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# Glyceriformia FAUCHALD, 1977 (Annelida: "Polychaeta") from the SW Atlantic Shelf, between 30º and 45º S

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ABSTRACT. – We document the presence of 16 species (eight Glyceridae and eight Goniadidae) in the transitional zone between warm and cold temperate domains of the southwestern Atlantic (30º-45ºS). This more than doubles the number of species known to occur in the region and updates previous records, many of them unreliable. *Glycinde henningi* sp. nov. is herein described as new to science. Illustrated descriptions and identification keys are presented for the glyceriform taxa from the region. Ten of the species are primarily associated with warm-temperate, and only two with cold or cold-temperate waters; the remaining four are eclectically distributed in temperate waters. Twelve of the species are present in the northwestern and southwestern Atlantic, sometimes with an apparent distributional gap in the tropics, consistently with what has been observed in other groups of marine organisms.

KEYWORDS: Annelida, polychaetes, Glyceriformia, Glyceridae, Goniadidae, southwest Atlantic, Argentina, Uruguay, Brazil.

## Introduction

The Glyceriformia FAUCHALD, 1977 seems to be a monophyletic clade of the Phyllodocida that includes Glyceridae GRUBE, 1850 and Goniadidae KINBERG, 1865. Species of both groups are important endopsammal benthic predators. They are widely distributed and occur from intertidal to abyssal depths (BÖGGEMANN 2002, 2005). The species of both groups are slender, cylindrical polychaetes that can reach considerable sizes (up to 1 m long). The body is elongated, tapering at both ends, and consists of numerous segments. They are easily recognized by their pointed, usually annulated prostomium with two pairs of terminal appendages, and the long, muscular eversible axial proboscis, which is densely covered with papillae and provided with terminal jaws. Both groups can be clearly separated by autapomorphies (BÖGGEMANN 2006). Glycerids have four jaws arranged in a cross, each with an aileron (accessory jaw plate) and associated venom glands, whereas the jaws of the goniadids usually consist of two macro- and a variable number of dorsal and ventral micrognaths, arranged in a more or less complete circlet. Sometimes lateral rows of chevrons (additional v-shaped jaws) are also present on the proboscis in Goniadidae. Furthermore, Glyceridae bear soft, partly

keratinized proboscidial papillae with prominent intracellular ciliary rootlets (BÖGGEMANN et al. 2000), while usually sclerotized papillae without rootlets are present in the Goniadidae (BÖGGEMANN & PURSCHKE 2006). Additionally, glycerids have more or less distinct dorsal and ventral ciliated rings on the prostomium (BÖGGEMANN 2002), in contrast to goniadids, where the cilia are concentrated in laterodorsal and lateroventral depressions (BÖGGEMANN 2005).

Although glyceriform polychaetes constitute a significant component of soft-bottom benthic communities world-wide, their diversity and distribution are still poorly documented in many regions. One of these is the transitional zone from cold to warm temperate waters in the southwestern Atlantic, roughly between 30º and 45ºS. A few glyceriforms were formally reported for this region in the systematic literature (RIOJA 1946; NONATO 1966; AVERINCEV 1972; ORENSANZ & GIANUCA 1974; RULLIER & AMOUREUX 1979; TABLADO & VENERUS 2000; BÖGGEMANN 2002, 2005); many more informal records are included in the regional ecological literature, theses and technical reports (OLIVIER et al. 1968; BOSCHI & FENUCCI 1972; NONATO 1973; ORENSANZ & RAMÍREZ 1973; SCARABINO et al. 1974; ESCOFET 1983; FAGET 1983; DEMICHELI 1986; SIEGEL-CAUSEY 1991; BEMVENUTI et al. 1992; DEFEO et al. 1992; PASTOR DE WARD 2000; ELÍAS et al. 2001, 2003, 2004; CAPÍTOLI 2002; D'AMICO et al. 2004; GIBERTO et al. 2004; RIVERO et al. 2005; DEMICHELI & SCARABINO 2006). Most of these records, both formal and informal, are in need of review. The extensive reviews by BÖGGEMANN (2002, 2005) indicate the presence of five glycerids (*Glycera americana* (LEIDY, 1855), *G. capitata* ØRSTED, 1842, *G. lapidum* QUATREFAGES, 1866, *Hemipodia californiensis* (HARTMAN, 1938), *H. simplex* (GRUBE, 1857)) and only two goniadids (*Glycinde armata* (KINBERG, 1865), *G. multidens* F. MÜLLER, 1858) in this vast realm. The transition between the cold- and warm-temperate domains of the southwestern Atlantic, respectively known as the Magellanic and Argentine Biogeographic Provinces, is steepest at ca. 42º-44ºS in shallow waters, and extends further to the north (to ca. 35º-36ºS) along the outer shelf (BOSCHI 1979). While the Magellanic biota is relatively well known due to the fact that the Magellan Straits and the Falkland/Malvinas Islands were (and still are) on the route of many Antarctic-bound expeditions, the warm-temperate component is among the least known. The sector that we focus on in this study corresponds to the coasts and shelves of southern Brazil (Rio Grande do Sul), Uruguay, and northern Argentina (Buenos Aires, Río Negro and Chubut Provinces) (Fig. 1).

In this study we brought together materials from a number of sources to document the diversity of glyceriforms in the temperate southwestern Atlantic, between latitudes 30º and 45ºS. Most of the materials examined were collected by one of us (JMO) and other colleagues at intertidal locations (Table 1), or in the course of oceanographic cruises and fishery surveys (Tables 2 and 3) between 1965 and 1976. Other valuable collections were recently made available by Drs. CLAUDIA BREMEC (INIDEP, Mar del Plata) and CATALINA PASTOR DE WARD (CENPAT, Puerto Madryn).


**Fig. 1.** Study area: the southwestern Atlantic between 30º and 45º S, with indication of coastal locations where glyceriforms included in this study were collected.

**Table 1**. Geographic location of coastal collecting sites that yielded material used for this study.

| **Location** | **Country/Province** | **Lat S** | **Long W** |
|---|---|---|---|
| Puerto de La Paloma | Uruguay | 34º 39' | 54º 08' |
| José Ignacio | Uruguay | 34º 49' | 54º 37' |
| Mar del Plata | Buenos Aires (Arg.) | 38º 01' | 57º 31' |
| Puerto Quequén | Buenos Aires (Arg.) | 38º 34' | 58º 42' |
| Los Pocitos (San Blas Bay) | Buenos Aires (Arg.) | 40º 25' | 62º 25' |
| NE of Isla Jabali, 3 km N of Puerto San Blas (San Blas Bay) | Buenos Aires (Arg.) | 40º 31' | 62º 18' |
| Marea Sur, San Antonio Oeste | Río Negro (Arg.) | 40º 44' | 64º 55' |
| Las Grutas (San Matías Gulf) | Río Negro (Arg.) | 40º 48' | 65º 05' |
| El Riacho | Chubut (Arg.) | 42º 25' | 64º 36' |
| Puerto Madryn, Playa Mimosa | Chubut (Arg.) | 42º 46' | 65º 01' |
| Puerto Madryn, El Golfito | Chubut (Arg.) | 42º 47' 01" | 64º 59' 34" |
| Puerto Madryn, Bahía Kaiser | Chubut (Arg.) | 42º 47' 40" | 64º 56' 45" |
| San Sebastián Bay | Tierra del Fuego (Arg.) | 53º 11' | 68º 31' |

**Table 2**. General information about surveys that yielded materials used for this study.

| Cruise short name | Period | Nature of the survey | Reference | Collector |
|---|---|---|---|---|
| ANCHOITA-70-III | viii.1970 | Survey of pelagic resources | BRANDHORST et al. 1971 | |
| ATLANTIS-II-60 | iii.1971 | RV "Atlantis II" (WHOI), cruise 60. Largely involved with the Argentine Basin (deep sea), but also dredged at some stations along the slope off Uruguay and northern Argentina | Station data made available by Mrs. LISA RAYMOND (WHOI) | R. BASTIDA |
| AUSTRAL | viii/ix.1984 | RV "Austral"(CONICET, Arg.), benthic survey of San José Gulf | PASTOR DE WARD 2000 | H. ZAIXSO |
| CANEPA-04 | iii.2005 | RV "Cap. Cánepa", oceanographic cruise conducted by INIDEP | | D.A. GIBERTO |
| CA-PILOTO | ix.1996-vi.1999 | Golfo Nuevo, Cerro Avanzado, Sublittoral Macrofauna Pilot Project | | C. PASTOR DE WARD |
| COMP-I | iv.1962 | Oceanographic Cruise "Mar del Plata I", conducted jointly by the Argentine Navy and the Institute of Marine Biology (Mar del Plata); ARA "Guardiamarina Zícari" | OLIVIER et al. 1968 | S.R. OLIVIER et al. |
| COMP-II | viii/ix.1963 | Ibid., II; ARA "Comandante General Zapiola"I | OLIVIER et al. 1968 | S.R. OLIVIER et al. |
| COMP-III | xii.1963 | Ibid. III; ARA "Capitán Cánepa" | OLIVIER et al. 1968 | S.R. OLIVIER et al. |
| COMP-IV | iii.1964 | Ibid. IV; ARA "Capitán Cánepa" | OLIVIER et al. 1968 | S.R. OLIVIER et al. |
| COMP-V | v.1964 | Ibid. V; ARA "Capitán Cánepa" | OLIVIER et al. 1968 | S.R. OLIVIER et al. |
| GOYENA-II | 1968 | Oceanographic Cruise "Goyena II", conducted jointly by the Argentine Navy and the Institute of Marine Biology (Mar del Plata) | | S.R. OLIVIER et al. |
| HERO | viii.1971 | Oceanographic cruise of RV "Hero" in the Argentine shelf and slope | | R. BASTIDA |
| HOLMBERG-09 | xi.1999 | RV "E. Holmberg", oceanographic cruise conducted by INIDEP | | D.A. GIBERTO |
| HOLMBERG-30 | viii.2002 | RV "E. Holmberg", oceanographic cruise conducted by INIDEP | | D.A. GIBERTO |
| KNIPOVITSCH-65 | 1965 | Expedition of All-Union Institute of Sea Fishing Industry and Oceanography (VNIRO), RV "Akademik Knipovitsch" | | V.N. SEMENOVA & J. AMARO |
| KNIPOVITSCH-68 | 1968 | Expedition of All-Union Institute of Sea Fishing Industry and Oceanography (VNIRO), RV "Akademik Knipovitsch" | | V. SCARABINO |
| MEJILLON-I | xi.1971 | Exploratory Survey "Mejillón I", FRV "Cruz del Sur", (FAO/UNDP, Argentina). Benthic survey of sub-littoral mussel beds | PENCHASZADEH 1973 | P. PENCHASZADEH |
| PESQUERIA-I | viii/ix.1966 | Oceanographic cruise conducted by FAO/UNDP Argentine Project | PDP 1968 | |
| SALDANHA | 1969 | RV "Almirante Saldanha" (Brazil), oceanographic survey of the northern Argentine shelf | | D. BOLTOVSKOY |
| SANJO-I | ii.1973 | Survey of scallop stocks of San José Gulf, FV "Ría de Vigo" | OLIVIER et al. 1974 | J.M. ORENSANZ |
| SANJO-II | v.1976 | Survey of scallop stocks of San José Gulf, FV "Adelante Boca Juniors" | | J.M. ORENSANZ |
| SAO-I | ii.1971 | Survey of benthic resources (mostly scallops) of San Matías Gulf, FV "María Casanelas" | | J.M. ORENSANZ |
| SAO-II | iv/v.1971 | Survey of benthic resources (mostly scallops) of San Matías Gulf, FRV "Cruz del Sur" | | R. CAPÍTOLI |
| SAO-III/IV | iii.1972 | Survey of the intertidal zone of San Matías Gulf | ESCOFET et al. 1978 | S.R. OLIVIER et al. |
| SAO-V | ii/iii.1973 | Survey of benthic resources (mostly scallops) of San Matías Gulf, FV "Supremacia" | OLIVIER et al. 1973 | J.M. ORENSANZ |
| TRANSVERSAL-I | vi.1976 | Oceanographic study conducted by FURG in the estuarine portion of Lagoa dos Patos | | N.M. GIANUCA |

**Table 3.** Data for stations from oceanographic cruises or fishery surveys that yielded materials utilized for this study. See Table 2 for general information about cruises and surveys. N/A: not available.

