

A NEW SPECIES OF *ODONTOSYLLIS*
(POLYCHAETA: SYLLIDAE) FROM
TWIN CAYS, BELIZE

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Abstract.—*Odontosyllis twincayensis* is illustrated and described from Twin Cays, a mangrove island located on the Belizean barrier reef. The species is distinguished by setal blade shape and a unique combination of features that includes a distinct occipital flap, a trepan with 6 teeth, a large bulbous proventricle with 35 to 44 muscle cell rows, and bidentate setal blades of only one type.

An investigation of the distribution of syllid polychaetes in mangrove and adjacent shallow-water habitats at Twin Cays, Belize, revealed a multitude of species (Russell 1987). Forty-three syllid species were recorded from 24 benthic cores. Among the over 7800 specimens examined were two individuals of a new species of *Odontosyllis* described below.

The material examined has been deposited in the National Museum of Natural History, Smithsonian Institution (USNM), Washington, D.C.

The generic definition is that of San Martín (1984).

Odontosyllis Claparède, 1863

Odontosyllis twincayensis, new species

Fig. 1

Material examined.—West Bay, Twin Cays, Belize, Caribbean Sea; 20 cm depth, rootmat of *Rhizophora mangle* covered with a dense growth of *Halimeda opuntia* f. *triloba*; Nov 1983: holotype, core H-8U (USNM 102372); paratype, core H-1U (USNM 102373).

Comparative material examined.—Hutchinson Island, Florida, North Atlantic; 11.8 m; May 1972: *Odontosyllis longigulata* Perkins, 1981; holotype (USNM 60445); 2 paratypes (USNM 60447). Off North Car-

olina, North Atlantic; 130 m; Apr 1965: *Odontosyllis longiseta* Day, 1973; holotype (USNM 43120); 25 paratypes (USNM 43121). Barceloneta, Puerto Rico, North Atlantic; 23 m; Sep 1974: *Odontosyllis longiseta*, 1 specimen (USNM 52255) id. by C. Long.

Description.—Body pale yellow without color markings, pharynx pale amber. Body more or less cylindrical anteriorly. Holotype a gravid female, 2.4 mm long, posteriorly incomplete, with 16 setigers, 0.7 mm wide across proventricle without parapodia. Paratype a mature male (?), 0.64 mm long, posteriorly incomplete, with 7 setigers, 0.20 mm wide across proventricle without parapodia. Body length, width, and number of setigers in complete specimens unknown.

Prostomium oval, about twice as long as wide, with two pairs of large garnet eyes each with several small lens-like elements, posterior pair slightly smaller and closer together than anterior pair (Fig. 1A). Paratype with third pair of smaller lensed eyes on anterior margin of prostomium; eyes of pair well separated, each immediately lateral to a lateral antenna. Antennae short, digitiform, similar in size; median antenna originating midway between anterior pair of eyes; lateral antennae arising from anterior margin of prostomium. Palps about as long as prostomium, directed ventrally, fused basally. Pair of C-shaped, ciliated nuchal

