

SCAMIT VOUCHER SHEET

Species name: *Drilonereis* sp A
Group: Family Oeonidae

Date Examined: 24 February 1998
Voucher By: D. Montagne

SYNONYMY: *Drilonereis* nr. *longa* Montagne 1982 §
Drilonereis longa of Hilbig 1995 not Webster 1879
Drilonereis longa of SCAMIT 1994 & 1996 not Webster 1879

DIAGNOSTIC CHARACTERS:

1. Prostomium a simple conical lobe, longer than wide, lacking eyes, (fig. 1) with two faint longitudinal grooves on ventrum.
2. Two peristomial segments weakly set off from prostomium (fig. 1).
3. Maxilla I falcate with 2-3 basal teeth; Maxilla II with 3-4 marginal teeth; Maxillae III and IV with single teeth. Paired maxillary carriers long, slender; unpaired carrier shorter and variable in development, ranging from slender style bearing a lanceolate head (fig. 2) to oval plate (see Hilbig 1995, pg. 331, fig 12.6.B). Mandibles reduced or, more typically, absent.
4. Anterior parapodia simple, reduced, lacking pre- or post-setal lobes. By setiger 15 very reduced, rounded post-setal lobes are present. Post-setal lobes increase in development in median segments (fig. 3A) and are accompanied by pre-setal lobes of equal length in posterior segments (fig. 3B).
5. Setae simple, bilimbate with long sinuous tips; present from first setigerous segment; accompanied by stout, distally pointed acicular spines (fig. 3A) in all but the posterior-most setigers (fig. 3B). The acicular spines extend well into the setal fascicle.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Closely resembles *Drilonereis longa* Webster 1879, from which it differs in the number of teeth on Maxilla II (3-4 vs 6-8). See SCAMIT Newsletter 14 (11), March 1996 for a discussion of L. Harris' reexamination of the holotype of *D. longa*. *Drilonereis* sp A is also greatly smaller in size. Pettibone (1963) refers to specimens from the East Coast as reaching 710 mm long and bearing up to 1000 segments. The length of specimens of *D. longa* from the Virginia coast examined by the writer exceeded 150 mm. Typical *D. sp A* from southern California are under 50 mm in length. In addition, *D. sp A* is frequently taken as an endoparasite in the cirratulid *Aphelochaeta*, a behavior not reported for *D. longa*.

DISTRIBUTION:

Shelf depths from San Diego to Santa Maria Basin.

COMMENTS:

Several genera within the Oeononidae are known to live as endoparasites of other polychaetes. However, this behavior has not previously been reported in the genus *Drilonereis*. Oeononids are reported to parasitize polychaetes in the families Eunicidae, Onuphidae, Terebellidae, Spionidae, Syllidae and Nereididae. There are also reports of pholadid bivalves and bonelliid echiurans as hosts. *Drilonereis* sp A is the first member of its genus to be reported as an endoparasite. Cirratulid polychaetes in the genus *Aphelochaeta* act as host. On the Palos Verdes shelf, it has been observed to parasitize two species; *Aphelochaeta glandaria* and, more commonly, *Aphelochaeta* sp A (previously reported locally as *A. marioni*). An *Aphelochaeta* appears to host only a single specimen, which is invariably facing posteriorly within the coelom. Specimens of *D. sp A* are frequently found protruding from anterior fragments of *Aphelochaeta* (fig. 4), or with a few segments of an *Aphelochaeta* encircling the body. Occasionally specimens may be detected completely incased within the host (fig. 5). The *Drilonereis* attains a size that fills the coelom. Given the relative size, greater muscularity, and setal armature of the parasite, the host must be substantially compromised. There appears to have been little morphological accommodation by *D. sp A* to its parasitic life, suggesting that it may be a stage of development leading to life outside the host. Specimens have been collected in an apparently free-living state, however, they do not differ from nor are they substantially larger than those found within the *Aphelochaeta*. There is no quantitative measure of infection rate but, on the Palos Verdes shelf where both *Aphelochaeta* sp A and *A. glandaria* are very abundant, it is estimated that fewer than 1% contain *Drilonereis* sp A as a parasite.