| Survey (short name) | Station | Lat S | Long W | Date | Depth (m) | Bottom |
|---|---|---|---|---|---|---|
| ANCHOITA 70-III | 54 | 38° 00' | 57° 17' | 17.viii.1970 | N/A | Plankton sample |
| ATLANTIS-II-60 | 282 | 36° 17.5' | 53° 31.3' | iii.1971 | 165 | N/A |
| ATLANTIS-II-60 | 284 | 36° 08.3' | 53° 42.3' | iii.1971 | 98 | N/A |
| AUSTRAL | 4 | 42° 15' | 64° 19' | viii/ix.1984 | 5.1 | N/A |
| AUSTRAL | 6 | 42° 16' | 64° 14' | viii/ix.1984 | 17.2 | N/A |
| AUSTRAL | 10 | 42° 16' | 64° 06' | viii/ix.1984 | 6.6 | N/A |
| AUSTRAL | 11 | 42° 16' | 64° 29' | viii/ix.1984 | 0.5 | N/A |
| AUSTRAL | 28 | 42° 19' | 64° 26' | viii/ix.1984 | 52.7 | N/A |
| AUSTRAL | 37 | 42° 18' | 64° 05' | viii/ix.1984 | 29.9 | N/A |
| AUSTRAL | 38 | 42° 19' | 64° 03' | viii/ix.1984 | 11.4 | N/A |
| AUSTRAL | 43 | 42° 20' | 64° 24' | viii/ix.1984 | 70.9 | N/A |
| AUSTRAL | 58 | 42° 23' | 64° 24' | viii/ix.1984 | 47.3 | N/A |
| AUSTRAL | 61 | 42° 23' | 64° 17' | viii/ix.1984 | 9.9 | N/A |
| AUSTRAL | 76 | 42° 24' | 64° 17' | viii/ix.1984 | 4.6 | N/A |
| AUSTRAL | 79 | 42° 24' | 64° 09' | viii/ix.1984 | 22.2 | N/A |
| AUSTRAL | 99 | 42° 11' | 64° 18' | viii/ix.1984 | 113.9 | N/A |
| AUSTRAL | 123 | 42° 13' | 64° 28' | viii/ix.1984 | 62.4 | N/A |
| CANEPA-04 | L18-R2 | 35° 13' | 55° 27' | iii.2005 | 8 | Mud |
| CANEPA-04 | L19-R1 | 35° 13' | 56° 06' | iii.2005 | 9 | Mud |
| CANEPA-04 | L25-R1 | 35° 27' | 57° 06' | iii.2005 | 4 | Sand, shell and gravel |
| CA-PILOTO | N/A | 42° 50' | 64° 25' 30" | ix.1996-vi.1999 | 15 | Sand |
| COMP-I | 23 | 38° 11' | 57° 34' | 24.iv.1962 | 27 | N/A |
| COMP-II | 7 | 37° 50' | 57° 24' | 2.ix.1963 | 12 | Fine-medium sand |
| COMP-II | 11 | 37° 39' | 57° 04' | 2.ix.1963 | 16 | Limestone and fine-medium sand |
| COMP-II | 32 | 37° 45' | 56° 50' | 2.ix.1963 | 25 | Fine-medium sand |
| COMP-III | 20 | 38° 00' | 57° 10' | 10.xii.1963 | 24 | Fine-medium sand |
| COMP-IV | 53 | 37° 55' | 57° 21' | 20.iii.1964 | 20 | Fine-medium sand |
| COMP-IV | 58 | 37° 34' | 56° 39' | 20.iii.1964 | 29 | coarse sand |
| COMP-IV | 66 | 38° 21' | 57° 40' | 21.iii.1964 | 43 | limestone and fine-medium sand |
| COMP-V | 74 | 38° 14' | 57° 20' | 27.v.1964 | 35 | medium sand |
| GOYENA-II | 3 | 37° 56.6' | 57° 28.1' | N/A | 16.5 | Silty sand |
| GOYENA-II | 6 | 38° 01' | 57° 25.6' | N/A | 21.6 | Fine-medium sand, limestone |
| GOYENA-II | 8 | 38° 01' | 57° 26.7' | N/A | 20.1 | Silty sand |
| GOYENA-II | 14 | 38° 03.5' | 57° 30.9' | N/A | N/A | Silty sand |
| HERO | 15 | 37° 37' | 56° 17' | 26.viii.1971 | 70-80 | N/A |
| HERO | 16 | 37° 38' | 56° 48' | 26.viii.1971 | 30 | N/A |
| HOLMBERG-09 | L31-R | 35° 02' | 54° 11' | xi.1999 | 34 | Sand and shell |
| HOLMBERG-09 | L47-R | 36° 07' | 55° 15' | xi.1999 | 25 | Sand and shell |
| HOLMBERG-09 | L56-R | 35° 06' | 55° 12' | xi.1999 | 16 | Sand and shell |
| HOLMBERG-09 | L69-D2 | 36° 02' | 56° 29' | xi.1999 | 9 | Sand and mud |
| HOLMBERG-09 | L77-R | 36° 13' | 56° 12' | xi.1999 | 10 | Sand, shell and gravel |
| HOLMBERG-30 | L1-D1 | 36° 03' | 56° 30' | viii.2002 | 9 | Mud |
| HOLMBERG-30 | L11-R1 | 35° 28' | 56° 19' | viii.2002 | 13 | Mud |
| HOLMBERG-30 | L25-R2 | 34° 35' | 55° 31' | viii.2002 | 10 | Mud |
| HOLMBERG-30 | L37-R1 | 34° 25' | 54° 03' | viii.2002 | 22 | Sand and shell |
| HOLMBERG-30 | L42-R1 | 34° 29' | 53° 18' | viii.2002 | 40 | Sand, shell and gravel |
| KNIPOVITSCH | 242 | 36° 04.1' | 54° 08.5' | 11.iv.1965 | 63 | Sand |
| KNIPOVITSCH | 244 | 36° 24.5' | 53° 51.7' | N/A | 128 | Sand |
| KNIPOVITSCH | 248 | 35° 36' | 52° 43' | N/A | 170 | Silty sand |
| KNIPOVITSCH | 249 | 35° 34.5' | 52° 40.3' | N/A | 310 | N/A |

**Table 3.** continued

| Survey (short name) | Station | Lat S | Long W | Date | Depth (m) | Bottom |
|---|---|---|---|---|---|---|
| KNIPOVITSCH | 250 | 34º 51' | 52º 35' | N/A | 83 | N/A |
| KNIPOVITSCH | 260 | 35º 22.6' | 52º 48.5' | 14.iv.1965 | 144 | N/A |
| KNIPOVITSCH | 1054 | 35º 56.5' | 54º 15.7' | N/A | 58-65 | N/A |
| KNIPOVITSCH | 1055 | 36º 16' | 54º 01.5' | N/A | 92-96 | N/A |
| KNIPOVITSCH | 1056 | 36º 30.5' | 53º 55' | N/A | 155-192 | N/A |
| KNIPOVITSCH | 1058 | 35º 57' | 53º 32' | N/A | 150-156 | N/A |
| KNIPOVITSCH | 1059 | 35º 25.9' | 53º 27.9' | N/A | 72-80 | N/A |
| KNIPOVITSCH | 1064 | 34º 24.5' | 53º 27.2' | N/A | 20-26 | N/A |
| KNIPOVITSCH | 1066 | 34º 29.2' | 52º 20' | N/A | 72-86 | N/A |
| KNIPOVITSCH | 1068 | 34º 15' | 52º 12' | N/A | 55-62 | Fine sand with shell |
| KNIPOVITSCH | 1071 | 34º 22.9' | 52º 37.2' | N/A | 36-42 | N/A |
| KNIPOVITSCH | 1073 | 35º 10.5' | 52º 42.5' | N/A | 115-117 | N/A |
| KNIPOVITSCH | 1074 | 35º 28.8' | 53º 01.5' | N/A | 112 | N/A |
| KNIPOVITSCH | 1075 | 35º 36.5' | 53º 32' | N/A | 68 | N/A |
| MEJILLON-I | 11 | 37º 30' | 56º 33' | 10.xi.1971 | 47 | Mud |
| MEJILLON-I | 13 | 37º 20' | 56º 22' | 10.xi.1971 | 47 | Mud |
| MEJILLON-I | 15 | 37º 10' | 56º 15' | 10.xi.1971 | 28 | Sand |
| MEJILLON-I | 15 bis | 37º 10' | 56º 15' | 10.xi.1971 | 30 | Sand |
| MEJILLON-I | 22 | 37º 27' | 56º 29' | 11.xi.1971 | 40 | Mud and shell |
| PESQUERIA I | A41/5524 | N/A | N/A | viii/ix.1966 | N/A | Plankton sample |
| PESQUERIA I | 5552 | N/A | N/A | viii/ix.1966 | N/A | Plankton sample |
| SALDANHA | 2262 | 36º 24' | 55º 00' | 9.xi.1969 | 47 | N/A |
| SALDANHA | 2286A | 38º 05' | 56º 13' | 16.xi.1969 | 83 | N/A |
| SALDANHA | 2287A | 38º 05' | 56º 50' | 16.xi.1969 | 43 | N/A |
| SANJO-I | A | 42º 25' | 64º 30' | ii.1973 | Intertidal | Sand flat |
| SANJO-II | 2 | 42º 15' | 64º 15' | 9.v.1976 | 45 | Mud |
| SANJO-II | 3 | 42º 14' | 64º 13' | 11.v.1976 | 8 | N/A |
| SANJO-II | 5 | 42º 24' | 64º 17' | 11.v.1976 | 8 | Scallop bed |
| SANJO-II | 6 | 42º 24' | 64º 17' | 11.v.1976 | 20 | Ecotone between scallop beds and *Phyllochaetopterus* community |
| SANJO-II | 14 | 42º 24' | 64º 35' | 11.v.1976 | 29 | Mud |
| SAO-I | 20 | 40º 54' | 64º 48' 30" | 15.ii.1971 | 36.5 | Fine sand |
| SAO-I | 22 | 40º 54' | 65º 01' | 11.ii.1971 | 16 | Gravel |
| SAO-I | 48 | 41º 20' | 65º 03' | 16.ii.1971 | 36 | N/A |
| SAO-I | 51 | 41º 08' 30" | 65º 06' 30" | 12.ii.1971 | N/A | Gravel |
| SAO-II | 106 | 41º 03' | 64º 53' | 30.iv.1971 | 98 | N/A |
| SAO-II | 110 | 41º 13' | 64º 59' | 30.iv.1971 | 90 | N/A |
| SAO-III | 1041/1042 | 41º 26' | 65º 02' | iii.1972 | Intertidal | Under rocks |
| SAO-III | 1088 | 40º 47' | 64º 50' | iii.1972 | Intertidal | Shallow bay |
| SAO-III | 1113 | 41º 01' | 64º 05' | iii.1972 | Intertidal | Sand flat |
| SAO-III | 1116 | 41º 00' | 64º 10' | iii.1972 | Intertidal | Sandy beach |
| SAO-IV | 1083 | 40º 46' | 64º 55' | iii.1972 | Intertidal | Sand bank |
| SAO-IV | 1121 | 41º 05' | 63º 56' | iii.1972 | Intertidal | Sand-gravel beach |
| SAO-V | 207 | 40º 55' | Off El Sotano/ El Camino | 28.ii.1973 | 18-21 | Coarse sand, gravel |
| SAO-V | 228 | 40º 53' | Off Bajo Oliveira | 5.iii.1973 | 21 | Coarse sand and gravel |
| SAO-V | 231 | 40º 53' | Off Bajo Oliveira | 5.iii.1973 | 19 | Coarse sand, boulders, shell |
| SAO-V | 236 | 40º 53' | Off El Buque | 6.iii.1973 | 20 | Shell |
| TRANSVERSAL-I | 10 | 31º 58' | 52º 03' | 8.vi.1976 | N/A | N/A |
| TRANSVERSAL-I | 10’ | 31º 58' | 52º 03' | 8.vi.1976 | N/A | N/A |

## Material and Methods

Observations, measurements and drawings were made using a Leica Wild M 3 stereo microscope and a Zeiss KF 2 compound microscope both with camera lucida. For SEM observations whole specimens or fragments were dehydrated in a graded ethanol series, critical-point dried using CO2, mounted on aluminium stubs and subsequently coated with gold. Observations were performed with a Zeiss DSM 962 with digital camera. Plates are arranged graphically using Adobe Photoshop.

The information in the keys, the diagnosis and the distribution of the systematic section are related to all known specimens of the relevant species, whereas the descriptions are based only on the herein studied specimens.

Abbreviations used in the "Material examined" sections are as follows: cs: complete specimen, af: anterior fragment, mf: middle fragment, pf: posterior fragment. In the case of collections made as part of oceanographic cruises or fishery surveys, the latter are identified by a short name and a station number; full information is presented in Tables 2 and 3.

The following acronyms are used for repositories of collections: CASIZ: California Academy of Sciences, Invertebrate Zoology, San Francisco (U.S.A.); CENPAT: Centro Nacional Patagónico (CPW indicates personal collection of Dr. C. PASTOR DE WARD; JMO indicates personal collection of J. M. ORENSANZ), Puerto Madryn (Argentina); INIDEP: Instituto Nacional de Desarrollo Pesquero (CB indicates personal collection of Dr. C. BREMEC), Mar del Plata (Argentina); MACN: Museo Argentino de Ciencias Naturales "BERNADINO RIVADAVIA", Buenos Aires (Argentina); MHN: Museu de História Natural, Universidade Estadual de Campinas (Brazil); MNHNM: Museo Nacional de Historia Natural de Montevideo (Uruguay).

For some of the species we include in the synonymy a list of "previously published regional records", including ecological studies and faunistic surveys. Distributional charts include both records validated by us (solid circles) and records made by other authors that can be accepted as reliable (stars).

## Systematics

Glyceridae GRUBE, 1850

## Key to the Glyceridae from the SW Atlantic

**1**. Parapodia usually biramous with two prechaetal and one or two postchaetal lobes (Figs 2, 4, 7, 9D-K); ailerons rod-like or with more or less triangular (Figs 2, 4, 7, 9C) or deeply incised bases; notopodia with simple capillaries, neuropodia with spinigerous and sometimes additional falcigerous compound chaetae . . . . . **2**

- All parapodia uniramous with one prechaetal and one postchaetal lobe (Figs. 11, 13D-K); ailerons rod-like (Figs 11, 13C); notopodia absent, neuropodia with spinigerous compound chaetae (*Hemipodia*) . . . . . **9**

**2**. Ailerons with more or less triangular (Figs 2, 4, 7, 9C) or deeply incised bases; prostomium consisting of more than five rings (*Glycera*) . . . . . **3**

- Ailerons rod-like; prostomium consisting of four rings . . . . . *Glycerella magellanica* (MCINTOSH, 1885)*

**3**. One postchaetal lobe on all parapodia (Figs 7, 9D-K). . . . . **4**

- Two postchaetal lobes at least on parapodia of mid-body (Figs 2, 4D-K) . . . . . **7**

**4**. In mid-body notopodial prechaetal lobes shorter than neuropodial lobes (Fig. 7G-H) . . . . **5**

- In mid-body prechaetal lobes of about same length (Fig. 9G-H) . . . . . **6**

**5**. Digitiform proboscidial papillae with straight, median, longitudinal ridge (Fig. 7B); ailerons with pointed triangular bases (Fig. 7C); notopodial prechaetal lobes slightly shorter than neuropodial lobes (Fig. 7G-H) . . . . . *Glycera capitata* ØRSTED, 1842

- Digitiform proboscidial papillae with undulating ridge; ailerons with slight dent in pointed triangular bases; notopodial prechaetal lobes distinctly shorter than neuropodial lobes . . . . . *Glycera lapidum* QUATREFAGES, 1866

**6**. Conical proboscidial papillae with about 5-20 transverse ridges (Fig. 9B); ailerons with slightly arched bases (Fig. 9C); branchiae absent . . . . . .*Glycera oxycephala* EHLERS, 1887

- Digitiform proboscidial papillae without ridges; ailerons with deeply incised bases; simple, digitiform branchiae, situated termino-dorsally on notopodial prechaetal lobes of parapodia . . . . . *Glycera sphyrabrancha* SCHMARDA, 1861*

**7**. In mid-body postchaetal lobes of about same length or notopodial lobes slightly longer than neuropodial lobes (Figs 2, 4G-H); retractile, usually branched to bush-like branchiae, situated dorsally on posterior side of parapodial bases (Figs 2, 4F-K); ailerons with triangular bases (Figs 2, 4C) . . . . . **8**

- In mid-body rounded notopodial and longer, triangular neuropodial postchaetal lobes; two simple, digitiform branchiae, situated dorsally and ventrally on parapodial bases; conical proboscidial papillae with 4-8 ridges; ailerons with rounded triangular bases . . . . . *Glycera dibranchiata* EHLERS, 1868*

**8**. Conical proboscidial papillae with two transverse ridges (Fig. 2B); in mid-body both postchaetal lobes slender triangular (Fig. 2G-H) . . . . . *Glycera americana* LEIDY, 1855

- Conical proboscidial papillae with about 5-6 transverse ridges (Figs 4B, 5); in mid-body both postchaetal lobes short and rounded to blunt triangular (Fig. 4G-H) . . . . . *Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007

**9**. Most proboscidial papillae digitiform, with numerous U-shaped ridges (Fig. 11B) . . . . . **10**

- Most proboscidial papillae conical, with more or less distinctly straight, median, longitudinal ridge (Fig. 13B) . . . . . *Hemipodia simplex* (GRUBE, 1857)

**10**. Digitate distal process on prechaetal lobes starting from mid-body (Fig. 11G-K); proboscidial papillae with about 14-40 ridges (Fig. 11B) . . . . . *Hemipodia pustatula* (FRIEDRICH, 1956)

- Prechaetal lobes in mid-body relatively broad and more or less triangular without digitate distal process; proboscidial papillae with about 9-40 ridges . . . . . *Hemipodia californiensis* (HARTMAN, 1938)

* Species known from neighbouring regions, but not found during the present study.

