

# Four new species of Hydromedusae (Cnidaria, Hydrozoa) from the coast of south-western Africa

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Four previously unknown species of hydromedusae are described from plankton samples collected during oceanographic cruises undertaken along the south-western coast of Africa. The Anthomedusa *Bythotiarra capensis* sp.n., known from a single specimen, was found in shallow waters of the Cape region (South Africa). The Leptomedusa *Margalefia intermedia* gen. et sp.n. collected in Namibian waters, possesses desmoneme cnidocysts. This category of cnidocysts is previously unreported in the Leptomedusae, but is common in Anthomedusae and in the limnomedusan family Proboscoidactylidae. *Margalefia* seems to occupy a position intermediate between the families Tirannidae and Laodiceidae. Two species of Limnomedusae, *Aglauroopsis edwardsii* sp.n. and *Proboscoidactyla menoni* sp.n. were frequent at several stations in Namibian waters between depths of 50 m and the surface.

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## Introduction

The Hydromedusae of the south-west coast of Africa between 17°S (Namibia–Angola border) and 34°S (Cape of Good Hope) are poorly known. Available information is limited primarily to results from the study of samples collected during several great oceanographic expeditions (e.g. Vanhöffen 1908; Thiel 1935; Kramp 1959). Since 1980, Spanish–South African oceanographic cruises have been periodically carried out to the area. One objective of these cruises has been intensive and extensive study of the composition and distribution of planktonic organisms in the Benguela Current. This current is important hydrographically and biogeographically because of persistent and strong upwelling (Shannon & Pillar 1986). Although ichthyoplankton has received most study among planktonic groups, analysis of plankton samples has also allowed exhaustive investigations of the medusae. The purpose of this work is to describe one new genus and four new species of Hydromedusae.

## Material and methods

Specimens were collected during several planktonic cruises carried out in different zones of the coast of south-west Africa from November 1979 to July 1984. Cruises were designated as Benguela I, Benguela II (Namibian coast) and West Coast Hake Biomass (Cape region coast). All plankton samples were collected using a 40 cm diameter Bongo net with a mesh size of 500 µm. Samples were preserved with 5% buffered formalin in sea water. Type specimens have been deposited in the 'Institut Royal d'Histoire Naturelle de Belgique' (I.R.H.N.B.), Brussels, Belgium.

## Systematics

Order Anthomedusae  
Family Calycopsidae

### *Bythotiarra capensis* sp.n. (Fig. 1)

*Type material.* Holotype, specimen from West Coast Hake Biomass cruise, B-34, off west coast of South Africa (32°40'S, 16°51'E), 26 July 1984, depth 46–0 m. Reg. I.R.S.N.B. No. 27658a.

*Etymology.* The specific name refers to the province of this medusa, in waters near the Cape of Good Hope, Cape Province.

*Diagnosis.* Umbrella bell shaped, higher than wide, 22.0 mm wide, 24.0 mm high; stomach quadrangular, half as long as bell cavity, lips 4, simple, small; primary canals 4, branching irregularly into 12 terminal branches; no centripetal canals; gonads 8, adradial, with numerous transverse folds; tentacles 12, hollow, with oblong terminal knob, basal portion of tentacles adnate to umbrella margin; no secondary or dwarf tentacles. Polyp stage unknown.

*Description.* Umbrella bell shaped, slightly higher than wide, with rounded apex; 24.0 mm high, 22.0 mm wide. Mesoglea thick. Stomach simple, quadrangular, almost half as high as bell cavity. Mouth with 4 weakly marked simple lips. Velum and ring canal narrow. Four primary radial canals each dividing at a short but irregular distance from the stomach into 12 terminal branches. Anastomosis occurring between two of the radial canals; blind radial canal ramification present. Each primary canal leaving

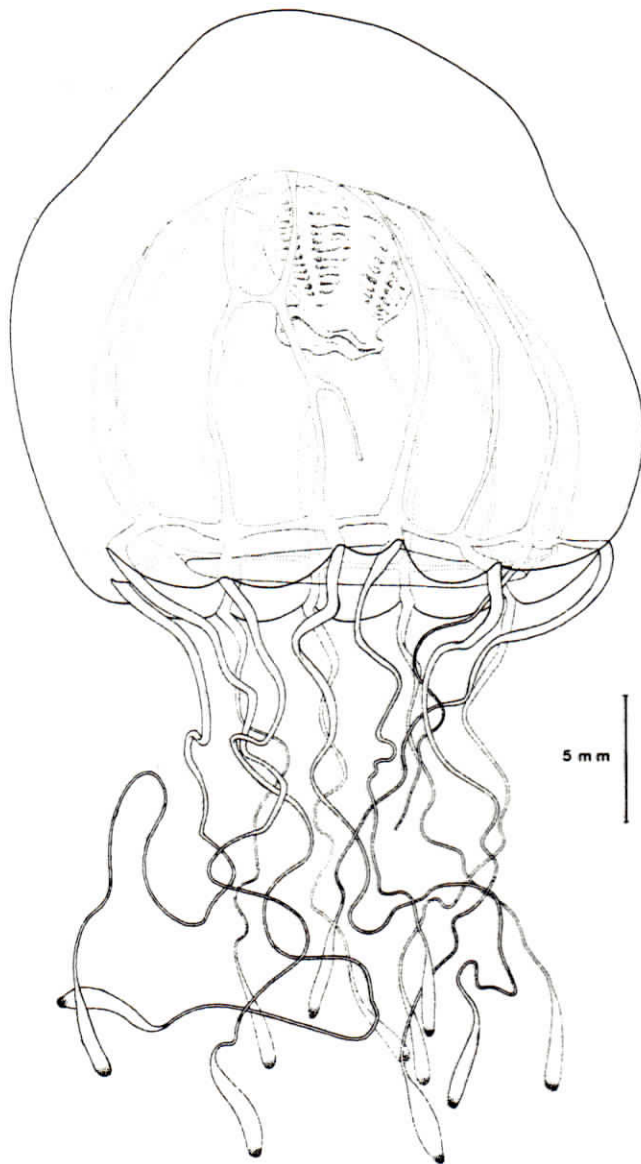


Fig. 1. *Bythotiar capensis* sp.n.

the stomach as small vertical funnel shaped slit or 'mesentery'. No centripetal canals.

