

THREE NEW SPECIES OF DORVILLEIDAE (ANNELIDA: POLYCHAETA) FROM PUERTO RICO AND FLORIDA AND A NEW GENUS FOR DORVILLEIDS FROM SCANDINAVIA AND NORTH AMERICA

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Abstract.—Three new species of *Dorvillea* Parfitt, 1866, are described from Puerto Rico and the east and west coasts of Florida. *Dorvillea* and *Schistomeringos* Jumars, 1974, are here combined under *Dorvillea* which is further divided into two subgenera: 1) *Dorvillea*, which contains species Jumars (1974) retained within the genus *Dorvillea* s.s. primarily because they lack furcate setae; and 2) *Schistomeringos* which contains species Jumars (1974) placed in the genus *Schistomeringos* primarily because they have furcate setae. A new genus, *Parougia*, is proposed for a suite of *Schistomeringos* species from Scandinavian and northeast American waters (Oug 1978). A key to the species of *Parougia* is also provided.

Dorvillea Parfitt, 1866, and *Schistomeringos* Jumars, 1974, are two closely related genera that have complete maxillary apparatus (i.e., with basal plates and numerous free denticles in both the superior and inferior maxillary rows), well-developed head appendages, and well-developed notopodia with internal notoacacula. The two genera have been separated primarily by the presence of furcate setae in species of *Schistomeringos*. The continued separation of *Dorvillea* and *Schistomeringos* based on the presence of furcate setae has been questioned by Blake (1975:81), Oug (1978:302), Westheide (1982:123), and Wolf (1984:44-15). All seem to agree the genera should not be distinguished using that character, but to date, *Dorvillea* and *Schistomeringos* have remained split. This paper proposes that all species heretofore placed in those two genera be placed within the genus *Dorvillea*. Those species that do not possess furcate setae are placed within the subgenus *Dorvillea*. Those species that always possess furcate setae are placed within the subgenus *Schistomeringos*.

Schistomeringos caeca (Webster and Benedict, 1884), *S. eliasoni* Oug, 1978, and *S. nigridentata* Oug, 1978, are here placed within the newly proposed genus *Parougia*.

Wolf (1984) identified a possible new species of *Dorvillea* and a new species of *Schistomeringos* from the Gulf of Mexico. Both species are here introduced as new species of *Dorvillea*. Additionally, another new species of *Dorvillea* is described from benthic samples collected off Tampa Bay and Port Everglades, Florida.

The bulk of the material examined for this study was collected as part of a U.S. Bureau of Land Management (now Minerals Management Service) Outer Continental Shelf baseline study conducted during 1975-1981. MAFLA stations were those designated within the Mississippi-Alabama-Florida portion of the program; SOFLA stations were those located off southwest Florida (see Uebelacker and Johnson 1984). The remaining material was collected under the auspices of the Environmental Protection Agency (EPA) during contracts issued to Battelle, Columbus Laboratories

(EPA/Bat stations) and to Science Applications International Corp. through JRB Associates (SAI stations) for studies located off Puerto Rico and the east and west coasts of Florida (see Acknowledgments).

The type material and some additional specimens are deposited in the National Museum of Natural History, Smithsonian Institution (USNM). Other specimens are in the laboratory museum of Barry A. Vittor & Associates, Inc., Mobile, Alabama.

Figure Abbreviations

an—antenna
bPl(infR)—basal plate (inferior row)
bPl(supR)—basal plate (superior row)
ciT—ciliary tract
DanC—dorsal anal cirrus
lT—lateral tooth
mC—maxillary carrier
mT—medial tooth
neAc—neuroaciculum
noAc—notoaciculum
D1, D2, etc.—free denticle 1, etc.
fD(infR)—free denticle, (inferior row)
fD(supR)—free denticle, (superior row)
noto—notopodium
VanC—ventral anal cirrus
vC—ventral cirrus
vSetLo—ventral setal lobe

Dorvillea Parfitt, 1866

Type species.—*Staurocephalus rubrovittatus* Grube, 1855.

Diagnosis.—Maxillae arranged in 4 rows, each having a prominent basal plate and several free denticles; posterior free denticles usually with large curved teeth flanked by smaller teeth; anterior free denticles usually long with more numerous but smaller teeth. Prostomium with well-developed palps usually having palpostyles; antennae articulated, similar in length to palps. Notopodia present throughout from setiger 2, with acicula and terminal article. Furcate setae absent in adults (subgenus *Dorvillea*) or always present in adults (subgenus *Schistomeringos*).

Remarks.—The subgeneric split pro-

posed above is introduced strictly for utilitarian purposes. While I agree that the presence of furcate setae does not warrant separate generic status for *Schistomeringos* Jumars, it cannot be overlooked that a discrete group of species exists whose members always have furcate setae in every setiger as adults, yet share other diagnostic characters of *Dorvillea*. s. s.

Dorvillea (Dorvillea) largidentis, new species
Figs. 1, 2

Dorvillea sp. A.—Wolf, 1984:44-27, fig. 44-19, 44-20a-k.