## *Glycera* SAVIGNY, 1818

### *Glycera americana* LEIDY, 1855
(Figs 2-3)

*Glycera americana* LEIDY, 1855: 147-148, Plate 11, Figs 49-50
*Glycera americana*, – BÖGGEMANN 2002: 65-66, Figs 88-90
Previously published regional records:
*Glycera americana*, – RIOJA 1946: 48: 35-39, Plate 3; OLIVIER et al. 1968: section IV; BOSCHI & FENUCCI 1972: 163; NONATO 1973: list entry; ORENSANZ & RAMÍREZ 1973: 70; ORENSANZ & GIANUCA 1974: 11; ESCOFET 1983: Table 4; BEMVENUTI et al. 1992: Table 3; PASTOR DE WARD 2000: 182; ELÍAS et al. 2001: 526; CAPÍTOLI 2002: Appendix 2; ELÍAS et al. 2003: Table 1; D'AMICO et al. 2004: Table; ELÍAS et al. 2004: Table 2; GIBERTO et al. 2004: Table 1; RIVERO et al. 2005: Table 1; DEMICHELI & SCARABINO 2006: Table 1; SCARABINO 2006: Table 5.
*Glycera unicornis,* – RULLIER & AMOUREUX 1979: 169-170
*Glycera* sp. "a", – OLIVIER et al. 1968: section IV

Material examined. – ANCHOITA-70-III:54, cs (MACN-In 36720) - AUSTRAL:4+6+43, 4cs + 2af (CENPAT-CPW) - AUSTRAL:10+37+58+[San José Gulf, El 39, PASTOR DE WARD col., 25.x.1987, intertidal], 2 cs + 3 af + mf (CENPAT-CPW) - AUSTRAL:11+79, 10 cs +14 af + mf + 2 pf (CENPAT-CPW) - CANEPA-04:L25-R1, cs (MACN –In 36721) - CA-PILOTO, 18 cs + 58 af + 31 mf + 10 pf (MACN-In 36722) - COMP-I:23, cs (MACN-In 36723) - COMP-II:7, cs + af (MACN-In 36724) - COMP-II:11, af + mf + pf (MACN- 36725) - COMP-II:32, 4 af (MACN-In 36726) - COMP-III:20, af, dried (MACN-In 36727) - COMP-IV:53, 3 af + pf (MACN-In 36728) - COMP-IV:58, af (MACN-In 36729) - COMP-V:74, 2 af, dried (MACN-In 36730) - GOYENA-II:3, af (MACN- 36731) - GOYENA-II:14, 2 mf (MACN- 36732) - HERO:16, af (MACN-In 36733) - HOLMBERG-09:L31-R, cs + 2 af (INIDEP-CB) - HOLMBERG-30:L11-R1, 2 af (MACN-In 36734) - KNIPOVITSCH:1066, af (MACN- 36735) - KNIPOVITSCH:1068, af (MACN-In 36736) - KNIPOVITSCH:1071, af

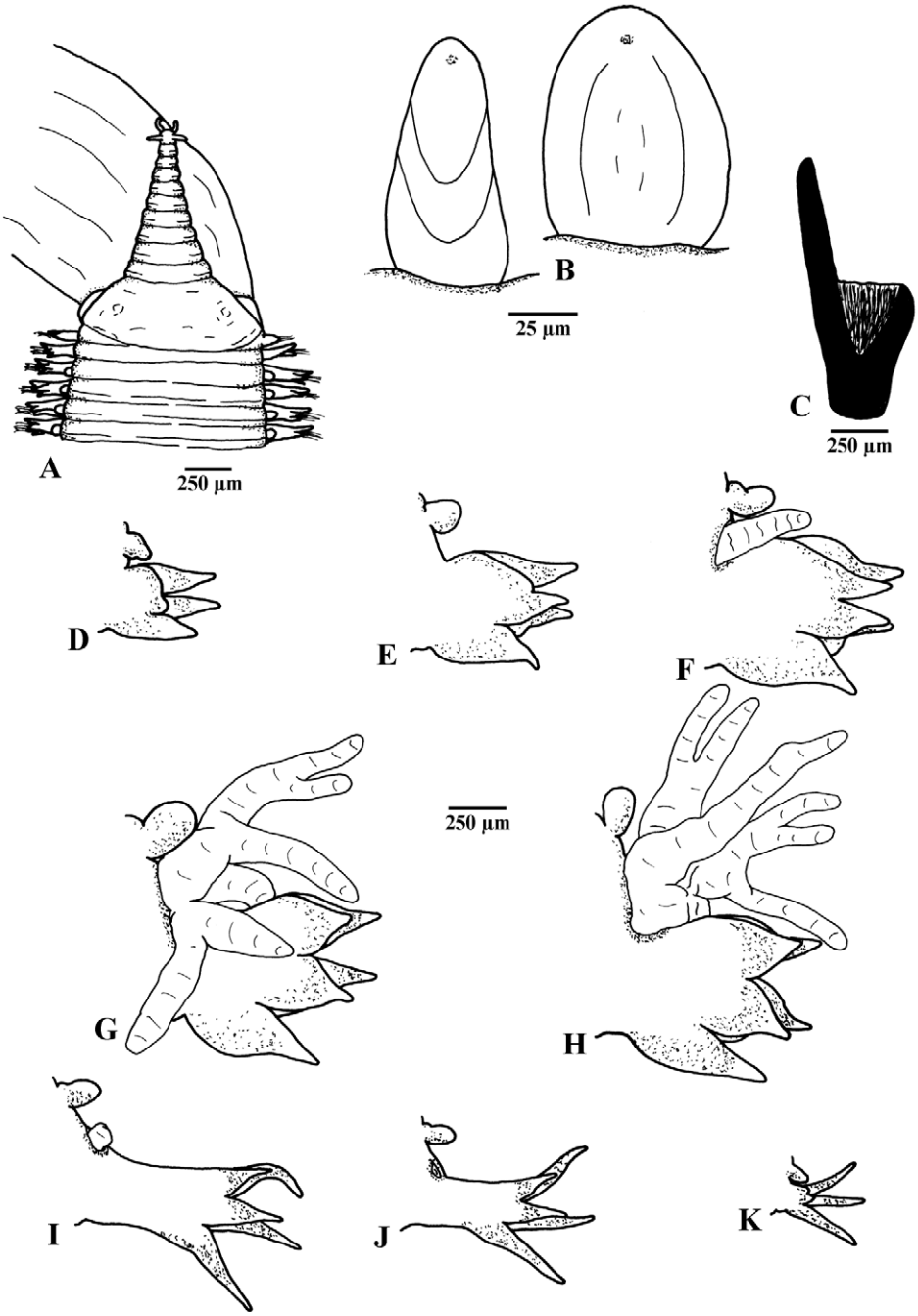



**Fig. 2.** *Glycera americana* LEIDY, 1855. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (MACN In-36761).

(MACN-In 36737) - MEJILLÓN-I:11, mf + pf (MACN-In 36738) - SANJO-I:A, 2 cs + 2 af (MACN-In 36739) - SAO II:106, af (MACN-In 36740) - SAO II:110, mf (MACN-In 36741) - SAO-III:1088, af (MACN-In 36742) - SAO-III:1113, 4 cs + af (MACN-In 36743) - SAO-III:1116, cs (MACN-In 36744) - SAO-IV:1083, cs + mf (MACN-In 36745) - SAO-V:207, 3 af (MACN-In 36747) - SAO-V:228, pf (MACN-In 36746) - SAO-V:236, cs (MACN-In 36748) – El Banquito, Puerto de La Paloma, DEMICHELI col., 31.i.1974, 0.5 m, fine sand; af (MNHNM 1188) - La Paloma, ORENSANZ & ESCOFET col., 24.x.1971, intertidal, sand bank; cs (MACN-In 36749) - José Ignacio, OLIVIER et al. col., 30.x.1970, intertidal; cs + af + mf (MACN-In 36750) - Off Mar del Plata, trawl haul, BASTIDA col., ii.1965; af (MACN-In 36751) - Mar del Plata, stomach content of *Dasyatis*, 17.iv.1970; 2 af (MACN-In 36752) - Puerto Quequén, stomach content of Torpedinidae, DESTEFANIS col., 18.i.1970; af (MACN-In 36753) - Puerto Quequén, stomach content of *Myliobatis*, 8.v.1970; fragment (MACN-In 36754) - San Blas Bay, Los Pocitos, ESCOFET, ESTIVARIZ & ORENSANZ col., 21.iv.1970, intertidal, under rocks on the beach; cs, dried (MACN-In 36755) - San Blas Bay, NE of Isla Jabalí, ORENSANZ col., 20.iv.1970, intertidal; af (MACN-In 36756) - San Blas Bay, 3 km N of Puerto San Blas, ORENSANZ col., 5.x.1968, intertidal, sand, mud and algae; 2 cs + af (MACN-In 36757) - San Matías Gulf, Las Grutas, ORENSANZ & ESCOFET col., 7.i.1971, intertidal, sheltered sandy beach; cs (MACN-In 36758) - San José Gulf, El Riacho, ORENSANZ col., xii.2005, sand flat, mussel bed on sand; pf (MACN-In 36759) - Puerto Madryn, ORENSANZ & ESCATI col., 14.x.2004, intertidal, sheltered sandy beach; 6 cs + 12 af + 3 mf + 3 pf (MACN-In 36760) - Puerto Madryn, Playa Mimosa, ESCATI col., 7.x.2005, intertidal, sheltered sandy beach; 5 cs + 9 af + 2 mf + 2 pf (MACN-In 36761) - Puerto Madryn, El Golfito, PASTOR DE WARD col., xii.1992, intertidal, 4 cs + 7 af +3 mf + 2 pf (MACN-In 36763) - Puerto Madryn, Bahía Kaiser, VARELA col., i.1984, intertidal, 6 cs + 14 af +5 mf + 3 pf (MACN-In 36762).

D i a g n o s i s. – Proboscidial papillae mainly conical with two ridges; ailerons with triangular bases; parapodia of mid-body with two slender triangular postchaetal lobes of about same length; bush-like branchiae, situated dorsally on posterior side of parapodial bases.

D e s c r i p t i o n. – Body up to 256 mm long with up to 303 segments. Mid-body segments biannulate. Conical prostomium consisting of about 10-12 rings (Fig. 2A). Proboscis with two types of papillae: 1. numerous conical papillae with two U-shaped ridges; 2. isolated, broader, oval to globular papillae without ridges (Fig. 2B). Ailerons with triangular base (Fig. 2C). First two parapodia uniramous, following parapodia biramous (Fig. 2D-K). Two slender triangular to digitiform prechaetal lobes of about same length; both lobes becoming slightly slimmer in posterior parapodia; in last parapodia notopodial lobe shorter than neuropodial one. Two shorter postchaetal lobes; anteriorly both lobes rounded; in following parapodia first neuropodial then also notopodial lobe slightly

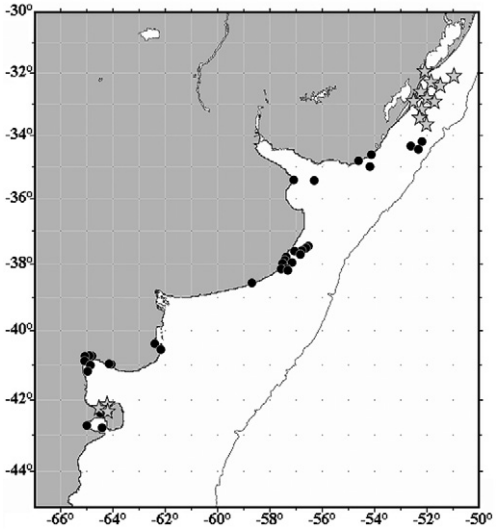



**Fig. 3.** Distribution of *Glycera americana* LEIDY, 1855, in the studied area. Stars indicate records from previous studies.