Gonads 8 on stomach wall; adradial with up to 13 regular transverse folds.

Tentacles 12, smooth, hollow, all alike; each tipped by a large oblong nearly cylindrical cnidocyst cluster and situated one below each terminal branch of a radial canal. Tentacles thick basally becoming thin and thread-like before terminal cnidocysts clusters. As in most Calyropsidae, the marginal tentacles leaving ring canal some distance from umbrellar margin, their bases embedded into exumbrellar mesoglea, which appears lobed, lobes altering with the tentacles. No ocelli. Polyp stage unknown.

*Discussion.* *Bythotiar capensis* sp.n. belongs to the family Calyropsidae, a family comprising eight genera divided into two groups distinguished by:

1. Gonads with more or less conspicuous transversal folds: *Bythotiar* Günther, 1903, *Calyropsis* Fewkes, 1882, *Eumedusa* Bigelow, 1920, *Sibogita* Maas, 1905.
2. Gonads lacking transverse folds: *Bythocellata* Nair, 1951, *Heterotiar* Maas, 1905, *Meator* Bigelow, 1913, *Pseudotiar* Bouillon, 1980.

Specimens described above belong to the first group and are assigned here to *Bythotiar*. They differ from species of *Sibogita* which have radial canals branching repeatedly at various levels, and from species of *Calyropsis* and *Eumedusa*, which possess centripetal canals. Five species have been referred previously to *Bythotiar*: *B. depressa*, *B. drygalskii*, *B. huntsmani*, *B. murrayi*, *B. stilbosa*. None corresponds to the South African medusa (Table I), referred to here as *Bythotiar capensis* sp. nov.

*Distribution.* Species recorded in superficial waters of south west coast of South Africa. Only *Bythotiar murrayi* Günther is known from Austral Africa, 26°S, 12°E.

Table I. Comparison between the different species of the genus *Bythotiar*

Species	Number of tentacles	Number of radial canals	Presence or absence of branching of radial canals	Gonads
<i>B. depressa</i> Naumov, 1960	8	4	Unbranched	Along all manubrium surface, with prominent transverse irregularly-spaced folds
<i>B. drygalskii</i> Vanhoffen, 1912	4	4	Unbranched	8, adradial, with prominent, regularly transverse folds
<i>B. huntsmani</i> Fraser, 1911	4	4	Unbranched	8, adradial, smooth or with few transverse folds
<i>B. murrayi</i> Gunter, 1903	8 long + secondary and dwarf tentacles	4	Branched, with 16 terminal branches	4, adradial, with prominent transverse folds
<i>B. stilbosa</i> Mills & Rees, 1979	4	4	Unbranched	8, adradial, with few weak irregularly transverse folds
<i>B. capensis</i> sp.n.	12	4	Branched, 12 terminal branches	8, adradial, with numerous regularly transverse folds

Order Leptomedusae  
Family Tiarannidae

**Margalefia gen.n.**

*Diagnosis.* As for the type species.

*Etymology.* We dedicate this new genus to Professor R. Margalef with admiration for his remarkable studies in plankton ecology.

Type species. *Margalefia intermedia* sp.n.

***Margalefia intermedia* gen. et sp.n.** (Figs 2–5)

*Type material.* Holotype from Benguela I cruise, E-31, coastal waters of Namibia (22°00'S, 13°40'E). 9 November 1979, depth 110–0 m. Reg. I.R.S.N.B. No. 27658b. 2 paratypes from type sample.

*Etymology.* The specific name emphasizes the phylogenetic position of this medusa.

*Diagnosis.* Medusae higher than a hemisphere; bell 26.0 mm wide, 17.0 mm high; manubrium with four perradial stomach pouches extending along radial canals almost to margin. About 150 hollow marginal tentacles with conical elongate bulbs; one cordylus for every three tentacles. Gonads only on stomach pouches. No statocysts; no ocelli. Cnidome: microbasic euryteles and desmonemes. Polyp not known. Diagnosis of the genus identical to that of species.

*Description.* Umbrella higher than a hemisphere, 26.0 mm in diameter, 17.0 mm high, mesoglea thick, velum well developed. Four straight, simple radial canals issuing from the upper corners of the stomach (Fig. 2). Manubrium cruciform, elongate, up to half the length of the subumbrella cavity, base attached to subumbrella along arm of perradial cross. Mouth with 4 long, folded and

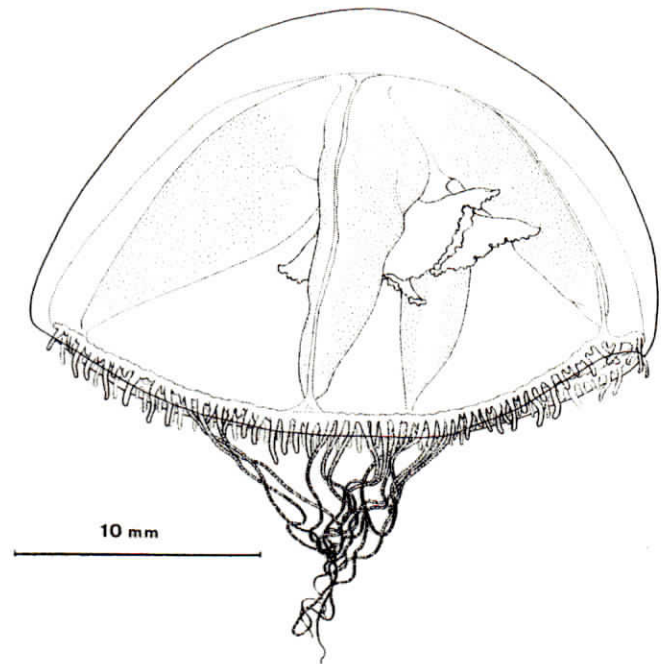


Fig. 2. *Margalefia intermedia* gen. et sp.n.