Material examined.—PUERTO RICO, off San Juan: SAI Sta SJ3-1, Mar 1984, 18°30.24'N, 66°09.8'W, 224 m, clayey silt, 2 paratypes (USNM 98914).—Off Yabucoa: SAI Sta Y27-1, Mar 1984, 18°02.6'N, 65°23.5'W, 642 m, clayey silt, 1 paratype (USNM 98915). FLORIDA, off Port Everglades: EPA/Bat Sta PE1-2, Feb 1984, 26°06'N, 80°04.2'W, 111 m, silty sand and rubble, 2 paratypes (USNM 98913).—EPA/Bat Sta PE 3-3, Feb 1984, 26°06.0'N, 80°03.4'W, 108 m, silty sand, 1 paratype (USNM 98912).—EPA/Bat Sta PE10-2, Nov 1984, 26°00.4'N, 80°04.0'W, 158 m, muddy sand, 1 paratype (USNM 98911).—Off Southwest Florida: SOFLA Sta 18A, Apr 1981, 25°45'22"N, 83°42'13"W, 87 m, medium sand, 2 specimens (USNM 89569-70).—SOFLA Sta 20, Nov 1980, 25°17'20"N, 82°09'44"W, 22 m, coarse sand, 2 specimens (USNM 89571-2).—Off Northwest Florida: MAFLA Sta 2316I, Jun 1975, 28°42'00.3"N, 84°20'00.7"W, 35 m, silty fine sand, 1 specimen.—MAFLA Sta 2534, Jun 1975, 29°40'59.9"N, 86°17'28.6"W, 73 m, coarse sand, 1 specimen.—MAFLA Sta 2643, Jun 1975, 29°36'31.0"N, 87°27'00.8"W, 69 m, fine sand, 1 specimen.—MAFLA Sta 2644D, 5 Jun 1975, 29°36.2'N, 87°23.5'W, 75 m, medium sand, HOLOTYPE (USNM 98910). ALABAMA, off Mobile Bay: MAFLA Sta 19G, May 1974, 26°36'12"N, 87°23'30"W,

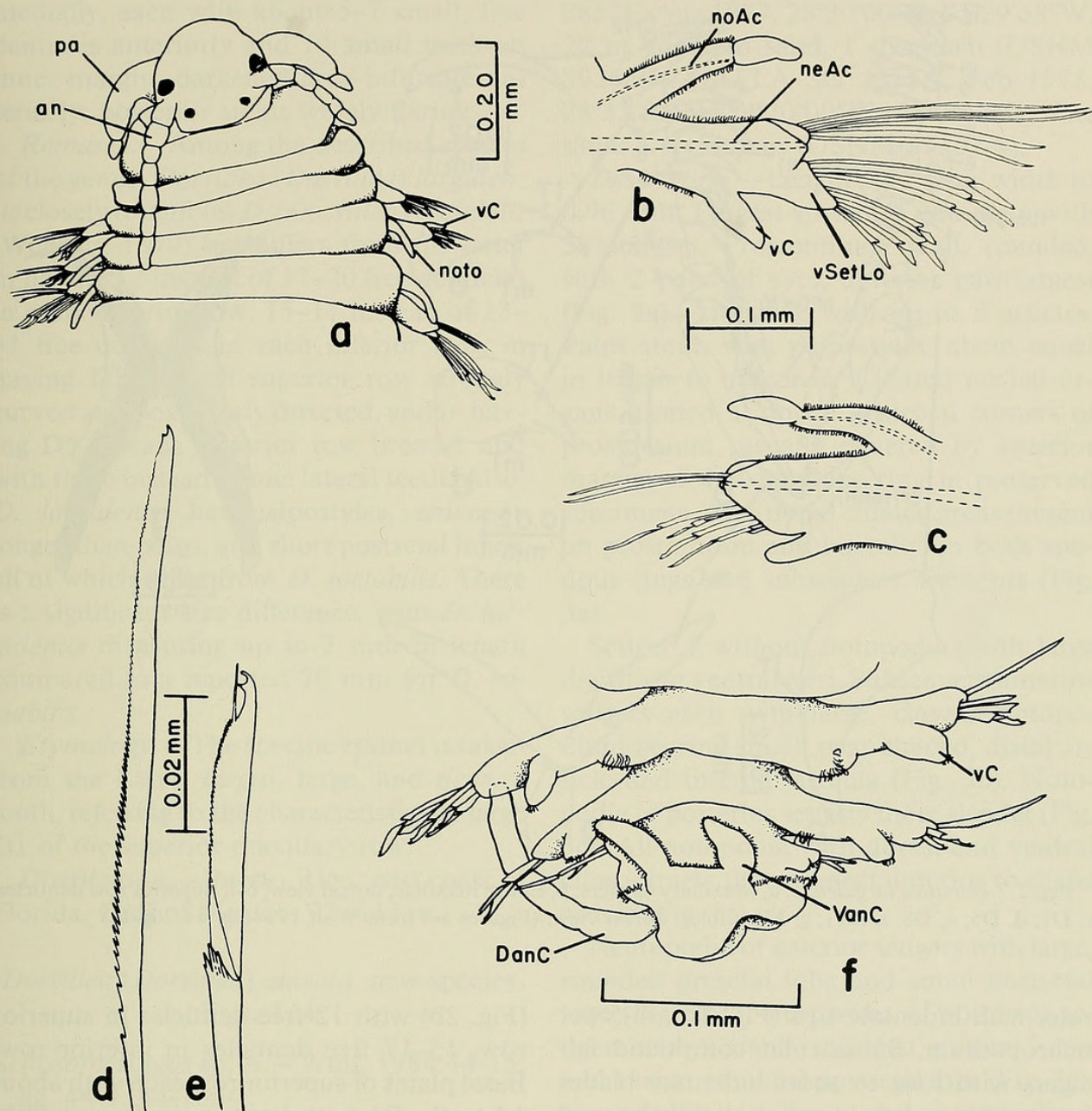


Fig. 1. *Dorvillea largidentis*: a, Anterior end, dorsal view; b, Parapodium from setiger 4, posterior view; c, Parapodium from setiger 5, posterior view; d, Supra-acicular simple seta; e, Compound falciger; f, Posterior end, ventral view (left dorsal anal cirrus missing). (Figures a–e from Wolf 1984:fig. 44-20a–e.)

75 m, medium sand, 1 specimen (USNM 89573), 2 additional specimens.

Description.—Length to 7 mm, width to 0.25 mm. Largest specimen complete with 45 setigers. Prostomium (Fig. 1a) rounded with 4 eyes, anterior pair largest. Antennae with about 7 articulations. Palps stout, bi-articulate, shorter than antennae.