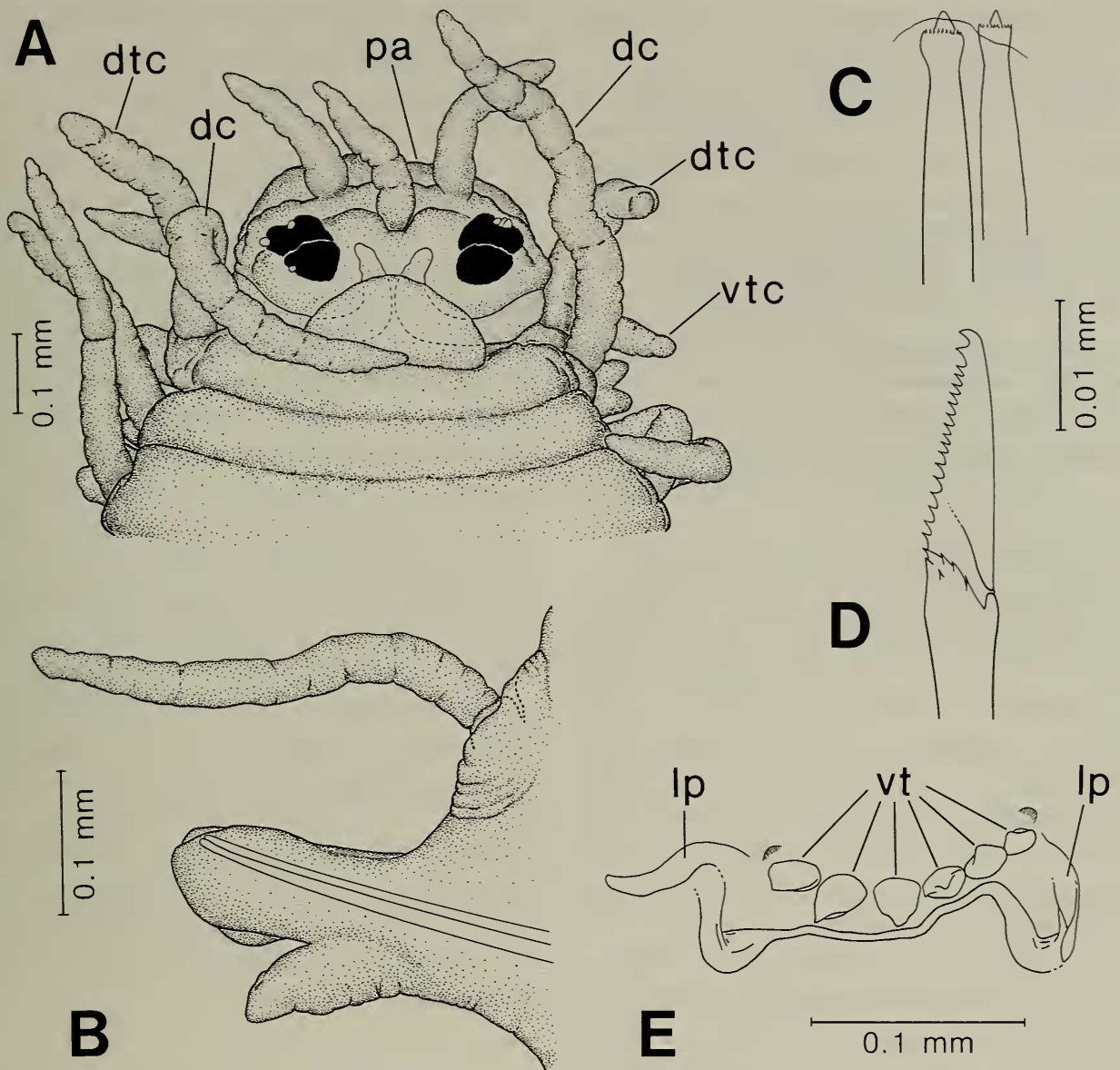


Fig. 1. *Odontosyllis twincayensis*, holotype (USNM 102372): A, Anterior end, dorsal view (slightly compressed dorsoventrally, prostomium and palps curving ventrally), setae omitted; B, Parapodium from setiger 13, posterior view, setae omitted; C, Aciculae from setiger 16; D, Inferior compound seta from setiger 16, scale same for C and D; E, Pharyngeal teeth and plates; dc = dorsal cirrus; dtc = dorsal tentacular cirrus; lp = lateral plate; pa = palp; vt = ventral teeth; vtc = ventral tentacular cirrus.

organs along posterior margin of prostomium, medial portion of each extending anteriorly, terminating between eyes; laterally, nuchal organs forming part of deep groove between prostomium and peristomium. Peristomium reduced dorsally, with clearly defined occipital flap extending anteriorly, partially covering nuchal organs. Two pairs of tentacular (peristomial) cirri, digitiform, smooth or with a few indistinct articulations; ventral tentacular cirri about as long as antennae, dorsal tentacular cirri about 1.5 times length of ventral tentacular cirri.

Parapodia divided distally into presetal and postsetal lobes (Fig. 1B). Two aciculae per parapodium in setigers 13 and 16, both dorsal to setal fascicle; each tapering distally to pointed tip with serrated subterminal expansion or rim (Fig. 1C). Dorsal cirri mostly smooth, or with a few partial, indistinct articulations most common distally (Fig. 1A, B); longest dorsal cirrus on setiger 1, thereafter dorsal cirri similar in length. Ventral cirri short, fusiform, partially fused to ventral surfaces of parapodia, not extending beyond tips of parapodia. Dorsal and ventral

cirri of middle and posterior setigers, anal cirri, and pygidium unknown.

Simple setae not observed. Seventeen to 19 compound setae per parapodium in setigers 13 and 16; all blades on these parapodia similar in size and shape (Fig. 1D), approximately 19 μm long, maximum width about 4.4 μm , blade-length to blade-width ratio 4.0–4.4, bidentate with similar, small terminal and subterminal teeth. Blade cutting edge straight to slightly convex, bearing short, coarse serrations along entire length. Proximal oblique edge of blade not discernible near blade cutting edge. Shaft heads of compound setae all similar, slender, about 5.3 μm wide, bearing short serrations.

Pharynx extending to setiger 6, trepan with ventral row of 6 teeth and 2 lateral plates (Fig. 1E). Proventricle with about 44 narrow, indistinct muscle cell rows, occupying setigers 7 through 14, 0.98 mm long, about twice as long as wide. Paratype with pharynx extending to setiger 3, proventricle with about 35 narrow muscle cell rows, occupying setigers 3 through 5, 0.17 mm long, about twice as long as wide.

Etymology.—The specific name refers to the pair of mangrove islands, Twin Cays, where the type locality, West Bay, is located.

Remarks.—The description is of the holotype unless otherwise indicated. *Odontosyllis twincayensis* is distinguished from all previously described species of the genus by the unique combination of an occipital flap, a trepan with six teeth, a large bulbous proventricle with about 35 to 44 muscle cell rows, and serrated, bidentate setal blades of only one type. Furthermore, the setal blades are longer than those of most *Odontosyllis* species, and are unique in having the shape of a low triangle, a straight to slightly convex cutting edge with coarse serrations, and a bidentate tip with small, nearly equal terminal and subterminal teeth.

Odontosyllis twincayensis resembles *O. longigulata* Perkins, 1981, by having a trepan with six teeth and similar bidentate setal blades, but differs by having a well-

developed, clearly defined occipital flap rather than a slight anterior peristomial fold, a proventricle with about 44 muscle cell rows rather than 60–70, and aciculae with pointed rather than blunt truncate tips. The new species is similar to *O. longiseta* Day, 1973, in having an occipital flap, a trepan with six teeth, and long serrated, bidentate setal blades, but differs by having a proventricle with about 44 muscle cell rows, rather than 60, and setal blades that are somewhat triangular with a length-to-width ratio of about 4.0, rather than elongate with nearly parallel edges and a length-to-width ratio of 7.8.

Odontosyllis twincayensis also resembles *O. glandulosa* Augener, 1913, and *O. graveleyi* Fauvel, 1928, particularly with regard to the length and bidentate aspect of the longest setal blades in these species, but differs by having a much more triangular setal blade bearing coarse serrations, rather than a slender elongate blade with nearly parallel edges and a smooth cutting edge or one bearing very fine serrations. *Odontosyllis twincayensis* is further distinguished from these two species by having a distinct well-developed occipital flap and only one type of bidentate setal blade.

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