slightly crenulated lips (Figs 2, 4). Manubrium presenting 4 large, perradial stomach pouches along the radial canals, extending almost to the umbrella margin, (Figs 2, 4). Marginal tentacles about 150 in number, hollow with conical, elongate, basal bulbs. Bases of bulbs attached for half of their length to lower exumbrellar surface. Approximately one spindle-shaped cordylus for every three marginal tentacles (Fig. 3). Ring canal well developed (Figs 2, 3).

Gonads simple, smooth, on surface of the four stomach pouches (Fig. 4). Walls of the manubrium supporting an interradial ribbon of granular texture, and two lateral (adradial) rows of several granular patches of the same appearance (Fig. 4). Statocysts and ocelli lacking.

Manubrium	Size (height, mm)	Cnidocysts	Distribution
Large, with perradial and interradial ridges on interior wall of manubrium	20.0	—	North Pacific; Bering Sea, Sea of Okhotsk, Pacific side of Kurile and Comander Islands, north of Washington
Large, with perradial and interradial ridge on interior wall of manubrium	11.0	—	Antarctic
Large, conical, more than 1/2 of the bell cavity	7.0	Microbasic mastigophores, and microbasic euryteles	Canada: Nanaimo
Small, rhomboid	20.0	Microbasic euryteles (?), desmonemes	Scattered worldwide in warm and cold waters
Large, quadrangular, 2/3 of depth of bell cavity	4.8	Microbasic mastigophores, microbasic euryteles, macrobasic euryteles	California
Large, quadrangular, almost 1/2 of depth of bell cavity	24.0	Not completely known, microbasic euryteles observed	Atlantic coast of South Africa

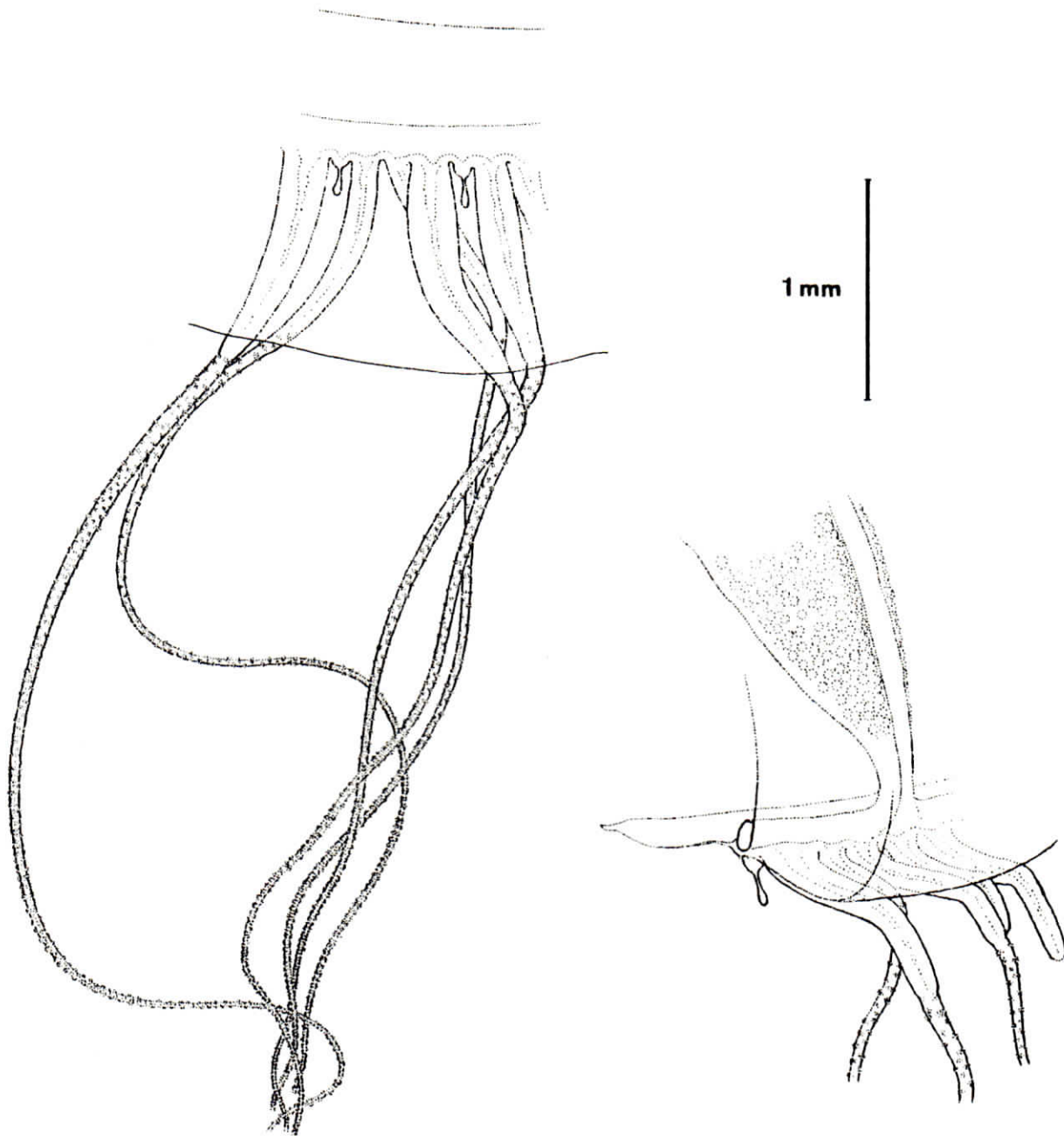


Fig. 3. Marginal tentacles and cordylus of *Margalefia intermedia* gen. et sp.n.