Notopodia present from setiger 2, each extending to end of neuropodial lobe, with

internal acicula and terminal article (Fig. 1b, c). Neuropodia without distinct presetal lobes, with small postsetal lobes (Fig. 1b, c). Ventral setigerous lobes long when everted (Fig. 1b). Ciliary tracts present on dorsal and ventral margins of noto- and neuropodia (Fig. 1b, c). Small bundle of cilia also present on tips of ventral cirri of far posterior setigers (Fig. 1f).

Supra-acicular neurosetae simple, ser-

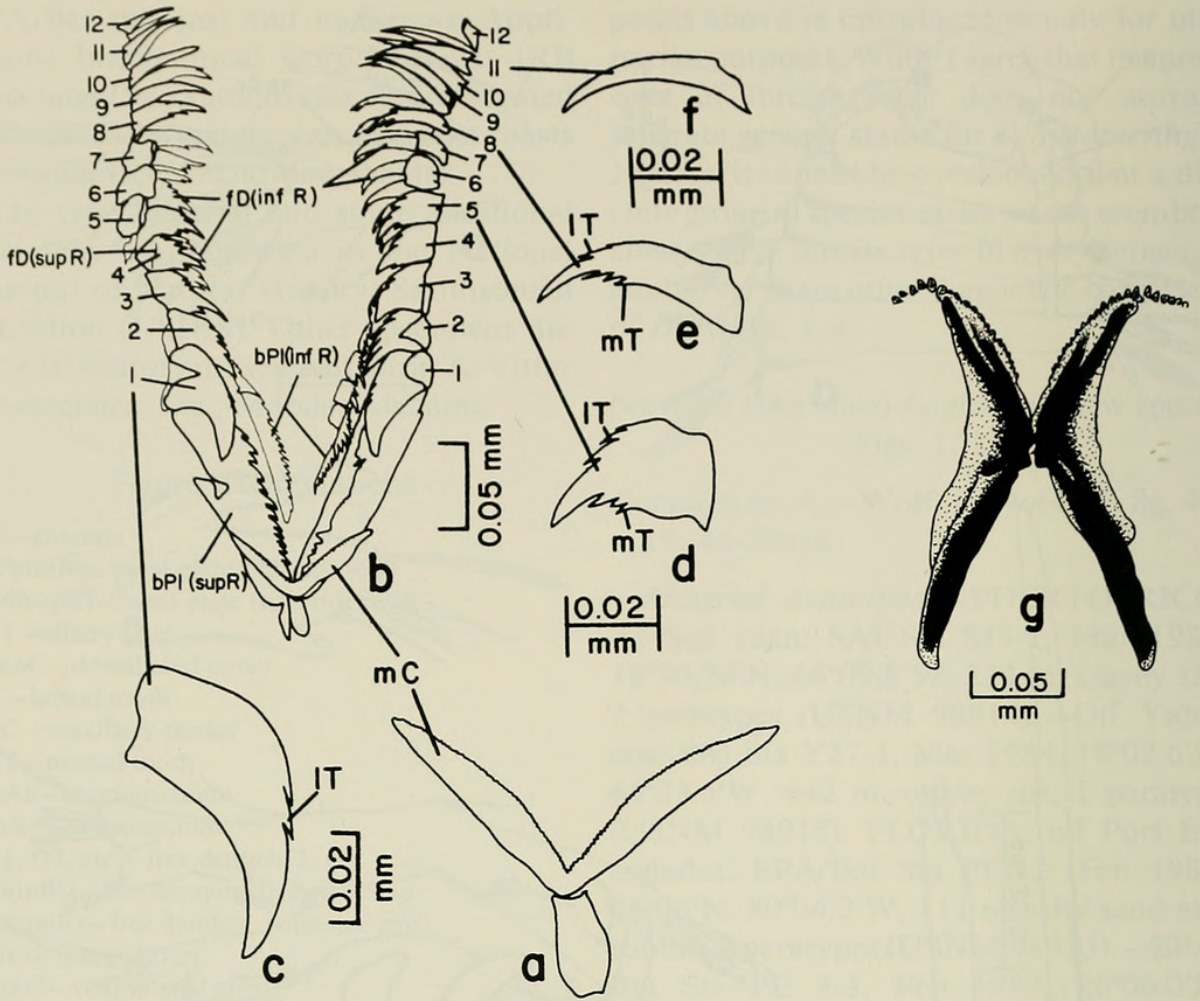


Fig. 2. *Dorvillea largidentis*: a, Maxillary carriers; b, Entire maxillae, dorsal view; c-f, Superior row denticles: c, D1; d, D5; e, D8; f, D11; g, Mandibles, dorsal view. (Figures a-f from Wolf 1984:fig. 44-20g-k.)

rate, with bidentate tips (Fig. 1d), 4-5 per neuropodium. Subacicular compound falcigers with long to short bidentate blades having thin guard extending slightly beyond teeth (Fig. 1e).

Pygidium (Fig. 1f) damaged, apparently with 2 pairs of anal cirri. Dorsal anal cirri of specimens examined about twice as long as ventral anal cirri, indistinctly wrinkled, devoid of cilia. Ventral anal cirri short, digitiform, with lateral ciliary tracts. Ventral cirri appear connected by low, ciliated ventral ridge (Fig. 1f).

Maxillary carriers fused to oval-shaped base, serrate along anterior margins (Fig. 2a). Basal plates of superior and inferior maxillary rows apparently connected posteriorly by thin, clear ligament. Maxillae

(Fig. 2b) with 12 free denticles in superior row, 15-17 free denticles in inferior row. Basal plates of superior row each with about 14 teeth. D1 with large main fang sharply curved and posteriorly directed; with 2 small, lateral teeth (Fig. 2c). D5 with large main fang, 3 lateral and 3 medial teeth (Fig. 2d). D8 with sharply pointed main fang, 1 lateral and 3 medial teeth (Fig. 2e). D11 sharply pointed, curved, without lateral or medial teeth (Fig. 2f).

