only from the type locality in New Caledonia. Bathyal sediment, 2225 m depth.

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