Cnidocysts of two categories: microbasic euryteles and desmonemes (Fig. 5). Microbasic euryteles of two types: homotrichous and heterotrichous, shaped more like those of Anthomedusae than Leptomedusae. Polyp unknown.

*Discussion.* These medusae are referred to the superfamily Laodiceoidea, as defined by Bouillon (1984, 1985), which is characterized by the presence of marginal cordyli and comprises two families, the Tiarannidae and the Laodiceidae. The medusae do not resemble any known genus or species, and are described here as a new species and genus. The family Tiarannidae, established by Russell (1940) contains two genera, *Modeeria* Forbes, 1848 (= *Tiaranna* Hartlaub, 1913) and *Chromatonema* Fewkes, 1882. The Laodiceidae Browne, 1907 includes many genera (see Bouillon 1985; Bouillon *et al.* 1988).

The Tiarannidae has been placed by most of the previous workers in the Anthomedusae; it is intermediate in certain characters between Anthomedusae and Leptomedusae. Kramp (1919) and Russell (1940, 1953) consider that it forms an intermediate family between the Pandeidae and the Laodiceidae.

Edwards (1973), studying the life cycle of *Modeeria rotunda* (Forbes, 1848), showed that the Tiarannidae should be included in the leptomedusan family of the Laodiceidae. Bouillon (1984, 1985) recognized the family Tiarannidae but included it in the leptomedusan superfamily Laodiceoidea.

Principal differences between the Tiarannidae and the Laodiceidae are in the location of the gonads and in the cnidome. Gonads of the Tiarannidae arise on the walls of the stomach, or of the stomach pouches. In the Laodiceidae, they are situated on the radial canals and/or on

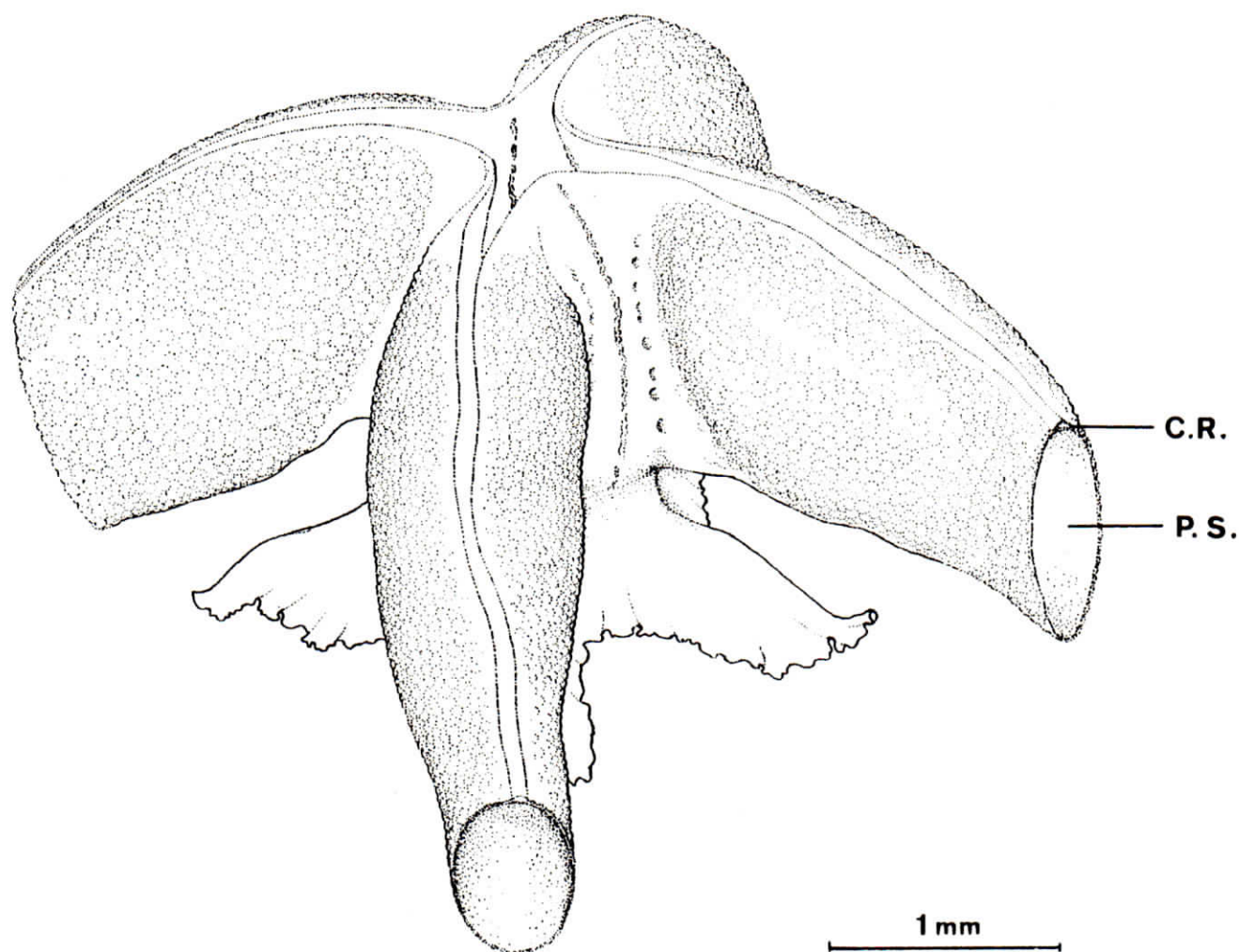


Fig. 4. Detail of the gonads and stomach of *Margalefia intermedia* gen. et sp.n. (C.R. radial canal; P.S. stomachal poche).

pouches formed by the radial canal and lateral expansions of the stomach.