Basal plates of inferior row each with about 16 teeth (Fig. 2b). Posterior free denticles short, squared, with main fang flanked by 2-3 teeth on either side; anterior denticles becoming long and sharply pointed by D9-10.

Mandibles (Fig. 2g) symmetrical, fused

medially, each with about 5–7 small, free denticles anteriorly and 14 small teeth on inner margin; darkened area bifurcate anteriorly; posterior stems widely flaring.

Remarks.—Among the described species of the genus, *Dorvillea* (*Dorvillea*) *largidentis* closely resembles *D. (Dorvillea) sociabilis* (Webster, 1879) but differs from the latter in having 12 instead of 17–20 free denticles in each superior row, 15–17 instead of 23–31 free denticles in each inferior row, in having D1 of each superior row strongly curved and posteriorly directed, and in having D5 of each superior row broader and with three instead of one lateral teeth. Also, *D. largidentis* has palpostyles, antennae longer than palps, and short postsetal lobes, all of which differ from *D. sociabilis*. There is a significant size difference, with *D. largidentis* measuring up to 7 mm in length compared to a reported 20 mm for *D. sociabilis*.

Etymology.—The specific epithet is taken from the Latin, *largus*, large, and *dens*, a tooth, referring to the characteristically large D1 of the superior maxillary row.

Distribution.—Puerto Rico, east coast of Florida, Gulf of Mexico; 22–642 m.

Dorvillea (Dorvillea) clavata, new species
Figs. 3, 4

Schistomeringos sp. A.—Wolf, 1984:44–15, fig. 44–9, 44–10a–j.

Material examined.—FLORIDA, off Port Everglades: EPA/Bat Sta PE4-2, Feb 1984, 26°06.0'N, 80°04.4'W, 33 m, sand and coral rubble, 1 paratype (USNM 98918).—Off Tampa Bay: EPA/Bat Sta 1111-III-5-3, Dec 1984, 27°28.7'N, 83°06.5'W, 24.7 m, sand, HOLOTYPE, ripe male (USNM 98916), 1 paratype (USNM 98917).—EPA/Bat Sta 1111-III-8-3, Dec 1984, 27°32'N, 83°05'W, 23.5 m, sand, 2 paratypes (USNM 98919).—Off St. Petersburg: MAFLA Sta 2207G, Nov 1977, 27°57'00"N, 83°09'00"W, 19 m, fine-very fine sand, 1 specimen (USNM 89561).—Off Crystal River: MAFLA Sta

2852E, Aug 1977, 28°30'00"N, 83°29'58"W, 22 m, medium sand, 1 specimen (USNM 89565).—MAFLA Sta 2315A, Feb 1978, 28°33'59"N, 84°20'09"W, 38 m, silty fine sand, 3 specimens (USNM 89562–4).

Description.—Length to 6 mm, width to 0.96 mm. Largest specimen complete with 58 setigers. Prostomium small, rounded, with 2 pairs of eyes, anterior pair largest (Fig. 3a). Antennae with up to 5 articles. Palps stout, with palpostyles, about equal in length to antennae. Ciliated nuchal organs located at dorsal postectal corners of prostomium, usually covered by anterior margin of first apodous ring in preserved specimens. Additional ciliated areas present on prostomium and laterally on both apodous rings and subsequent segments (Fig. 3a).

Setiger 1 without notopodia, with large digitiform ventral cirri. Subsequent anterior setigers each with large, clavate notopodium bearing small, pear-shaped, distal article and internal acicula (Fig. 3b). Notopodia of posterior setigers more slender (Fig. 3c). All notopodia with dorsal and ventral ciliary tracts that connect anterior to distal article (Fig. 3a–c).

Neuropodia of anterior setigers with large, rounded presetal lobe and small postsetal lobe (Fig. 3b). Neuropodia of posterior setigers with 2 small, rounded presetal lobes and 1 large, rounded postsetal lobe (Fig. 3c). Neuropodia with dorsal and ventral ciliary tracts. Ventral cirri devoid of cilia (Fig. 3b, c).

Supra-acicular setae simple, bidentate, narrow to cultriform, serrate along convex margin (Fig. 3d); furcate setae absent in adults (see *Remarks*). Subacicular compound falcigers with long to short bidentate blades, with small, thin guards (Fig. 3e, f).

Pygidium with 2 pairs anal cirri (Fig. 3g). Dorsal anal cirri very long, indistinctly articulated. Ventral anal cirri short, digitiform, may be ciliated and connected ventrally by small ciliated ridge.