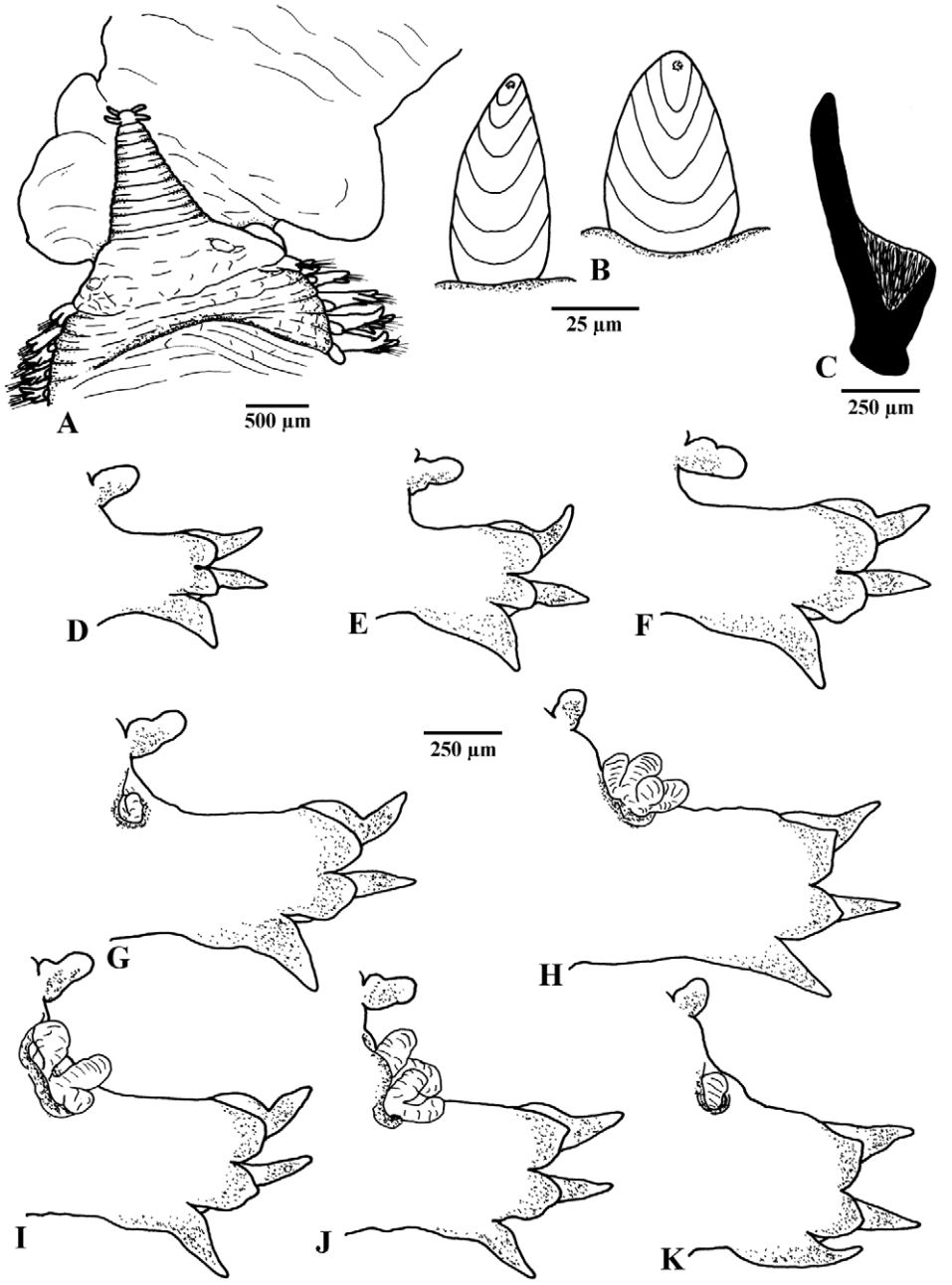



**Fig. 4.** *Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (CENPAT-JMO).

elongated and slender triangular, of about same length; in posteriormost parapodia both lobes generally shorter and rounded. Dorsal cirri from 3rd parapodium, conical to oval; inserted on body wall slightly above parapodial base. Ventral cirri slender triangular to digitiform, slightly shorter than postchaetal lobes; in posterior parapodia slender and elongated; in last parapodia about as long as neuropodial prechaetal lobe; situated medio-ventrally on parapodia. Branchiae retractile, bush-like when completely developed and everted; starting from about 8th to 21st parapodium to near posterior end; situated dorsally on posterior side of parapodial bases; best developed in mid-body region, about as long as prechaetal lobes.

Remarks/Discussion. – There are two other species with bush-like branchiae, two triangular postchaetal lobes, ailerons with triangular bases and mainly conical proboscidial papillae. However, the conical papillae of *Glycera pacifica* KINBERG, 1865 carry three transverse ridges and in *Glycera ovigera* SCHMARDA, 1861 there is a Y-shaped ridge in combination with one to three vertical ridges at the tip, instead of the two transverse ridges which are present in *Glycera americana*. Furthermore, *Glycera pacifica* is known from the northwestern, northeastern and central Pacific, whereas *Glycera ovigera* is present in the seas around Australia and New Zealand.

Distribution. – Atlantic coasts of North and South America, Pacific coasts of South America; intertidal to 157 m.

## *Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007
(Figs 4-6)

*Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007

Material examined. – KNIPOVITSCH:260, af (MACN-In 37059) - PESQUERIA-I:A41/5524, cs with regenerated posterior end (CENPAT-JMO) - PESQUERIA-I:5552, cs with regenerated posterior end (CENPAT-JMO).

Additional type material examined. – 23º53.026'S 45º30.386'W, Brazil, São Sebastião, st. 28i, 17.v.2001, 25.6 m; paratype: af/72 mm long/94 segments with parapodia/ 7.0 mm wide including parapodia/4.0 mm wide excluding parapodia (MHN-BPO/AR496).

Diagnosis. – Proboscidial papillae mainly conical with 5-6 ridges; ailerons with triangular bases; parapodia of mid-body with two rounded to blunt triangular postchaetal lobes of about same length; branched to short bush-like branchiae, situated dorsally on posterior side of parapodial bases.

Description. – Body up to 76 mm long with up to 149 segments. Mid-body segments biannulate. Conical prostomium consisting of about 10-12 rings (Fig. 4A). Proboscis with two types of papillae: 1. numerous conical papillae with 5-6 U-shaped ridges; 2. isolated, broader, oval to globular papillae with 5-6 U-shaped ridges (Figs 4B, 5A-D). Ailerons with triangular base (Fig. 4C). First two parapodia uniramous, following parapodia biramous (Fig. 4D-K). Two slender triangular to digitiform prechaetal lobes of about same length, notopodial lobe sometimes slightly wider than neuropodial

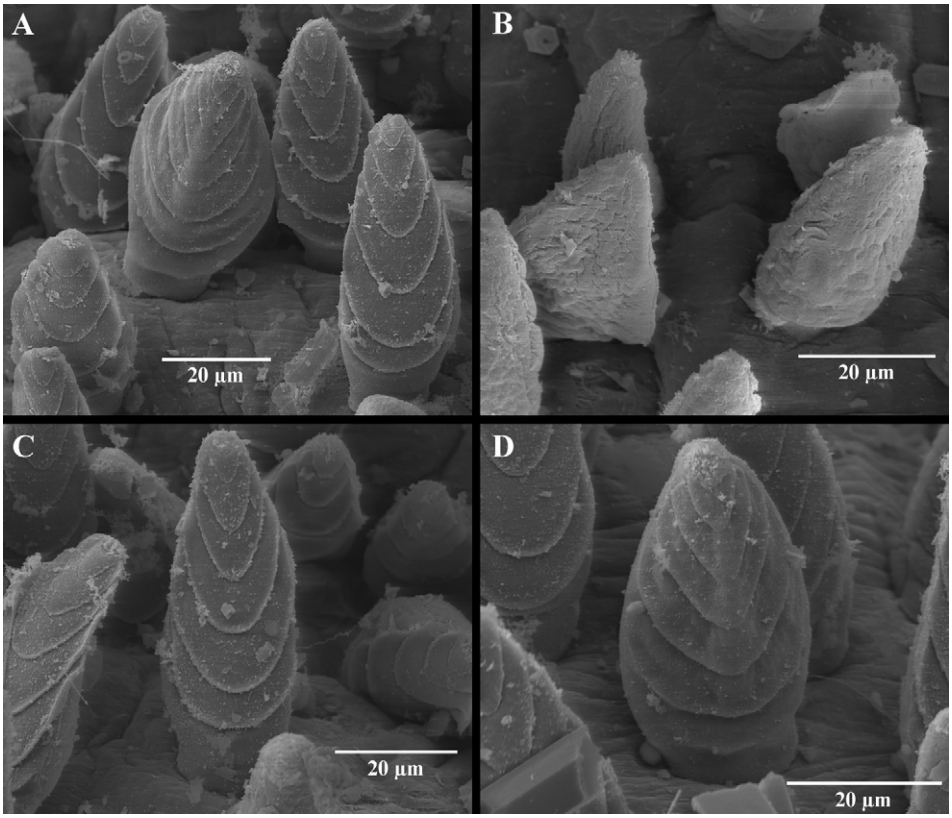



**Fig. 5.** *Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007. **A**, Proboscidial papillae: main and additional types; posterior view. **B**, Proboscidial papillae: main and additional types; anterior view. **C**, Main type of proboscidial papillae. **D**, Additional type of proboscidial papillae (CENPAT-JMO).

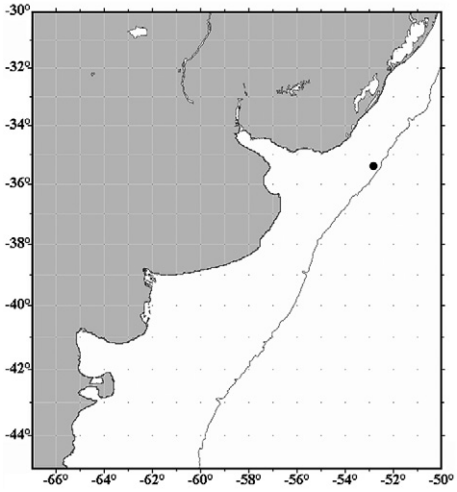



**Fig. 6.** Distribution of *Glycera boeggemanni* RIZZO, STEINER & AMARAL, 2007, in the studied area.

lobe; both lobes becoming slightly slimmer in posterior parapodia. Two shorter postchaetal lobes; anteriorly both lobes rounded; in following parapodia both lobes slightly elongated and blunt triangular, of about same length but notopodial lobe slightly wider than neuropodial lobe. Dorsal cirri from 3rd parapodium, conical to oval; inserted on body wall slightly above parapodial base. Ventral cirri slender triangular to digitiform, about as long as neuropodial postchaetal lobe; situated termino-ventrally on parapodia. Branchiae retractile, branched to short bush-like when completely developed and everted; starting from about 26th to 33rd parapodium to near posterior end; situated dorsally on posterior side of parapodial bases; best developed in mid-body region, about as long as prechaetal lobes.

R e m a r k s / D i s c u s s i o n. – This species more or less resembles *Glycera robusta* EHLERS, 1868 and *Glycera pseudorobusta* BÖGGEMANN & FIEGE, 2001 in the general structure of the parapodial lobes and the proboscidial papillae. However, these two species have non-retractile, blister-like branchiae which are situated dorsally on the parapodial bases, in contrast to the retractile, branched to short bush-like branchiae of *Glycera boeggemanni*. Bush-like branchiae are also present in *Glycera americana*, *Glycera ovigera* and *Glycera pacifica*, but the number and arrangement of ridges on their proboscidial papillae is quite different (see above).

D i s t r i b u t i o n. – Southwestern Atlantic shelf; 25.6 to 144 m. Unfortunately there is no precise information associated with the two PESQUERIA specimens available to us, both of them corresponding to plankton tows.

*Glycera capitata* ØRSTED, 1842
(Figs 7-8)

*Glycera capitata* ØRSTED, 1842: 123-124
*Glycera capitata*, – BÖGGEMANN 2002: 34-37, Figs 16-18
Previously published regional records:
*Glycera capitata*, – RULLIER & AMOUREUX 1979: 170-171
*Glycera capitata antarctica* AVERINCEV, 1972: 136-138, Plate 16, Figs 1-6, 11, 12
*Glycera papillosa*, – SIEGEL-CAUSEY 1991: Table 1

M a t e r i a l e x a m i n e d. – ATLANTIS-II-60:282, 11 cs + 26 af (MACN-In 36764) - ATLANTIS-II-60:284, cs + af (MACN-In 36765) - HERO:16, af (MACN-In 36766) - KNIPOVITSCH:242, cs + 2 af + mf (MACN-In 37058) - KNIPOVITSCH:244, 2 af (MACN-In 36767) - KNIPOVITSCH:249, cs (MACN-In 36768) - KNIPOVITSCH:1054, af (MACN-In 36769) - KNIPOVITSCH:1055, 3 af (MACN-In 36770) - KNIPOVITSCH:1056, cs + 2 af + mf (MACN-In 36771) - KNIPOVITSCH:1058, 2 cs + 3 af (MACN-In 36772) - KNIPOVITSCH:1059, cs + 10 af, all dried (MACN-In 36773) - KNIPOVITSCH:1073, af (MACN-In 36774) - KNIPOVITSCH:1074, 2 af + mf (MACN-In 36775) - KNIPOVITSCH:1075, 4 af + 2 mf + pf (MACN-In 36776) - MEJILLÓN-I:13, af (MACN-In 36777) - MEJILLÓN-I:15, cs (MACN-In 36778) - SALDANHA:2286A, 2 cs (MACN-In 36779) - SANJO-I:A, cs (MACN-In 36784) - SANJO-II:14, 2 af (MACN-In 36785) - SAO-I:20, af (MACN-In 36780) - SAO-I:22, cs + 2 af + mf (MACN-In 36781) - SAO-V:231, af (MACN-In 36782) - SAO-V:236, cs (MACN-In 36783) - Tierra del Fuego, San Sebastián Bay, PASTOR DE WARD col., iii.1985, cs (CENPAT-CPW).