The cnidome of the Laodiceidae includes microbasic mastigophores; atrichous isorhizas may or may not be present. In the Tiarannidae, only microbasic euryteles are known (Russell 1940). Euryteles are seldom found in Leptomedusae. Those of the Tiarannidae have a characteristic shape that is different from those of Anthomedusae (see Weill 1934; Bouillon 1985). Hydroids are of the 'cuspidella' type in the Laodiceidae, while those of the Tiarannidae are of the 'stegopoma' type (Bouillon 1985).

To which of these families does the genus *Margalefia* belong? From the location of the gonads, it seems more closely related to the Laodiceidae than to the Tiarannidae. Conversely, the cnidome is more like that of the Tiarannidae. *Margalefia* apparently occupies an intermediate position between the two families.

The absence of desmonemes makes *Margalefia* phylogenetically interesting. This cnidocyst category is known only from the Anthomedusae and from a limnomedusan family of doubtful affinity, the Proboscicactylidae. For example, Werner (1984) considered the Proboscicactylidae as a family of Filifera (Anthomedusae) rather than Limnomedusae. In order to determine the affinities of *Margalefia* it will be necessary to discover more about its life cycle. However, the presence of desmonemes and of euryteles resembling those of Anthomedusae, suggests closer affinities with Anthomedusae than with Leptomedusae. For this reason we provisionally include the genus in the Tiarannidae.

The morphology of *Margalefia* and the nature of its cnidome supports the idea of a relationship between the Laodiceidae and the Anthomedusae, as proposed previously (Kramp 1919; Ranson 1936; Russell 1940, 1953; Bouillon 1985).

*Distribution.* Species collected in the epipelagic zone (110–0 m), off the north Namibian coast.

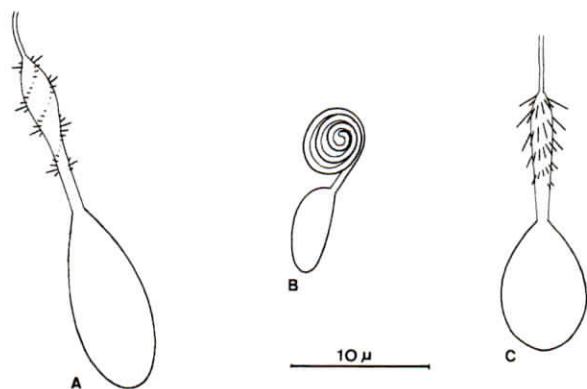


Fig. 5. Cnidocysts of *Margalefia intermedia* gen. et sp.n.—A. Homotrichous microbasic euryteles.—B. Desmoneme.—C. Heterotrichous microbasic eurytele.

Table II. Comparison between the different species of the genus *Aglauropsis* (*A. aeora*, *A. conanti*, *A. jarli* preserved specimens and literature; *A. kawari*, *A. vannucci* from literature only)

Species	Form and size of bell (width and height, mm)	Form and position of gonads	Number of tentacles	Number of statocysts	Form of lips
<i>A. aeora</i> Mills & Hand, 1976	Bowl-shaped 20.0, 15.0	Curtain-like, extending almost entire length of radial canals, wavy, with 4 to 5 transverse folds and simple free edge	180–210	60–80	4 large, crenulated lips bordered by row of spherical cnidocyst batteries
<i>A. conanti</i> Browne, 1902	Bowl-shaped 22.0, 15.0	Curtain-like, extending along nearly whole length of radial canals, wavy, transversely divided into numerous lobes, free edge profusely lobed	About 200, in 2 to 3 rows	More than 50	4 large, folded lips each with a band of cnidocysts
<i>A. jarli</i> Kramp, 1955	Dome-shaped 4.0, 4.0	On distal half of radial canals, smooth, distal ends pendant	8	24	No distinct lips
<i>A. kawari</i> Moreira & Yamashita, 1972	Higher than a hemisphere 5.5, 4.0	Pouch-like, smooth, hanging from proximal parts of radial canal, continuous with the corners of stomach wall	20 issuing above bell-margin and 20 from bell-margin	20	4 small folded lips
<i>A. vannucci</i> Thomas & Chhapgar, 1975	Bowl-shaped 8.0, 6.0	Extending nearly along proximal 3/4 of radial canals, with pendant distal ends, smooth, sac-like	28	28	4 small folded lips
<i>A. edwardsii</i> sp.n.	Bowl-shaped 15.0, 11.0	Curtain-like, extending along about half of the length of radial canals, leaving distal and proximal ends of canals free. Almost straight, no transverse folds; distal ends pendant; with simple, free edges	About 110, closely packed	46	4 small folded lips, each with a large band of cnidocysts

Order Limnomedusae  
Family Olindiasidae

*Aglauropsis edwardsii* sp.n. (Fig. 6)

*Type material.* Holotype from Benguela I cruise, E-32, coastal waters of Namibia (21°58'S, 13°58'E), 9 November 1979, depth 50–0 m. Reg. I.R.S.N.B. No. 27658c. 4 paratypes from the type sample and 9 paratypes from Benguela II cruise, E-23, (22°30'S, 14°17'E), 17 August 1980, depth 50–0 m.

*Etymology.* The specific name *edwardsii* honours Dr C. Edwards for his eminent work on the life cycles of hydromedusae.

*Diagnosis.* Medusae bowl-shaped, 15.0 mm wide, 11.0 mm high. Mesoglea thick, stomach quadrangular, half the depth of bell in height, mouth with 4 small lips bordered with a band of cnidocysts; radial and ring canals broad; gonads curtain-like, almost straight, not transversely lobed, with simple free edge, occupying half of length of radial canal, leaving proximal and distal ends of canals free; tentacles about 110, closely packed; with 46 statocysts. Cnidome: incompletely known; microbasic euryteles in manubrial band. Polyp stage not known.