Maxillary carriers asymmetrical, fused,

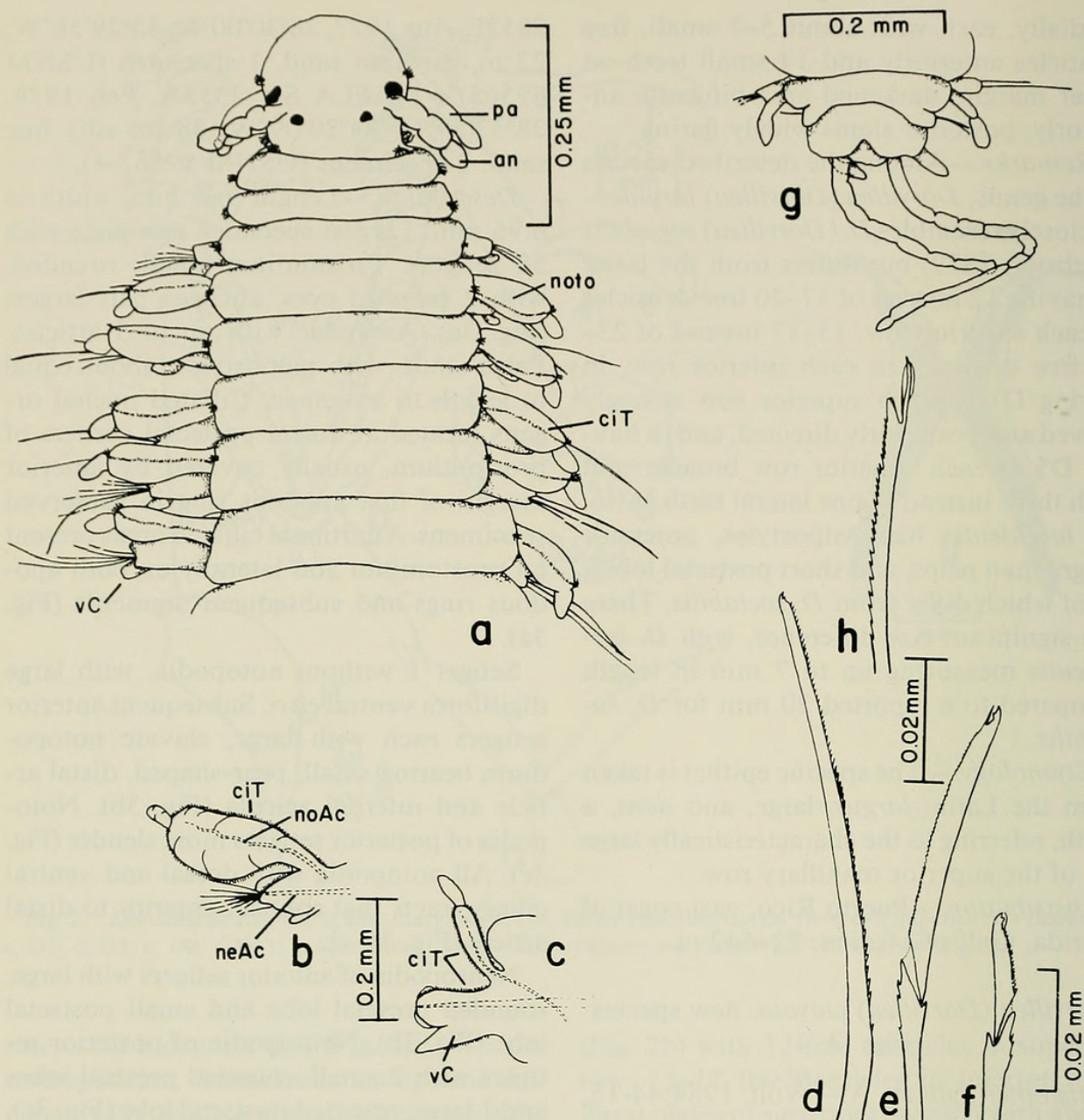


Fig. 3. *Dorvillea clavata*: a, Anterior end, dorsal view; b, Anterior parapodium, posterior view; c, Posterior parapodium, posterior view; d, Supra-acicular cultriform seta; e, Subacicular superior falciger; f, Subacicular inferior falciger; g, Posterior end, dorsal view; h, Furcate seta from juvenile. (Figures b–f, h from Wolf 1984: fig. 44-10b–f, j.)

serrate; right carrier slightly longer than left (Fig. 4a). Basal plates of superior and inferior rows apparently connected posteriorly by thin, clear ligament. Superior row basal plates with 12 large teeth, each large tooth with smaller subapical tooth and 3–5 smaller teeth anteriorly. Superior row with up to 25 free denticles. D1 with 1 large tooth, 4 medial and 4 lateral teeth; subsequent denticles with increasing number of lateral and

medial teeth as denticles become long and narrow (Fig. 4b) until anterior-most denticles which become shorter, more broad and with only a few minute apical teeth (Fig. 4c).

Inferior row basal plates with numerous small teeth (Fig. 4a). Up to 21 free denticles present in inferior row. D1 with large main tooth, 7 medial and up to 7 lateral teeth; subsequent denticles somewhat squared,