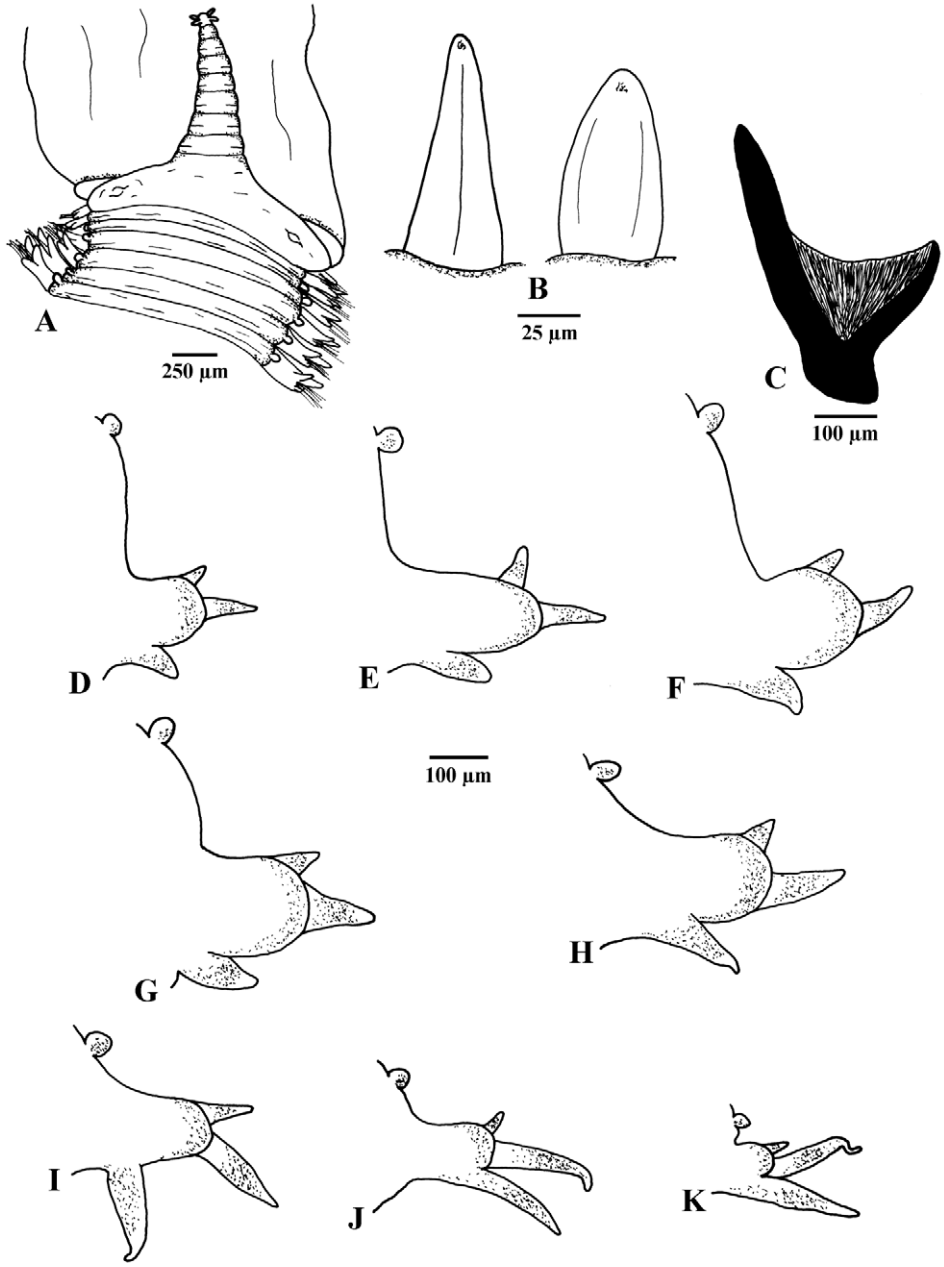



**Fig. 7.** *Glycera capitata* ØRSTED 1842. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D-K**, Anterior to posterior parapodia; posterior view, chaetae omitted (A-C: MACN In-36784; D-K: MACN In-36779).

D i a g n o s i s. – Proboscidial papillae mainly digitiform with straight, median, longitudinal ridge; ailerons with pointed triangular bases; parapodia of mid-body with slightly longer neuropodial than notopodial prechaetal lobes; one rounded postchaetal lobe; branchiae absent.

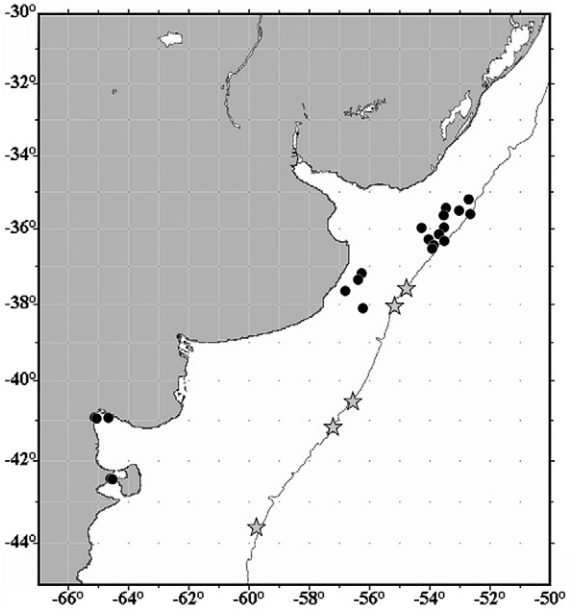



**Fig. 8.** Distribution of *Glycera capitata* ØRSTED, 1842, in the studied area. Stars indicate records from previous studies.

D e s c r i p t i o n. – Body up to 56 mm long with up to 107 segments. Mid-body segments more or less distinctly triannulate. Conical prostomium consisting of about 8-10 rings (Fig. 7A). Proboscis with two types of papillae: 1. numerous digitiform papillae with straight, median, longitudinal ridge; 2. isolated, shorter and broader, oval to globular papillae without ridges (Fig. 7B). Ailerons with pointed triangular base (Fig. 7C). First two parapodia uniramous, following parapodia biramous (Fig. 7D-K). Two slender triangular to digitiform prechaetal lobes; neuropodial lobe always slightly longer than notopodial lobe; both lobes becoming slightly slimmer in posterior parapodia; in last parapodia notopodial lobe much shorter than neuropodial one. One shorter, rounded postchaetal lobe. Dorsal cirri from 3rd parapodium, oval to globular; inserted - most clearly in anterior part of body - on body wall far above parapodial base. Ventral cirri slender triangular to digitiform, shorter than postchaetal lobes; in posterior parapodia slender and elongated; in last parapodia about as long as neuropodial prechaetal lobe; situated near parapodial base. Branchiae absent.

R e m a r k s / D i s c u s s i o n. – *Glycera lapidum* QUATREFAGES, 1866 is the only species which shows similarities in the structure of the parapodial lobes, the shape of the ailerons and the proboscidial papillae. However, the digitiform proboscidial papillae of *Glycera lapidum* are provided with an undulating ridge instead of the straight, median, longitudinal ridge of *Glycera capitata*.

D i s t r i b u t i o n. – Arctic, Antarctic and adjacent cold temperate zones; intertidal to 4850 m.

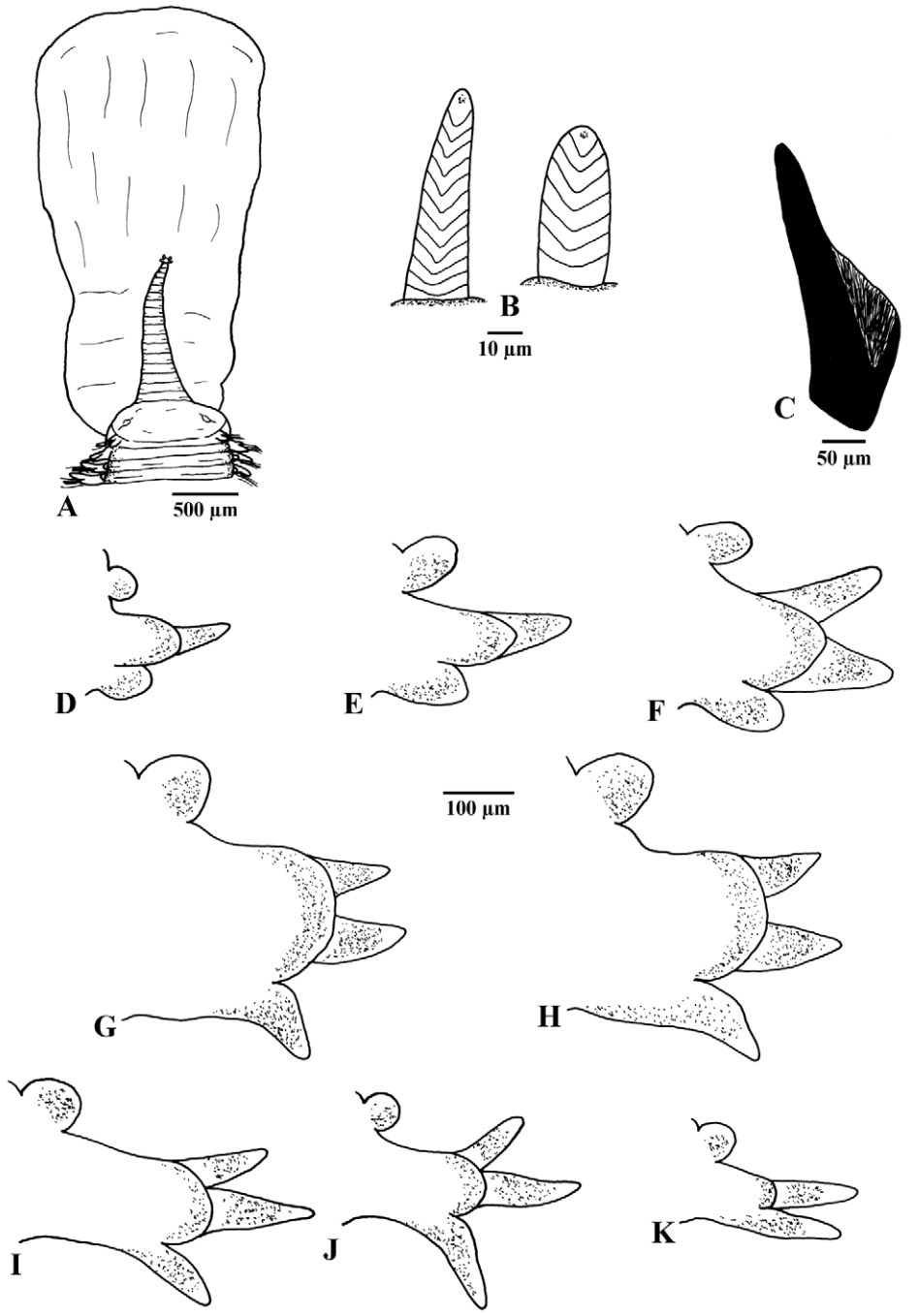



**Fig. 9.** *Glycera oxycephala* EHLERS 1887. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D-K**, Anterior to posterior parapodia; posterior view, chaetae omitted (A-H: MACN In-36789); I-K: MACN In-36791).

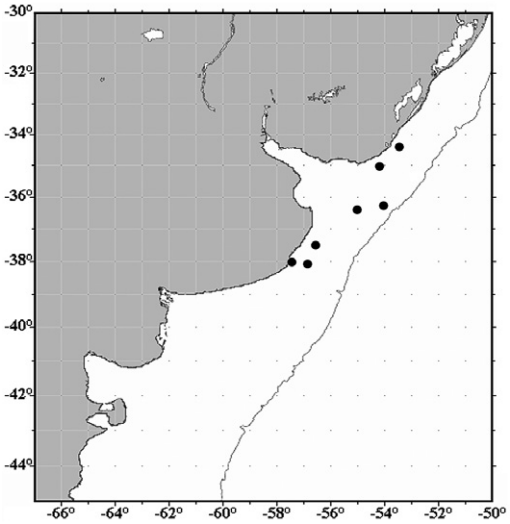



**Fig. 10.** Distribution of *Glycera oxycephala* EHLERS, 1887, in the studied area.

*Glycera lapidum* QUATREFAGES, 1866

*Glycera lapidum* QUATREFAGES, 1866: 187-188
*Glycera lapidum*, – BÖGGEMANN 2002: 37-40, Figs 19-21

M a t e r i a l e x a m i n e d. – BÖGGEMANN (2002) reported one specimen from off Península Valdés (42º24'S, 43 fms.). No additional materials are included as part of the present study.

D i s t r i b u t i o n. – Mainly in temperate zones and sometimes in tropical seas; intertidal to 3947 m.

*Glycera oxycephala* EHLERS, 1887
(Figs 9-10)

*Glycera oxycephala* EHLERS, 1887: 121-123, Plate 41, Figs 7-11
*Glycera oxycephala*, – BÖGGEMANN 2002: 40-41, Figs 22-24

M a t e r i a l e x a m i n e d. – GOYENA-II:6, af (MACN-In 36786) - HOLMBERG-09:L31-R, af (INIDEP-CB) - KNIPOVITSCH:1055, af (MACN-In 36787) - KNIPOVITSCH:1064 mf, dried (MACN-In 36788) - MEJILLÓN-I:11, af (MACN-In 36789) - SALDANHA:2262, af, dried (MACN-In 36790) - SALDANHA:2287A, pf (MACN-In 36791).

D i a g n o s i s. – Proboscidial papillae mainly conical with about 5-20 ridges; ailerons with slightly arched bases; parapodia of mid-body with two prechaetal lobes of about same length; one rounded postchaetal lobe; branchiae absent.

D e s c r i p t i o n. – Body at least 19 mm long with at least 49 segments. Mid-body segments more or less distinctly triannulate. Long, conical prostomium consisting of about 20-28 rings (Fig. 9A). Proboscis with two types of papillae: 1. numerous conical papillae with about 5-20 ridges; 2. isolated, shorter and broader, oval to globular papillae with about 4-11 ridges; ridges U-shaped basally and V-shaped apically (Fig. 9B).