*Description.* Umbrella bowl-shaped, 15.0 mm wide, 11.0 mm high, mesoglea fairly thick, especially at the apex. Velum broad. Stomach large, quadrangular, one-half of

height of subumbrellar cavity with square base; no peduncle. Mouth with 4 small, slightly folded lips. Edge of manubrium lips bordered with a large band of microbasic eurytele cnidocysts. Radial canals 4; ring canals broad.

Four curtain-like gonads extending about half of the length along radial canals, leaving proximal and distal ends of canals free; gonads without transversal folds, almost straight, distal end unattached over a small distance, pendant; free edge of the gonads simple, not lobed.

Marginal tentacles about 110, hollow, closely packed, without bulbous swelling at the base, all of one kind. Oldest tentacles are often turned upward from their bases adherent to exumbrella. Tentacles have rings or cnidocysts beginning a short distance from tentacles bases. No rudimentary tentacles. Up to 46 closed marginal statocyst located between the base of the tentacles, each vesicle embedded in mesoglea near ring canal.

*Discussion.* These medusae are referred to the genus *Aglauropsis*. This genus comprises six species: *A. agassizi* Fr Müller, 1865, *A. aeora* Mills & Hand, 1976, *A. conanti* Browne, 1902, *A. jarli* Kramp, 1955, *A. kawari* Moreira & Yamashita, 1972, *A. vannucci* Thomas & Chhapgar, 1975. The description of *A. agassizi* is so vague that the name is considered a *nomen dubium*. A comparison of the present medusae with the six remaining valid species of

Manubrium	Radial canals	Rudimentary tentacles	Polyp	Cnidocysts	Distribution
Quadrangular, 1/2 the length of the bell cavity	4 broad, simple	—	Only primary polyp known, lacking tentacles	Primary polyp: microbasic euryteles. Medusa: microbasic euryteles, holotrichous isorhizas	U.S.A.—Bodega and Tomales Bays, Salmon Creek Beach and Ocean connecting these areas
Somewhat cone-shaped, 1/2 to 2/3 the length of bell cavity	4 very broad, simple	—	—	—	Falkland Islands, Strait of Magellan
Quadrangular, small, 1/6 to 1/5 depth of bell cavity	4 narrow, simple	16	—	—	West Africa, Liberia, Port Marshall
Quadrangular, about 1/2 length of bell cavity	4 broad, simple	—	—	—	Brazil, coasts of Southern area of Rio Grande do Sul
Quadrangular, small, about 1/5 of depth of bell cavity	4 average width, simple	—	—	—	India, Bombay and Goa
Quadrangular, 1/2 of depth bell cavity	4 broad, simple	—	—	Lips of manubrium with microbasic euryteles	South-west Africa, Namibia

*Aglauropsis* (see Table II) shows that they can be considered conspecific with none of them.

*Distribution.* Specimens were collected in shallow waters (50–0 m depth) along the coastal zone of northern Namibia.

#### Family Proboscidae

##### *Proboscidactyla menoni* sp.n. (Fig. 7)

*Type material.* Holotype from Benguela I cruise, E-23, (22°30'S, 14°19'E), 12 November 1979, depth 40–0 m. Reg. I.R.S.N. No. 27568d. 15 paratypes from Benguela I cruise, E-41 (20°29'S, 13°13'E), 23 November 1979, depth 50–0 m and 10 paratypes from Benguela II cruise, E-58 (18°30'S, 11°58'E), 29 August 1980, depth 62–0 m.

*Etymology.* We dedicate this species to Dr M. C. K. Menon, in honour of his valuable work on Indian hydromedusae.

*Diagnosis.* Umbrella almost hemispherical, 9.0 mm wide, 4.8 mm high; stomach quadrangular, short, with 8 to 16 radial stomach lobes, mouth margin densely folded; 4 primary radial canals with about 60 terminal branches, with as many tentacles; gonads on stomach and lateral walls of stomach lobes. Polyp stage not known.

*Description.* Umbrella in preserved specimens nearly hemispherical, 9.0 mm wide, 4.8 mm high. Mesoglea

fairly thick, thinning gradually and evenly to umbrella margin. Velum narrow. Four primary radial canals, each branching several times, giving rise to additional branches bearing about 60 terminal branches. Two secondary canals arise from each primary one. Most secondary radial canals bifurcating after a short distance in tertiary canals. At half of the subumbrellar depth these canals branch again into quaternary ones and finally almost all bifurcate or trifurcate before joining the solid endodermal marginal exumbrellar core characteristic of most Proboscidae (Fig. 7A, B). No blindly ending canals observed. Branching of radial canals subject to considerable variation, often irregular.

Manubrium short, quadrangular, with large base, extending along to radial stomach lobes, generally 8 to 16 subadjacent to the secondary and tertiary branches of radial canals. Mouth with 4 lips often poorly marked, being masked by great development of their marginal folds (Fig. 7A).

Gonads situated at the base of the stomach wall, extending along lateral walls of radial stomach lobes (Table III) (Fig. 7A, C–D).