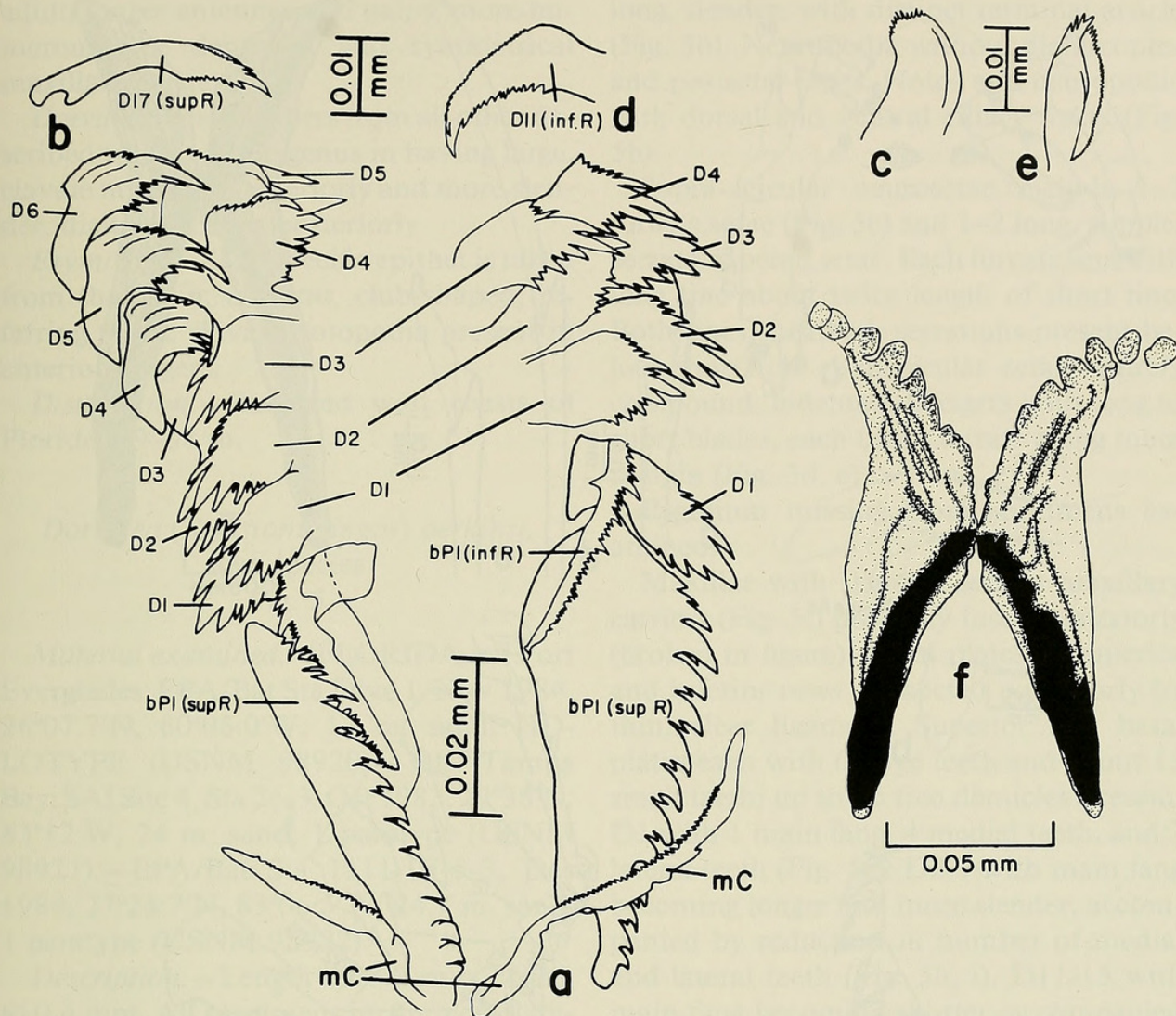


Fig. 4. *Dorvillea clavata*: a, Posterior portion of maxillae, dorsal view (maxillary carriers broken posteriorly); b, D17, superior row; c, Anteriormost free denticle, superior row; d, D11, inferior row; e, Penultimate free denticle, inferior row; f, Mandibles, dorsal view. (Figures a, b, d from Wolf 1984:fig. 44-10g-i.)

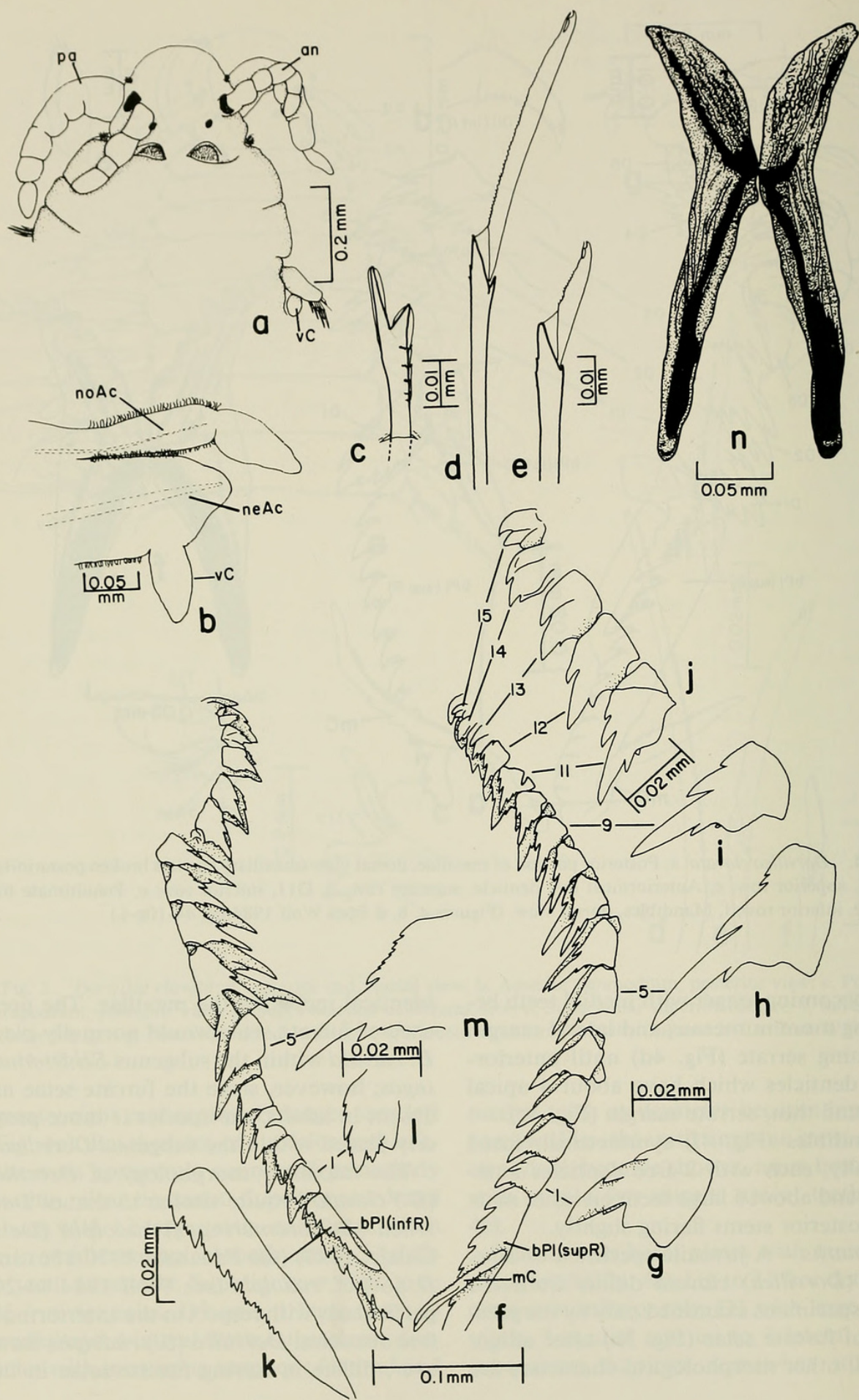
then becoming longer with medial teeth becoming more numerous and lateral margin becoming serrate (Fig. 4d) until anteriormost denticles which have about 4 apical teeth and thin, serrate margin (Fig. 4e).