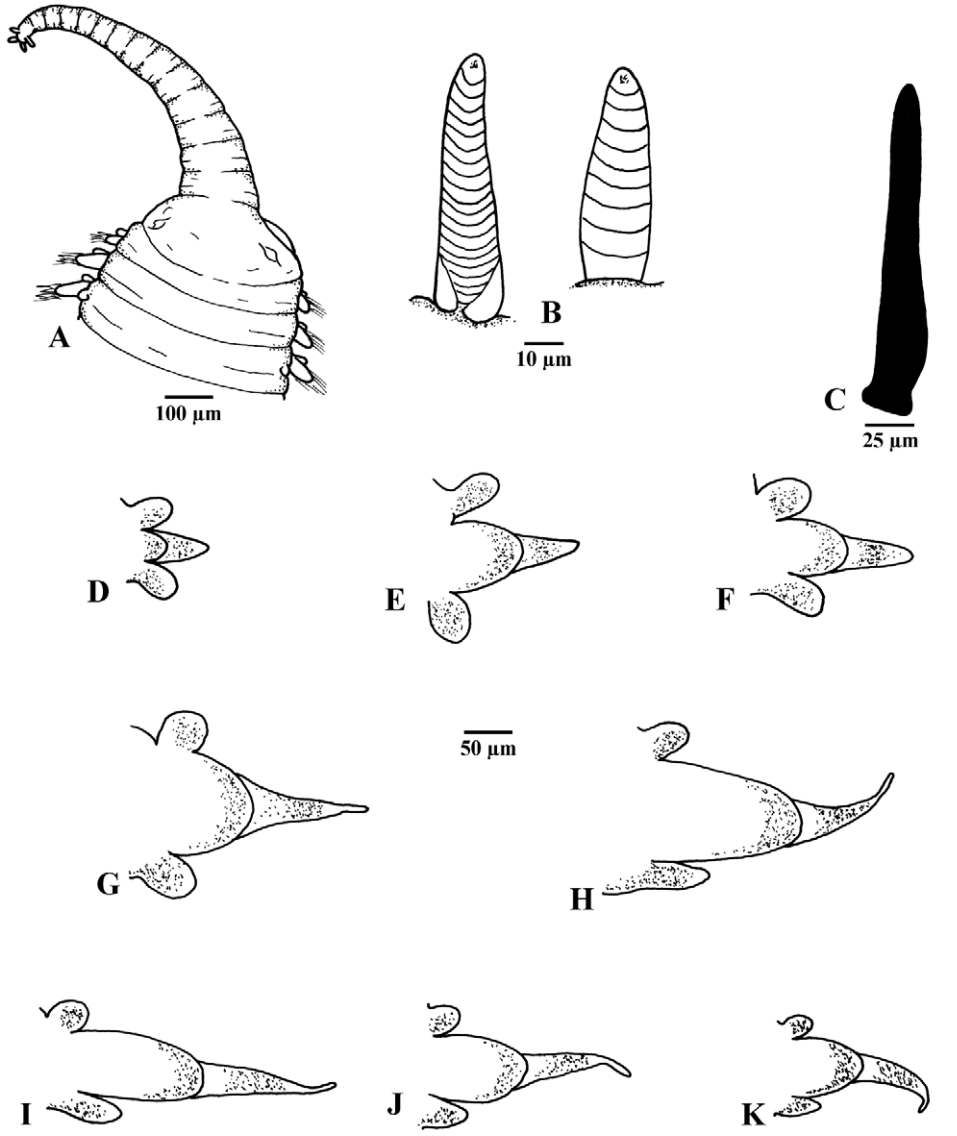



**Fig. 11.** *Hemipodia pustatula* (FRIEDRICH, 1956). **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (MACN In-36792).

Ailerons with slightly arched base (Fig. 9C). First 8-14 parapodia uniramous (in large specimen only two), following parapodia biramous (Fig. 9D-K). Two slender triangular to digitiform prechaetal lobes of about same length or sometimes neuropodial lobe slightly longer and broader than notopodial lobe; both lobes becoming slightly slimmer in posterior parapodia; in last parapodia notopodial lobe distinctly shorter than neuropodial one. One shorter, rounded postchaetal lobe. Dorsal cirri from 3rd parapodium, oval to globular; inserted near parapodial base. Ventral cirri slender triangular to digitiform, about as long as postchaetal lobe or slightly shorter; in posterior

parapodia slender and elongated; in last parapodia about as long as neuropodial prechaetal lobe; situated near parapodial base. Branchiae absent.

R e m a r k s / D i s c u s s i o n. – *Glycera oxycephala* is the only species of *Glycera* with only one large rounded postchaetal lobe, ailerons with interramal plates, proboscidial papillae with numerous transverse ridges and a very elongated prostomium.

D i s t r i b u t i o n. – In temperate zones and tropical seas; intertidal to 2951 m.

### *Hemipodia* KINBERG, 1865

### *Hemipodia californiensis* (HARTMAN, 1938)
(Fig. 12)

*Hemipodus californiensis* HARTMAN, 1938: 93-94, Figs 2-7
*Hemipodia californiensis*, – BÖGGEMANN 2002: 82, Figs 133-135
Previously published regional records:
*Glycera americana*, – COSCARÓN 1959: Table and Photo; OLIVIER & PENCHASZADEH 1971: 31
*Hemipodia olivieri*, – SCARABINO 2006: Table 5
*Hemipodus olivieri* ORENSANZ & GIANUCA, 1974: 11, Figs 5, 8, 9; DEMICHELI 1986: Table; DEMICHELI 1987: Table; BEMVENUTI et al. 1992: Table 3; DEFEO et al. 1992: Table 2; TABLADO & VENERUS 2000: 214
*Hemipodus* sp., – SCARABINO et al. 1974: Table

M a t e r i a l e x a m i n e d. – Materials from the region of interest were examined and described by ORENSANZ & GIANUCA (1974) and BÖGGEMANN (2002). No additional materials are included as part of the present study.

D i s t r i b u t i o n. – West coasts of America, from California to Perú; coasts of the southwestern Atlantic, from southeast Brazil to San Matías Gulf (Argentina). Mostly in exposed sandy beaches.

### *Hemipodia pustatula* (FRIEDRICH, 1956)
(Figs 11-12)

*Hemipodus pustatulus* FRIEDRICH, 1956: 61-63, Fig. 4a-c
*Hemipodia pustatula*, – BÖGGEMANN 2002: 83-84, Figs 136-138

M a t e r i a l e x a m i n e d. – SAO-IV:1121, cs (MACN-In 36792) - TRANSVERSAL-I:10, 11 cs + 3 af + 2 pf (MACN-In 36793) - TRANSVERSAL-I:10', 10 cs + 7 af + pf (MACN-In 36793).

D i a g n o s i s. – Proboscidial papillae mainly digitiform with about 14-40 ridges; ailerons rod-like; parapodia of mid-body with slender triangular to digitiform prechaetal lobes with small digitate distal process; one short, more or less rounded postchaetal lobe; branchiae absent.

D e s c r i p t i o n. – Body up to 75 mm long with up to 133 segments. Mid-body segments more or less distinctly triannulate. Conical prostomium consisting of about 13-16 rings (Fig. 11A). Proboscis with two types of papillae: 1. numerous digitiform papillae

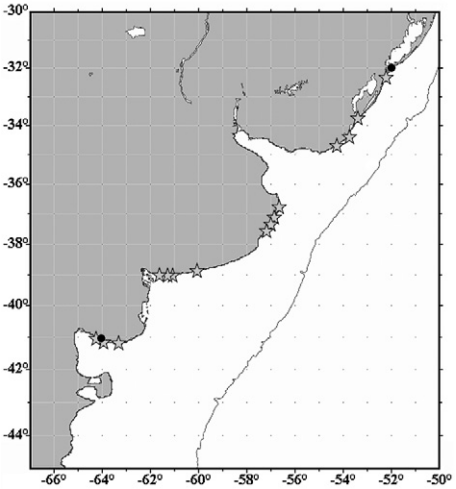



**Fig. 12.** Distribution of *Hemipodia californiensis* (HARTMAN, 1938) (stars) and *H. pustatula* (FRIEDRICH, 1956) (solid circles), in the studied area.

with about 14-40 U-shaped ridges, base of papillae with or without smooth, wing-like sides; 2. isolated, shorter, slightly broader, conical papillae with about 7-16 U-shaped ridges (Fig. 11B). Ailerons rod-like (Fig. 11C). All parapodia uniramous (Fig. 11D-K). One slender triangular to digitiform prechaetal lobe; in mid-body with small digitate distal process; in posterior parapodia prechaetal lobe slightly slimmer and elongated. One short, rounded, sometimes slightly blunt triangular postchaetal lobe. Dorsal cirri from 3rd parapodium, conical to oval; inserted on body wall slightly above parapodial base. Ventral cirri conical to oval, shorter than postchaetal lobe; in posterior parapodia slightly elongated and more digitiform; situated near parapodial base. Branchiae absent.

R e m a r k s / D i s c u s s i o n. – *Hemipodia californiensis* (HARTMAN, 1938) is the only other known species of this region with numerous ridges on the digitiform proboscidial papillae. However, their prechaetal lobes are much broader and more or less triangular without a digitate distal process. Most of the specimens from Rio Grande do Sul examined as part of this study (survey TRANSVERSAL I) are in bad condition, but the number of prostomial rings and the posterior digitiform prechaetal lobes are more typical of *H. pustatula* than *H. californiensis*.

D i s t r i b u t i o n. – West coasts of America from Mexico to Chile, southeastern coasts of South America, Caribbean Sea; intertidal to 150 m.

*Hemipodia simplex* (GRUBE, 1857)
(Figs 13-14)

*Glycera simplex* GRUBE, 1857: 177-178
*Hemipodia simplex*, – BÖGGEMANN 2002: 79-81, Figs 127-129
Previously published regional records:
*Hemipodus* sp., – OLIVIER et al. 1968: section IV

M a t e r i a l e x a m i n e d. – GOYENA-II:3, af (MACN-In 36794) - SAO-III:1041/1042 af (MACN-In 36795).

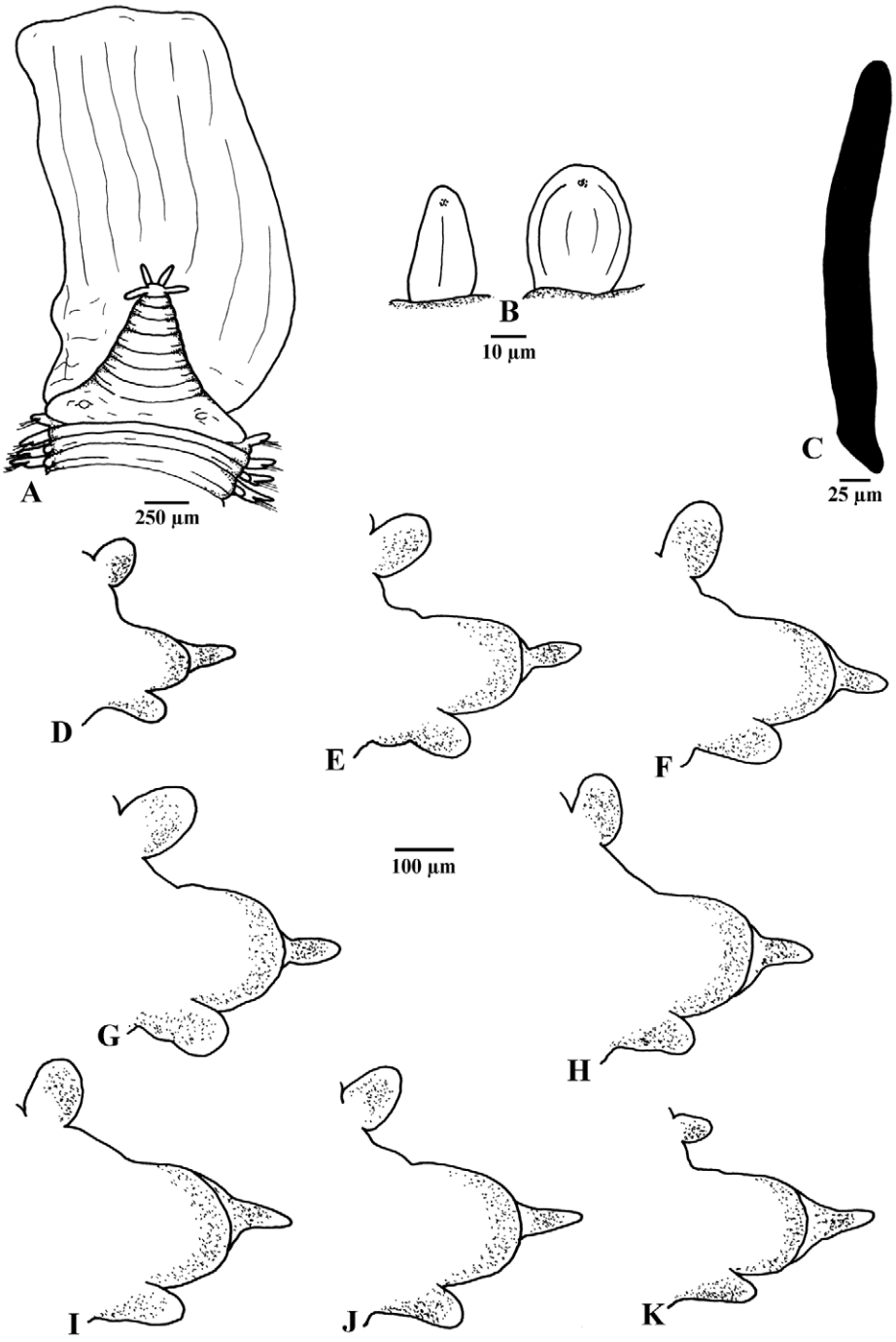



**Fig. 13.** *Hemipodia simplex* (GRUBE, 1857). **A**, Anterior end. **B**, Proboscidial papillae. **C**, Aileron. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (MACN In-36795).

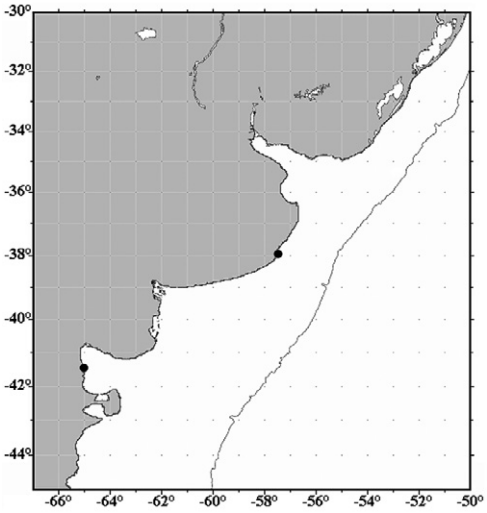



**Fig. 14.** Distribution of *Hemipodia simplex* (GRUBE, 1857), in the studied area.

D i a g n o s i s. – Proboscidial papillae mainly conical with more or less distinctly straight, median, longitudinal ridge; ailerons rod-like; parapodia of mid-body with one short, rounded postchaetal lobe; branchiae absent.