Marginal tentacles up to 60, each situated at end of a radial canal branch; hollow, rather short, stiff, each with an adaxial cnidocyst cushion (Fig. 7B). Generally one

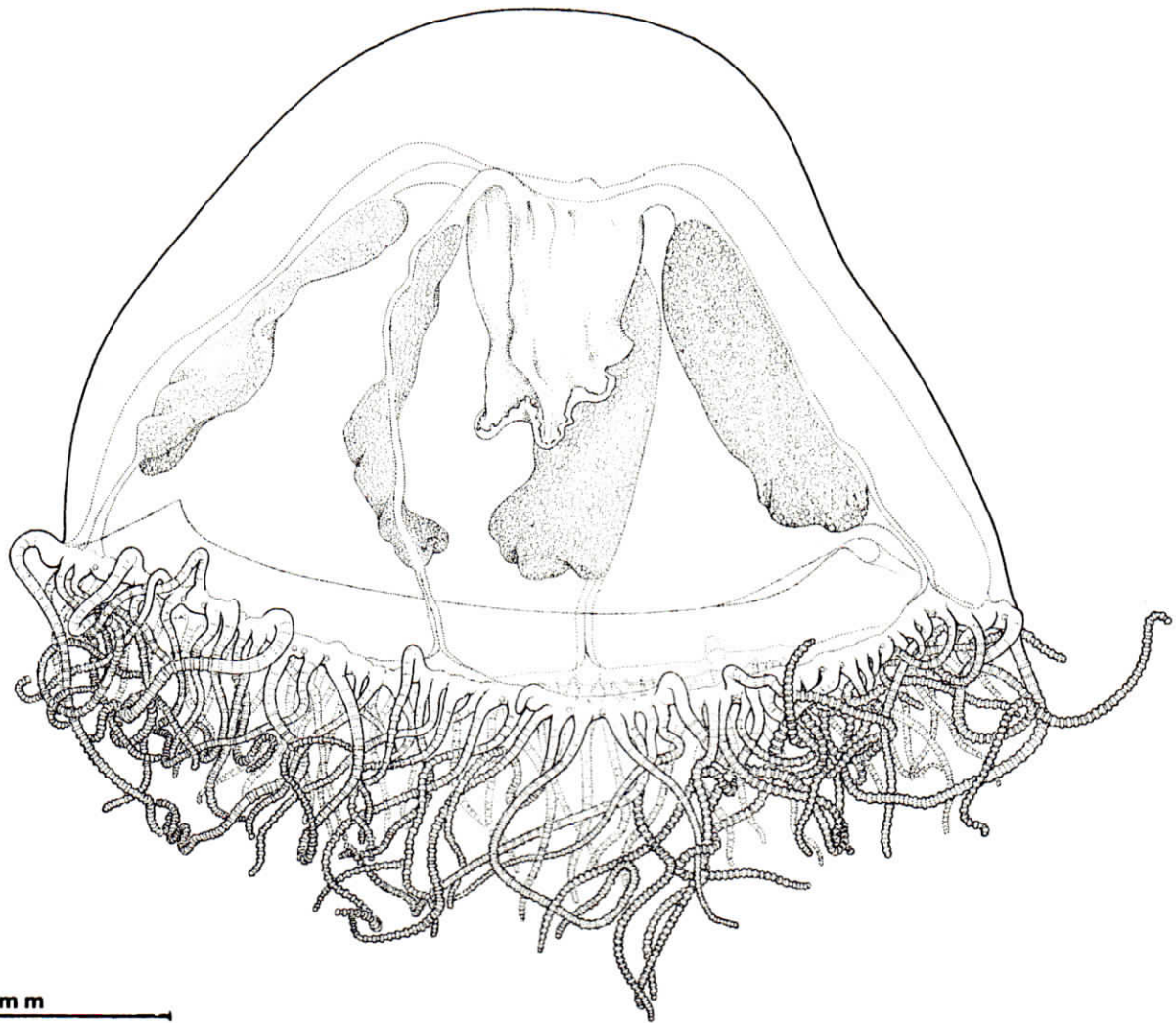


Fig. 6. *Aglauroopsis edwardsii* sp.n.

cnidocyst exumbrellar cluster or cnidacthyliacies, between each pair of tentacles (Fig. 7B).

**Discussion.** From its marginal structural characters this medusa is referred to the monotypic family Proboscidadactylidae. *Proboscidadactyla* Brandt, 1838 currently comprises seven valid species: *P. abyssicola* Uchida, 1947, *P. circumsabella* Hand, 1954, *P. flavicirrata* Brandt, 1835, *P. mutabilis* (Browne, 1902), *P. occidentalis* (Fewkes, 1889), *P. ornata* (McCrary, 1857) and *P. stellata* (Forbes, 1846). Three other species are doubtful: *P. brooksi* (Mayer 1910) and *P. pacifica* (Maas, 1909) = *P. flavicirrata*.

Table III. Variation in number of the stomach lobes in relation to the medusa diameter in *Proboscidadactyla menoni* sp.n.

Number of sexual stomach lobes	Number of specimens	Diameter of bell (mm)
8	7	3-5
9	6	5-6
10	12	4-6
11	2	5-7
12	6	7-8
13	2	6, 8
14	2	7, 9
15	0	—
16	1	9

Characters used to distinguish species of *Proboscidadactyla* include the number of radial canals, their branching and the position of the gonads, although some confusion surrounds this last character. In the simplest case, as in *P. circumsabella*, *P. flavicirrata* and *P. occidentalis*, the gonads are restricted to the stomach wall and the number of primary radial canals is four (in *P. flavicirrata* the number of primary radial canals is normally four, but rarely one can observe more, even up to as many as nine, (see Arai & Brinckmann-Voss 1980).

In *P. flavicirrata*, however, the gonads may extend slightly onto the proximal part of the radial canals (Mayer 1910; Uchida 1947; Naumov 1969; Arai & Brinckmann-Voss 1980). The same occurs in *P. abyssicola*, but this species has 20 primary radial canals. The three other species, *P. mutabilis*, *P. ornata* and *P. stellata*, have gonads extending along the stomach wall and onto the periradial stomach pouches or lobes. The number of primary radial canals is four in *P. ornata*, six in *P. stellata*, and six to eight in *P. mutabilis* with frequent irregularities (see Browne & Kramp 1939).