Mandibles (Fig. 4f) symmetrical, fused medially, each with 2 free denticles anteriorly and about 5 large teeth on inner margin; posterior stems flaring slightly.

Remarks.—A juvenile specimen of *Dorvillea* (*Dorvillea*) *clavata* differs from the other specimens examined only by the presence of furcate setae (Fig. 3h) after setiger 15. All other morphological characters are

identical including the maxillae. The presence of furcate setae would normally place *D. clavata* within the subgenus *Schistomeringos*; however, since the furcate setae are absent in adults, the species is more properly placed within the subgenus *Dorvillea*.

The maxillary morphology of *Dorvillea* (*D.*) *clavata* is quite similar to that of *Dorvillea* (*Schistomeringos*) *rudolphi* (Delle Chiaje, 1828) (see Fauchald 1970:156) and *D. (S.)* cf. *rudolphi* (see Wolf 1984:44-21) particularly with respect to the anteriormost free denticles. *Dorvillea (S.) rudolphi*, however, differs in having furcate setae in the



adult, longer antennae and palps, more numerous free denticles, and symmetrical maxillary carriers.

Dorvillea clavata differs from all other described species of the genus in having large, clavate notopodia anteriorly and more slender, digitiform ones posteriorly.

Etymology.—The specific epithet is taken from the Latin, *clavatus*, club-shaped, referring to the clavate notopodia present in anterior setigers.

Distribution.—East and west coasts of Florida; 19–38 m.

Dorvillea (Schistomeringos) perkinsi,
new species

Fig. 5

Material examined.—FLORIDA, off Port Everglades: EPA/Bat Sta Dive 1, Nov 1984, 26°07.7'N, 80°05.0'W, 17 m, sand, HOLOTYPE (USNM 98920).—Off Tampa Bay: SAI Site 4, Sta 26-3, Oct 1983, 27°36'N, 83°12'W, 24 m, sand, 1 paratype (USNM 98921).—EPA/Bat Sta 1111-III-5-3, Dec 1984, 27°28.7'N, 83°06.5'W, 24.7 m, sand, 1 paratype (USNM 98922).

Description.—Length to 6.0 mm, width to 0.4 mm. All specimens incomplete, largest one with 39 setigers. Prostomium broadly rounded anteriorly (Fig. 5a). Two pairs of eyes present; anterior pair large, slightly reniform; posterior pair small, round. Antennae about $\frac{2}{3}$ as long as palps; each antenna with about 5 articulations. Palps large, indistinctly articulated, with pear-shaped palpostyle. Ciliated nuchal organs located at dorsal postectal corners of the prostomium. Additional paired ciliary patches present dorsally anterior to palps and laterally just anterior to nuchal organs.

Notopodia present from setiger 2, each

long, slender, with distinct terminal article (Fig. 5b). Neuropodia without distinct pre- and postsetal lobes. Noto- and neuropodia with dorsal and ventral ciliary tracts (Fig. 5b).

Supra-acicular neurosetae include 1–2 furcate setae (Fig. 5c) and 1–2 long, simple, serrate, tapered setae. Each furcate seta with long tine about twice length of short tine. Both tines sheathed, serrations present below short tine. Subacicular setae entirely compound, bidentate falcigers with long to short blades, each blade serrate along inner margin (Fig. 5d, e).

Pygidium missing from specimens examined.

Maxillae with slender, serrate maxillary carriers (Fig. 5f) probably fused posteriorly (broken in figure). Basal plates of superior and inferior rows connected posteriorly by thin, clear ligament. Superior row basal plates each with 6 large teeth and about 15 small teeth; up to 15 free denticles present. D1 with 1 main fang, 4 medial teeth, and 2 lateral teeth (Fig. 5g). D2–9 with main fang becoming longer and more slender, accompanied by reduction in number of medial and lateral teeth (Fig. 5h, i). D11–15 with main fang becoming shorter, accompanied by loss of medial teeth and retention of only 1 lateral tooth (Fig. 5j); main fang and lateral tooth equal to each other in size and shape on D15 (Fig. 5j).

Inferior row basal plates each with about 25 irregular teeth, anterior teeth appear as main fang with 2–3 lateral teeth (Fig. 5f, k). Inferior maxillary rows each with about 14 free denticles. D1 with main fang, 4 medial teeth and 5 lateral teeth (Fig. 5l). D2–6 with main fang becoming very long and slender, accompanied by reduction in number of medial teeth to 2 and increase in lateral teeth

Fig. 5. *Dorvillea perkinsi*: a, Anterior end, dorsal view; b, Anterior parapodium, posterior view; c, Furcate seta; d, Superior compound falciger; e, Inferior compound falciger; f, Entire maxillae, dorsal view (left side twisted posteriorly); g–j, Superior row free denticles: g, D1; h, D5; i, D9; j, D11–D15; k, Basal plate, inferior row; l, m, D1 and D5, inferior row; n, Mandibles, dorsal view.

to about 7, giving serrate appearance to anterior edge of the denticles (Fig. 5m). From D7-14 all teeth becoming reduced in size and number (Fig. 5f).

Mandibles long, slender, moderately flared, without free denticles or teeth (Fig. 5n). Anterior portions of each mandible with scalloped lines.

Remarks.—*Dorvillea* (*Schistomeringos*) *perkinsi* is unique among species of *Dorvillea* in having mandibles with scalloped lines and without denticles.