D e s c r i p t i o n. – Body at least 30 mm long with at least 98 segments. Mid-body segments more or less distinctly triannulate. Conical prostomium consisting of about 7-9 rings (Fig. 13A). Proboscis with two types of papillae: 1. numerous conical papillae with more or less distinctly straight, median, longitudinal ridge; 2. isolated, broader, oval to globular papillae without ridges (Fig. 13B). Ailerons rod-like (Fig. 13C). All parapodia uniramous (Fig. 13D-K). One slender triangular to digitiform prechaetal lobe. One short, rounded postchaetal lobe. Dorsal cirri from 3rd parapodium, conical to oval; inserted on body wall slightly above parapodial base. Ventral cirri conical to oval, shorter than postchaetal lobe; situated near parapodial base. Branchiae absent.

R e m a r k s / D i s c u s s i o n. – *Hemipodia simplex* is the only known species with one straight, median, longitudinal ridge on the conical proboscidial papillae, whereas the papillae of all other *Hemipodia* carry numerous U-shaped ridges.

D i s t r i b u t i o n. – Cold and warm temperate zone, west and east coasts of North and South America, Bay of Bengal, east coast of Australia, seas around New Zealand; intertidal to 137 m.

Goniadidae KINBERG, 1865

## Key to the Goniadidae from the SW Atlantic

**1**. Proboscis with chevrons (Figs 20, 22, 24, 26, 28D), which might be lost in larger specimens of *Goniada gigantea* (Fig. 24) during the growth . . . . . **2**
- Proboscis without chevrons . . . . . **10**
**2**. Usually all parapodia with falcigerous and spinigerous neurochaetae . . . . . **3**
- Usually all parapodia with only spinigerous neurochaetae (*Goniada*) . . . . . **4**
**3**. Biramous or subbiramous parapodia present . . . . . *Goniadella* HARTMAN, 1950*
- All parapodia uniramous . . . . . *Progoniada* HARTMAN, 1965*
**4**. Notochaetae acicular . . . . . **5**
- Notochaetae capillary . . . . . **6**

**5**. Acicular notochaetae situated between dorsal cirrus and notopodium; 4-26 pairs of chevrons; 46-69 chaetigers with uniramous parapodia. . . . . *Goniada emerita* AUDOUIN & MILNE EDWARDS, 1833*
- Acicular notochaetae situated dorsal to dorsal cirrus, between dorsal cirrus and notopodium, and below notopodium; 8-15 pairs of chevrons; 45-74 chaetigers with uniramous parapodia . . . . . *Goniada acicula* HARTMAN, 1940*

**6**. Proboscidial papillae short crown-shaped, heart-shaped, rectangular, rounded or sometimes globular with bifid tips (Figs 20, 24, 26, 28B). . . . . **7**
- Proboscidial papillae of two types, the longer conical ones with distal beaks and basally with two long stilts (Fig. 22B); 10-20 pairs of chevrons (Fig. 22D); 29-46 chaetigers with uniramous parapodia (Fig. 22E-F) . . . . . *Goniada echinulata* GRUBE, 1870

**7**. Only four simple inverted Y-shaped or rod-like dorsal micrognaths with small bifid tips (Figs 20, 26C) . . . . . **8**
- Numerous compound usually H+v/w-shaped and sometimes additional small H- or X-shaped dorsal micrognaths (Figs 24, 28C) . . . . . **9**

**8**. Lower neuropodial prechaetal lobe developed from parapodium 2-7 (Fig. 26E); simple ventral micrognaths (Fig. 26C); 4-7 pairs of chevrons (Fig. 26D); 29-43 chaetigers with uniramous parapodia (Fig. 26E-F) . . . . . *Goniada virgini* KINBERG, 1865
- Lower neuropodial prechaetal lobe developed from parapodium 15-32 (Fig. 20E-F); compound ventral micrognaths (Fig. 20C); 7-15 pairs of chevrons (Fig. 20D); 23-33 chaetigers with uniramous parapodia (Fig. 20E-F) . . . . . *Goniada crudelis* (KINBERG, 1865)

**9**. 0-6 pairs of chevrons (Fig. 24D); ventral proboscidial papillae rounded to heart-shaped (Fig. 24B); 48-64 chaetigers with uniramous parapodia (Fig. 24E-F) . . . . . *Goniada gigantea* (VERRILL, 1885)
- 9-36 pairs of chevrons (Fig. 28D); ventral proboscidial papillae in median part conical to globular with bifid tips (Fig. 28B); 45-69 chaetigers with uniramous parapodia (Fig. 28E-F) . . . . . *Goniada vorax* (KINBERG, 1865)

**10**. Proboscidial papillae of several different types, arranged in distinct longitudinal rows (Figs 15, 18B) . . . . . **11**
- Proboscidial papillae of slightly different types, irregularly arranged; all compound neurochaetae spinigerous . . . . . *Ophiogoniada* BÖGGEMANN, 2005*

**11**. Biramous parapodia present (Figs 15, 18F-K). . . . . **12**
- Subbiramous parapodia present . . . . . *Goniadides* HARTMANN-SCHRÖDER, 1960*

**12**. Notochaetae stout, hooked at tip and with terminal pointed hood (*Glycinde*) . . . . . **13**
- Notochaetae capillary. . . . . *Bathyglycinde* FAUCHALD, 1972*

**13**. All parapodia with one neuropodial prechaetal lobe (Figs 15, 18D-K) . . . . . **14**
- Anterior parapodia with one, posterior parapodia with two neuropodial prechaetal lobes; 6-29 H+v-shaped dorsal compound micrognaths; 27-39 chaetigers with uniramous parapodia . . . . . *Glycinde armata* (KINBERG, 1865)

**14**. All micrognaths dorsal . . . . . **15**
- 10-70 dorsal and 1-8 ventral micrognaths (Fig. 15C); 29-33 chaetigers with uniramous parapodia (Fig. 15D-E) . . . . . *Glycinde henningi* sp. nov.

**15**. Conical proboscidial papillae of area V with curved and usually bifid tips (Fig. 18B); 22-28 chaetigers with uniramous parapodia (Fig. 18D-E); 4-28 dorsal micrognaths (Fig. 18C). . . . . *Glycinde multidens* F. MÜLLER, 1858
- Proboscidial area V with straight conical papillae; 33-40 chaetigers with uniramous parapodia; 4-32 dorsal micrognaths . . . . . *Glycinde nordmanni* (MALMGREN, 1866)*

* Species known from neighbouring regions, but not found during the present study.

## *Glycinde* F. MÜLLER, 1858

### *Glycinde armata* (KINBERG, 1865)

*Epicaste armata* KINBERG, 1865: 247
*Glycinde armata*, – BÖGGEMANN 2005: 206-209, Figs 122-123

M a t e r i a l e x a m i n e d. – BÖGGEMANN (2005) reported one specimen collected by RRS WILLIAM SCORESBY at st. 764, 44º38'15"S 61º58'30"W to 44º38'45"S 61º49[59?]'30"W, 104-110 m, fine green sand. No additional materials are included as part of the present study.

D i s t r i b u t i o n. – Southwest Atlantic, southeast Pacific; intertidal to 545 m.

### *Glycinde henningi* sp. nov.
(Figs 15-17)

*Glycinde picta*, – BÖGGEMANN 2005: 213-216, Figs 126-127 [partim]

T y p e m a t e r i a l. – HOLMBERG-09:L47-R, holotype: cs/48 mm long/148 segments with parapodia/2.0 mm width including parapodia/1.0 mm width excluding parapodia (MACN-In 36796) - HERO:16, 11 paratypes: af/28/80/1.8/1.0, af/20/86/1.4/0.9, af/20/65/1.9/1.0, af/17/45/1.4/0.9, af/16/61/1.9/1.0, af/16/51/1.7/1.0, af/15/53/1.4/0.8, af/13/50/1.3/0.8, af/11/41/1.1/0.7, af/10/37/1.1/0.7, af/7/39/0.9/0.5, 4 mf (MACN-In 36797) - MEJILLÓN-I:15, paratype: af/12/68/0.9/0.5 (MACN-In 36798) - MEJILLÓN-I:15 bis, paratype: af/8.5/58/0.7/0.3, mf + pf (MACN-In 36799) - MEJILLÓN-I:22, paratype: af/11/44/1.1/0.7 (MACN-In 36800) - CANEPA-04:L25-R1, 2 paratypes: cs(af+pf)/34(14+20)/109(44+65)/1.6/ 0.9, cs(af+pf)/32(20+12)/112(66+46)/1.8/1.0 (INIDEP-CB).

A d d i t i o n a l m a t e r i a l e x a m i n e d. – R/V W. BESNARD st. 6658, 25º11.89'S 47º8.09'W, 16.xii.1997, 157 m; af/10/47/1.0/0.6 (MHN-BPO/AR54)

E t y m o l o g y. – This species is named in memory of my (MARKUS BÖGGEMANN) deceased nephew HENNING RIEKE (1991-2006), who was always amused about the idea that an adult is working on worms. Sorry HENNING, that this is not a wonderful new butterfly. However, a polychaete might be much better for a teenager with his first soft beard growth.

D i a g n o s i s. – Conical proboscidial papillae of area V with duckfoot-shaped structure on posterior side, which ends in two tips; 10-70 dorsal and 1-8 ventral micrognaths; all chaetigers with one neuropodial prechaetal lobe; 29-33 uniramous parapodia.

D e s c r i p t i o n. – Body up to 48 mm long with up to 148 parapodia. Segments uniannulate.

Conical prostomium consisting of 9-10 rings (Fig. 15A); pair of subdistal (between 2nd and 3rd ring) and/or basal subdermal eyes may be present. Proboscis with several different types of papillae, arranged in distinct longitudinal rows and best developed in median proboscidial part (Fig. 15B): area I: anteriorly up to three rows of small teapot-shaped papillae with laterally directed beak, afterwards additional larger papillae with usually bifid or rarely trifid tips and without cilia (Fig. 16A); area II-1: short, tridentate papillae with broad base; longer fang-shaped papillae of areas II-2 to II-6 decreasing in length, bases becoming slender and tips less curved, areas II-2 and II-3: unidentate, areas II-4 to II-6: bidentate, with decreasing distance between distal and subdistal tooth;

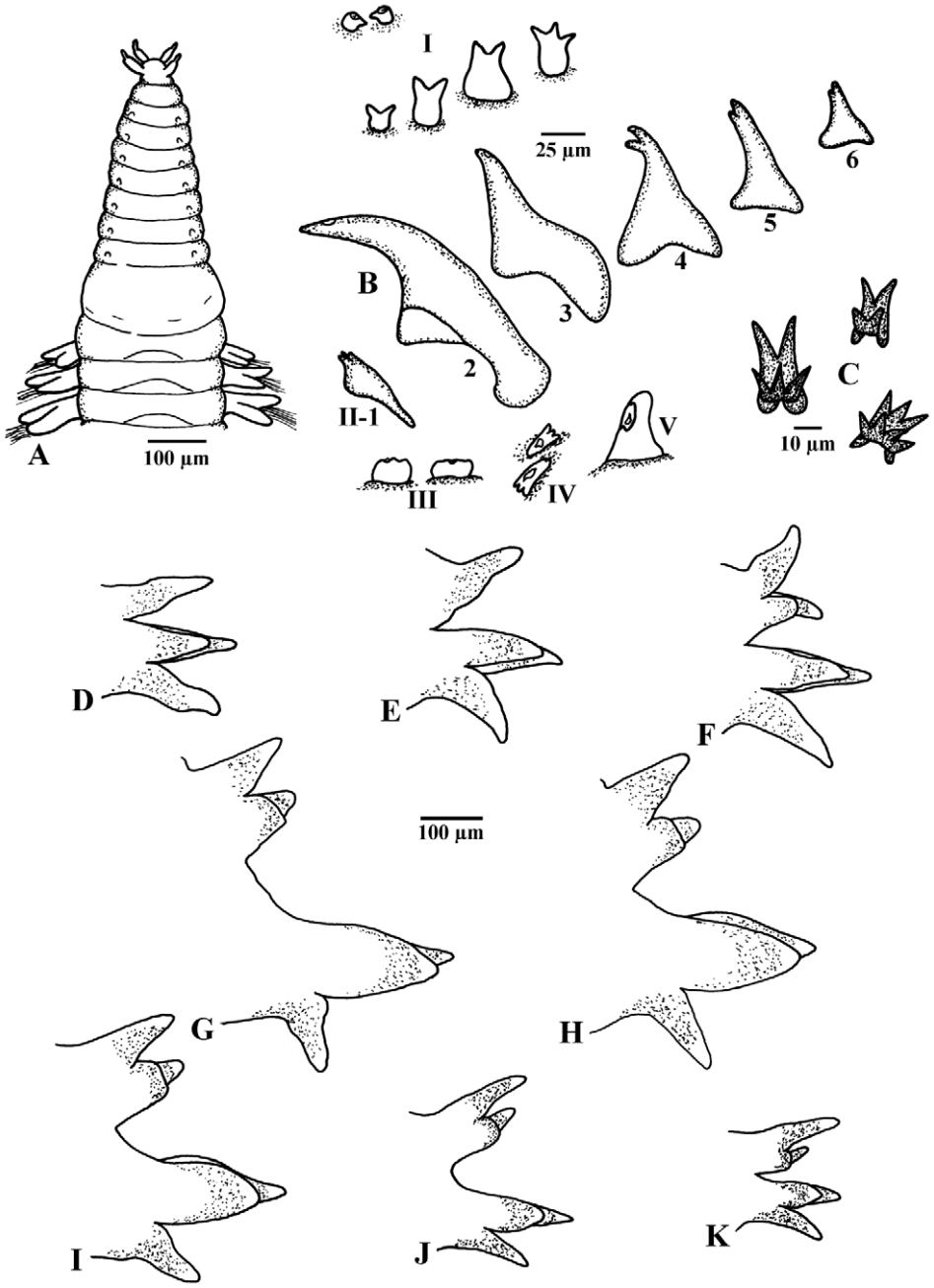



**Fig. 15.** *Glycinde henningi* sp. nov. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (A: MACN In-36798; B-C: MACN In-36797; D-K: MACN In-36796).