The development of *P. stellata* has been thoroughly studied by Browne (1896, 1897) who showed that the stomach lobes were already differentiated in young immature stages (Russell 1953). None of the above-cited



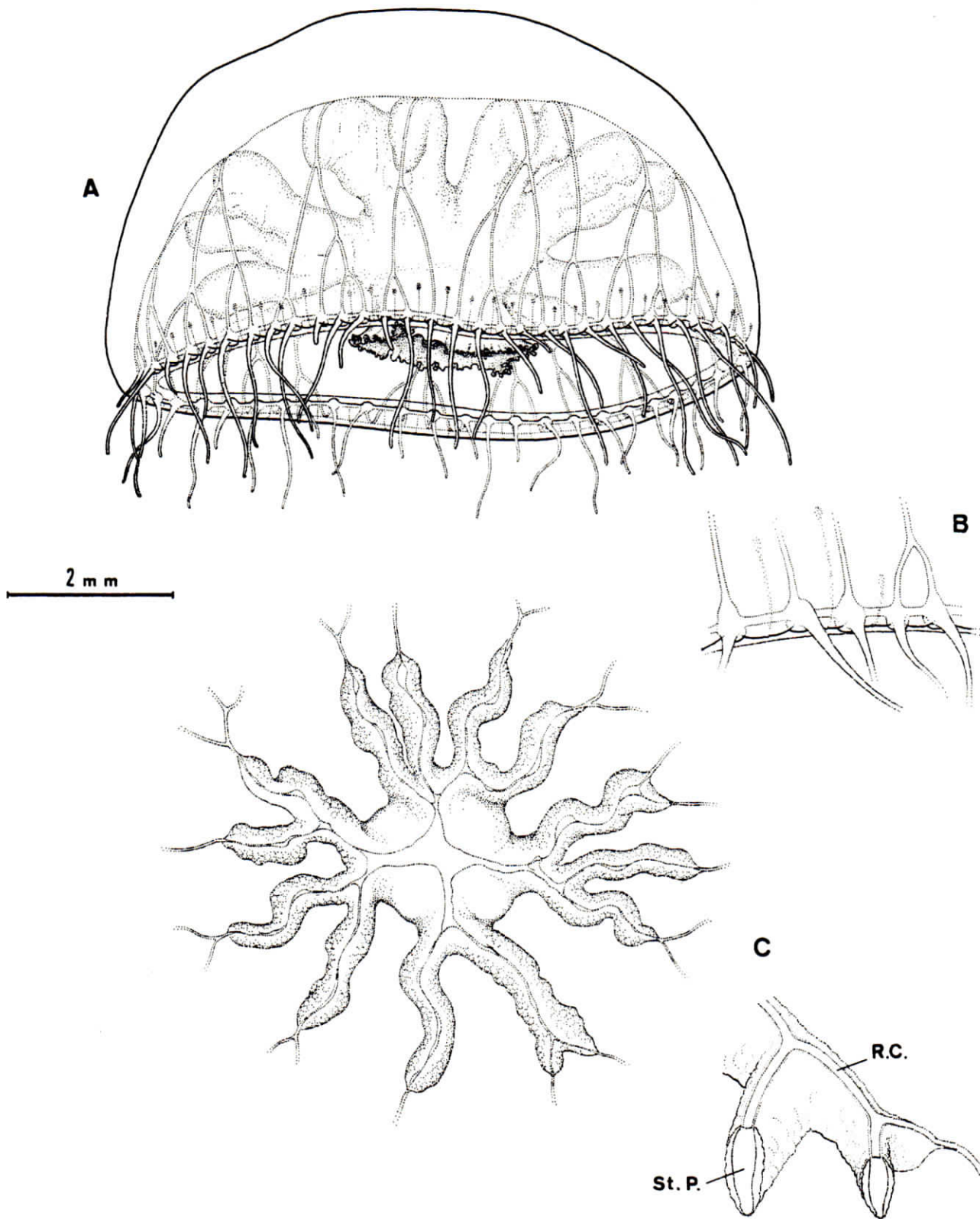


Fig. 7. *Proboscidactyla menoni* sp.n.—A. Habitus.—B. Detail of the exumbrella.—C. Specimen with 13 sexual stomach lobes or pouches and detail of the connection existing between the pouches and radial canals (R.C. radial canal, St. P. stomach pouches).

species correspond to the medusa described here, in which gonads are closely associated with the branched stomach lobes.

*Proboscidactyla conica* is characterized by its conical shape, by the thickness of its mesoglea, the shallowness of its subumbrellar cavity and by development of gonads on the sides of the stomach and on the proximal branches of the four main radial canals (Menon 1932). Kramp (1961)

referred this species to *P. ornata*. However, examination of the illustration given by Menon (1932: fig. 12) clearly shows that the gonads extend to the secondary branches of the radial canals. Thus, it is doubtful that Menon's species should be referred to *P. ornata*. *Proboscidactyla conica* may represent a juvenile stage of *P. mutabilis*, or of *P. menoni*. We prefer to describe the Namibian species as a new species.

A review of the species of Proboscoidactylidae indicates that revision of the widely accepted family is needed (e.g. Russell 1953; Kramp 1959, 1961, 1968; Arai & Brinckmann-Voss 1980; Bouillon 1985). The family Proboscoidactylidae is defined here as follows: Limnomedusae without marginal vesicles; with clusters of cnidocysts or cnidothylacies between tentacles; stomach simple or with four, six or more radial lobes extending along the proximal portions of radial canals; gonads either on stomach wall alone or on stomach wall with continuation along radial canals, or on stomach wall and extending onto radial lobes of stomach; radial canals branched; tentacles bulbs without ocelli. Polyps, where known, with two tentacles, known only on openings of polychaete tubes.

*Distribution.* Specimens collected from shallow waters (62–0 m depth) along the northern coast of Namibia. The only species of *Proboscoidactyla* previously reported from the west coast of austral Africa (Saldanha Bay) is *P. mutabilis* (Millard, 1975).

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