LITERATURE:

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- PETTIBONE, M. 1963. Marine Polychaete Worms of the New England Region. I. Aphroditidae through Trochochaetidae. United States National Museum bulletin 227: 1- 356.
- SCAMIT. 1994. A Taxonomic Listing of Soft Bottom Macroinvertebrates from Infaunal Monitoring programs in the Southern California Bight. Edition 1. San Pedro, CA. 72 pages.
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- WEBSTER, H. 1979. Annelida Chaetopoda of the Virginia coast. Transactions of the Albany institute 9: 202-272.

ILLUSTRATIONS: *Drilonereis* sp A SCAMIT 1998 §

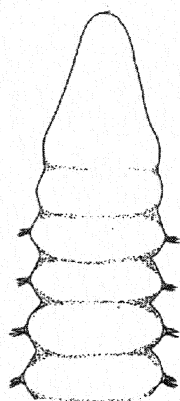


Fig 1. Anterior end, dorsal view

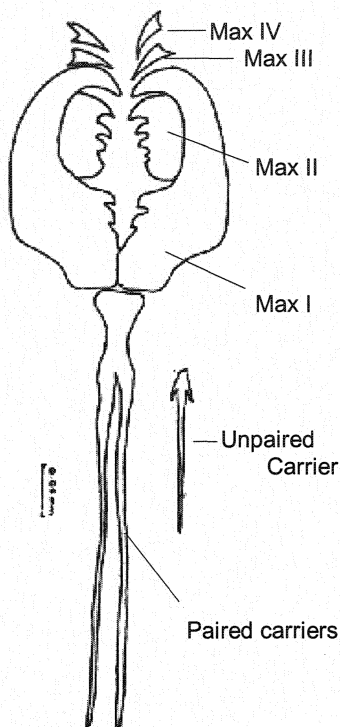
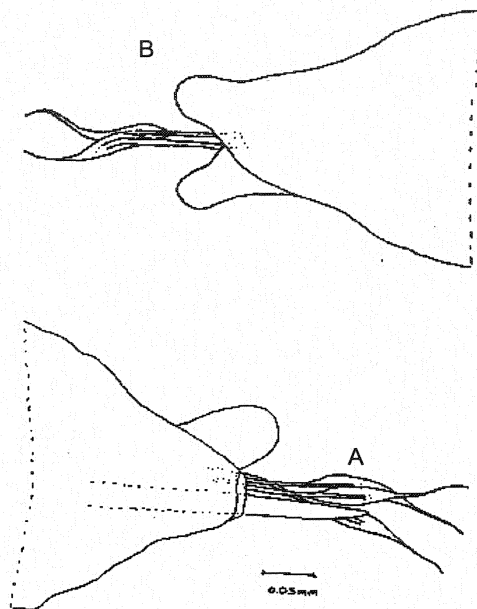


Fig 2. Maxillary Apparatus



A. Parapodium, 57th setiger, dorsal view.
B. Parapodium, 108th setiger, dorsal view.

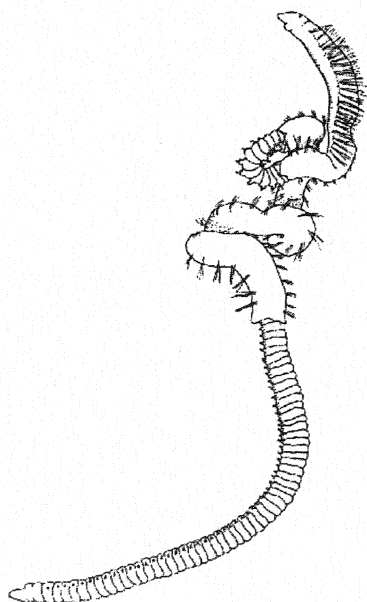


Fig 4. *Drilonereis* sp A protruding from the body cavity of its host, *Aphelochaeta* sp.



Fig 5. *Drilonereis* sp A coiled within the body cavity of its host *Aphelochaeta* sp. The arrow points at the prostomium of the *Drilonereis*. Its pygidium extends into the anterior-most setigers of the host