Etymology.—The species is named in honor of Mr. Thomas H. Perkins, whose numerous publications have contributed greatly to our knowledge of polychaete taxonomy.

Distribution.—East and west coasts of Florida; 17–24.7 m.

Parougia, new genus

Type species.—*Schistomeringos nigridentata* Oug, 1978.

Diagnosis.—Maxillae in 4 rows; superior rows with basal plates and free denticles; basal plates composed of 5–7 fused free denticles; inferior rows without basal plates, with free denticles. Maxillary carriers absent. Mandibles dentate anteriorly. Antennae well-developed, articulated. Palps well-developed, stout, biarticulate, shorter than antennae. Notopodia present throughout, well-developed, biarticulate, with internal notoacacula. Supra-acicular setae include simple minutely bidentate forms; furcate setae, when present, with long thin tines. Sub-acicular setae as compound, bidentate falcigers. Pygidium with 2 dorsal anal cirri and single midventral cirrus.

Remarks.—*Parougia* as defined above contains *P. caeca* (Webster and Benedict, 1884), *P. eliasoni* (Oug, 1978), and *P. nigridentata* (Oug, 1978) which are separable using the key provided below.

Parougia is very similar to *Coralliotrocha* Westheide and Nordheim, 1985, but differs in having internal notoacacula in the noto-

podia and in having dentate mandibles instead of smooth ones.

Parougia is very similar to *Ougia* Wolf (1986) in lacking basal plates in the inferior row, in having well-developed head appendages and notopodia, and in having a pygidium with two dorsal anal cirri and a midventral cirrus. *Parougia* differs from *Ougia* in lacking, instead of having, maxillary carriers, in having superior row basal plates composed of fused free denticles rather than being a serrate plate, and in having dentate mandibles rather than smooth ones.

The above diagnosis as well as the key to species below was compiled from the excellent descriptions given in Oug (1978). As a result of the detail and completeness of his work, it was deemed unnecessary to reexamine his material.

Key to the Species of *Parougia*

1. Neuropodium without suprasetal lobe; tines of furcate setae with pointed, entire tips *P. caeca*
- Neuropodium with dorsal, suprasetal lobe; tines of furcate setae blunt, pubescent 2
2. Maxillary denticles of superior row with large, hook-shaped main fangs; free denticles of inferior row widest medially; neuropodial suprasetal lobe of anterior setigers shorter than postsetal acicular lobe *P. eliasoni*
- Maxillary denticles of superior row with main fangs not hook-shaped; free denticles of inferior row widest distally, at dentate margin; neuropodial suprasetal lobe of anterior setigers about equal in length to postsetal acicular lobe *P. nigridentata*

Discussion.—Jumars (1974) divided the genus *Dorvillea* into *Dorvillea* and *Schistomeringos*. He identified three diagnostic characters: 1) presence of furcate setae, 2) basal plates of inferior maxillary rows fused to or free from those of the superior maxillary rows, and 3) ratio of the length of the

inferior row basal plate to the length of the basal plate's longest tooth. Each is discussed below.

The increased biological sampling of marine benthic environments has brought to light a greater diversity of dorvilleid taxa than was available at the time of Jumars' (1974) revision (e.g., Oresanz 1973; Oug 1978; Wainwright and Perkins 1982; Westheide 1982; Westheide and Riser 1983; Westheide and Nordheim 1985; Wolf 1984, 1986, and the present study). Some of these studies (Oug 1978; Westheide and Nordheim 1985; Wolf 1984, 1986) have shown the furcate setae may appear randomly in some taxa (e.g., *Ougia* Wolf, 1986; and *Parougia*, n. gen.), or only in posterior setigers (*Coralliotrocha natans* Westheide and Nordheim, 1985), or only in juveniles (*Dorvillea* (*Dorvillea*) *clavata*, n. sp.). These findings certainly indicate that the usefulness of furcate setae as a diagnostic character at the generic level has diminished. Indeed, the finding of furcate setae in a juvenile *Dorvillea* may lead one to predict its presence in other juvenile species of *Dorvillea*.

The fusion of the inferior maxillary basal plates to those of the superior rows is somewhat difficult to assess. From my observations of members of both *Dorvillea* and *Schistomeringos*, I believe it is more accurate to describe these plates as being connected by a thin, clear ligament which is attached posteriorly on the inferior maxillary basal plates, then extends back to near the posterior region of the superior maxillary basal plates. At any rate, this feature is extremely difficult to see in small species, and it is subject to damage and other limitations when viewing slide mounts under light microscopy.

In *Dorvillea* sensu Jumars, the inferior basal plates may be free from or fused to the basal plates of the superior rows, and when they are free, the length of the inferior basal plates are less than three times the length of the longest teeth on the plate itself. In *Schistomeringos* sensu Jumars, the in-

ferior basal plates are always free and always three times the length of the longest teeth present on the basal plate. This may be an important taxonomic distinction and one that, along with the possibility of fusion itself, has been overlooked in past discussions of the *Dorvillea*-*Schistomeringos* split. This diagnostic feature is, however, difficult to assess in view of the problem of determining whether or not the inferior basal plates are free from or fused to the superior plates. Again, in slide preparations of the maxillary apparatus, this feature can be very difficult to measure accurately, and judging from Jumars' (1974) figures of the maxillae of *Dorvillea rubrovittata* (Fig. 4) which has free inferior basal plates, the measurements must be extremely accurate. By my measurements of the inferior basal plate within the figure, the plate appears to be exactly three times the length of the longest tooth.

In summary, the only consistently useful diagnostic character is the presence of furcate setae, if they are always present in every setiger in adult worms. The species placed by Jumars (1974) in *Schistomeringos* fit that description, but, as has already been stated above, this one character does not seem to be sufficient to maintain the *Dorvillea*-*Schistomeringos* split. At best, the presence of furcate setae does appear useful for subgeneric distinctions as has been suggested herein.

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