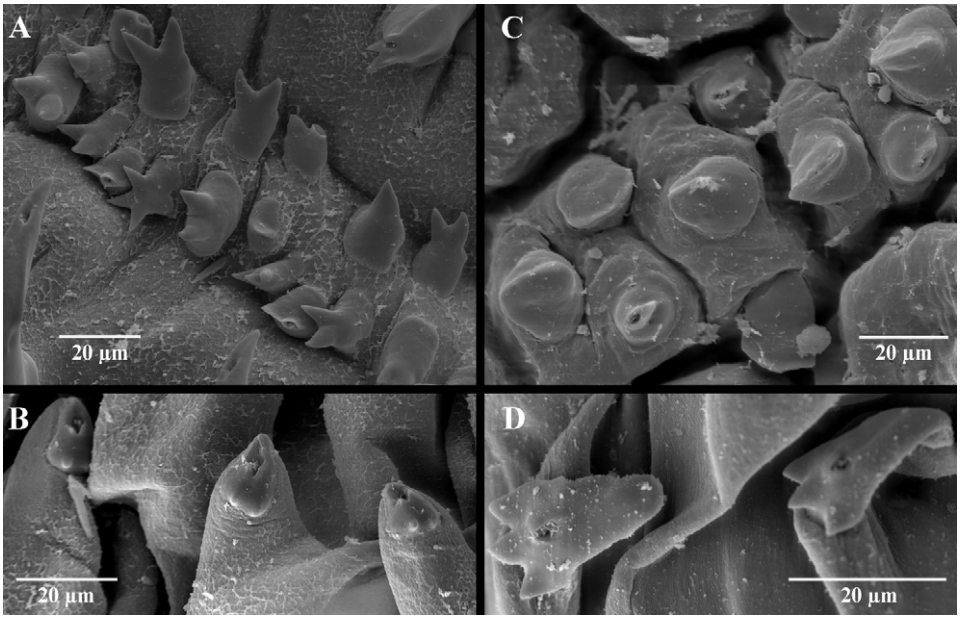



**Fig. 16.** *Glycinde henningi* sp. nov. **A**, Proboscidial papillae of area I. **B**, Proboscidial papillae of area V (MACN In-36797). *Glycinde picta* BERKELEY, 1927. **C**, Proboscidial papillae of area I. (CASIZ 150671). **D**, Proboscidial papillae of area V (CASIZ 127467).

area III: up to three rows of small, rectangular papillae with narrow base and more or less developed short lateral beaks; area IV: one row of duckfoot-shaped papillae; area V: one row of slightly smaller duckfoot-shaped papillae, which ends in two tips, in median part of proboscis duckfoot-shaped structure located on posterior side of conical papillae (Fig. 16B); area VI: without papillae. Macrognaths with 2-4 teeth; 10-70 H+v/w-shaped dorsal and 1-8 H+v/w/vv-shaped ventral compound micrognaths, a few micrognaths sometimes W+v/w/vv-shaped (Fig. 15C). Anterior chaetigers with one conical to digitiform neuropodial prechaetal lobe and one shorter rounded to conical postchaetal lobe (Fig. 15D-E); 29-33 uniramous chaetigers, following parapodia biramous with conical notopodial prechaetal lobes and distinctly shorter rounded postchaetal lobes (Fig. 15F); from 32nd to 53rd chaetiger parapodia slightly enlarged and with noto- and neuropodia clearly separated (Fig. 15G-I), lobes of about same shape as before; in posterior parapodia notopodial prechaetal lobes and neuropodial postchaetal lobes shorter and

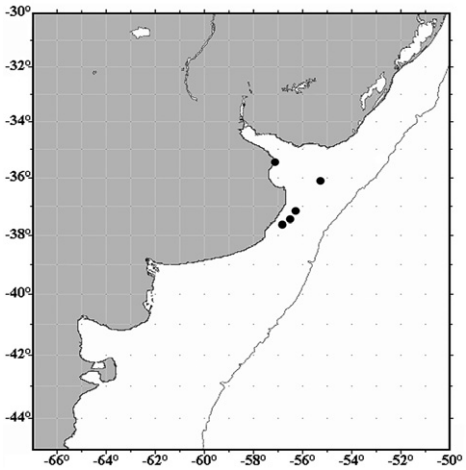



**Fig. 17.** Distribution of *Glycinde henningi* sp. nov., in the studied area.

neuropodial prechaetal lobes slightly more slender (Fig. 15J-K). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial postchaetal lobes or slightly longer; in biramous parapodia more conical and slightly longer than notopodial prechaetal lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as neuropodial prechaetal lobes or slightly shorter; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes or slightly shorter; in posterior parapodia slender, elongated and more digitiform, longer than neuropodial postchaetal lobes. Notochaetae stout, hooked at tip and with terminal pointed hood; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – *Glycinde picta* BERKELEY, 1927 is the only other species of *Glycinde* with dorsal and ventral micrognaths. However, the new species has a considerably higher number of segments with uniramous parapodia (29-33 instead of 24-28). Furthermore, the additional large proboscidial papillae of area I without cilia have bifid or rarely trifid tips (Fig. 16A), in contrast to *Glycinde picta* where these papillae are smaller and have scaly tips (Fig. 16C). Both species have duckfoot-shaped papillae in area V, but they have three tips in *Glycinde picta* (Fig. 16D) and only two tips in *Glycinde henningi* (Fig. 16B). In addition, *Glycinde henningi* is known from the southwestern Atlantic coasts of South America, whereas *Glycinde picta* has been found on the north Pacific coasts. The only mentioned specimen of *Glycinde picta* from the SW Atlantic (MHN-BPO/AR54) in BÖGGEMANN (2005), belongs definitely to the new species.

D i s t r i b u t i o n. – Southwestern Atlantic coasts of South America; 4 to 157 m.

*Glycinde multidens* F. MÜLLER, 1858
(Figs 18-19)

*Glycinde multidens* F. MÜLLER, 1858: 214, Plate 6, Figs 4-6
*Glycinde multidens*, – BÖGGEMANN 2005: 216-222, Figs 128-129
Previously published regional records:
*Glycinde multidens*, – NONATO 1973: list entry

M a t e r i a l e x a m i n e d – CANEPA-04:L18-R2, af (MACN-In 36801) - CANEPA-04:L19-R1, af (MACN-In 36802) - CANEPA-04:L25-R1, af (MACN-In 36803) - GOYENA-II:3, cs, dried (MACN-In 36804) - GOYENA-II:8, af (MACN-In 36805) - HERO:15, af (MACN-In 36806) - HOLMBERG-09:L31-R, 2 af (MACN-In 36811) - HOLMBERG-09:L56-R, cs + 2 af + mf (INIDEP-CB) - HOLMBERG-09:L69-D2, 3 cs + af (MACN-In 36812) - HOLMBERG-09:L77-R, 5 cs + 2 af + pf (MACN-In 36813) - HOLMBERG-30:L1-D1, 2 af + mf (MACN-In 36807) - HOLMBERG-30:L11-R1, af + mf (MACN-In 36808) - HOLMBERG-30:L25-R2, af (MACN-In 36809) - HOLMBERG-30:L37-R1 + L42-R1, 4 af (MACN-In 36810 and 36810-1) - KNIPOVITSCH:1059, af (MACN-In 36814) - Off Mar del Plata, trawl haul, BASTIDA col., ii.1965; 2 cs (MACN-In 36815) - Puerto Quequén, stomach content of *Dasyatis*, 14.iv.1970; cs + 2 af + 2 mf (MACN-In 36816).

D i a g n o s i s. – Conical proboscidial papillae of area V with curved and usually bifid tips; 4-28 dorsal micrognaths; all chaetigers with one neuropodial prechaetal lobe; 22-28 uniramous parapodia.

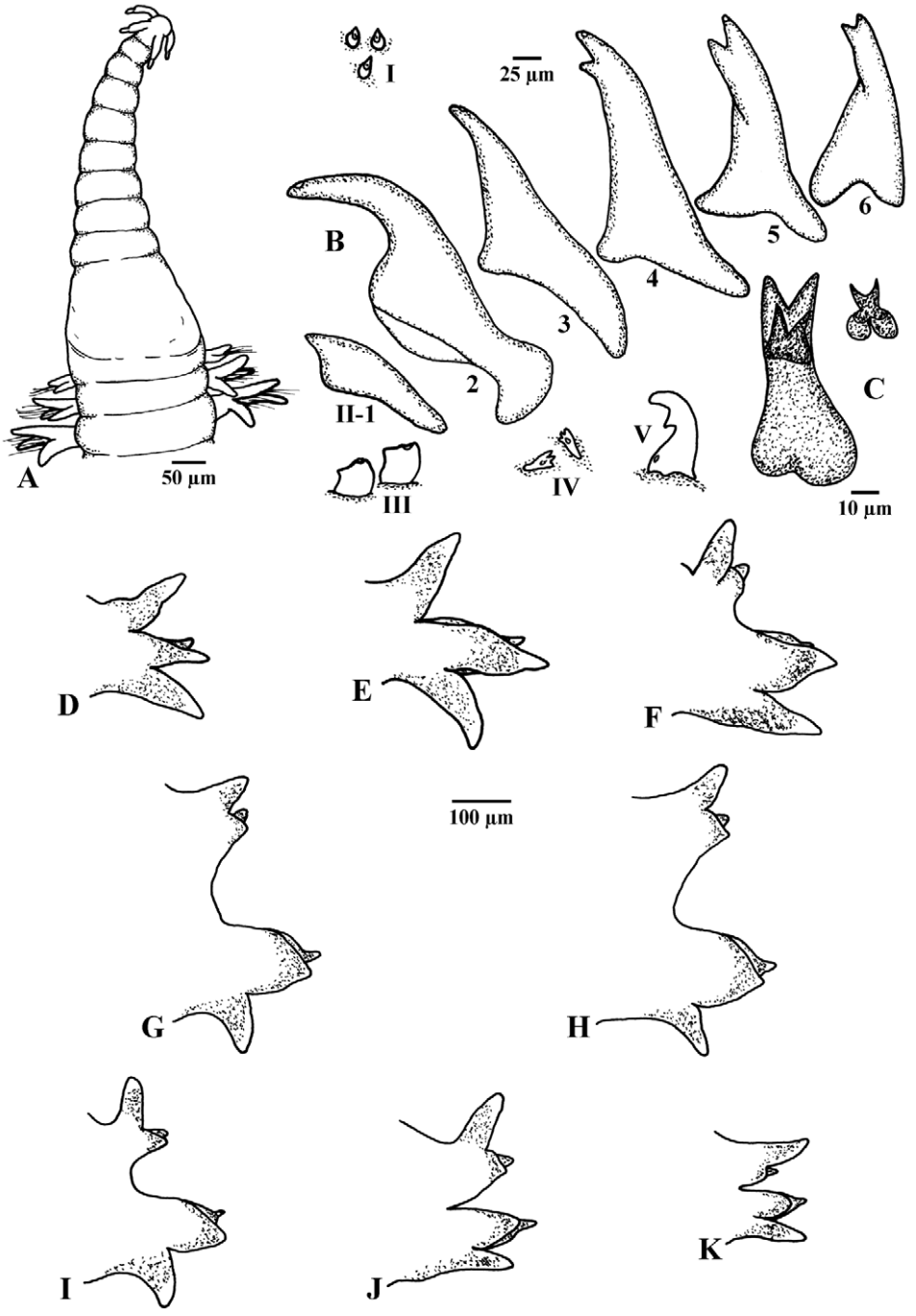



**Fig. 18.** *Glycinde multidens* F. MÜLLER, 1858. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**-**K**, Anterior to posterior parapodia; posterior view, chaetae omitted (A: MACN In-36805; B-C: MACN In-36816; D-K: MACN In-36815).

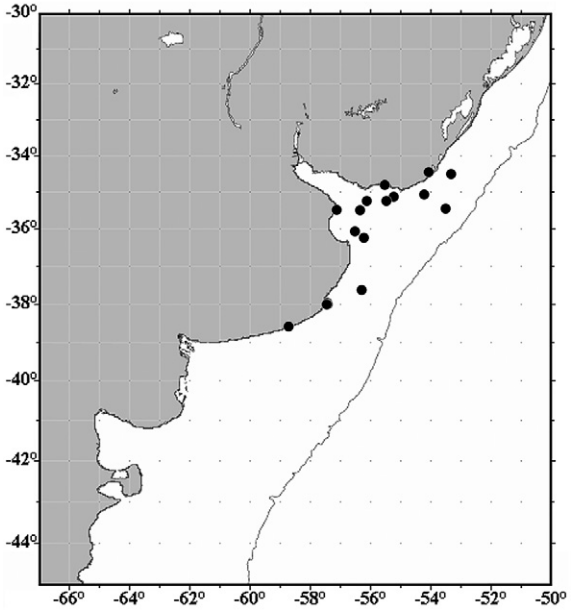



**Fig. 19.** Distribution of *Glycinde multidens* F. MÜLLER, 1858, in the studied area.

D e s c r i p t i o n. – Body up to 96 mm long with up to 164 parapodia. Segments uniannulate.

Conical prostomium consisting of 9-10 rings (Fig. 18A); pair of subdistal (between 2nd and 3rd ring) and/or basal subdermal eyes may be present. Proboscis with several different types of papillae, arranged in distinct longitudinal rows and best developed in median proboscidial part (Fig. 18B): area I: up to three rows of small teapot-shaped papillae with laterally directed beak; area II-1: short, unidentate papillae with broad base; longer fang-shaped papillae of areas II-2 to II-6 decreasing in length, bases becoming slender and tips less curved, areas II-2 and II-3: unidentate, areas II-4 to II-6: bidentate, with decreasing distance between distal and subdistal tooth; area III: up to four rows of small, rectangular papillae with narrow base and more or less developed short lateral beaks; area IV: one row of duckfoot-shaped papillae; area V: one row of conical papillae with duckfoot-shaped base and curved, in median part of proboscis usually bifid tips; area VI: without papillae. Macrognaths with 3-6 teeth; 4-19 H+v/w-shaped dorsal and 0 ventral compound micrognaths, with bases which partly grow together (Fig. 18C). Anterior chaetigers with one broadly conical to cordate neuropodial prechaetal lobe with a median conical process and one usually longer conical to triangular postchaetal lobe with slightly constricted base (Fig. 18D-E); 23-26 uniramous chaetigers, following parapodia biramous with small, conical notopodial prechaetal lobes and slightly shorter rounded to conical postchaetal lobes, neuropodial pre- and postchaetal lobes of about same length (Fig. 18F); from 29th to 57th chaetiger parapodia slightly enlarged and with noto- and neuropodia clearly separated (Fig. 18G-I), neuropodial prechaetal lobes slightly longer than postchaetal lobes; in posterior parapodia notopodial prechaetal lobes and neuropodial postchaetal lobes shorter and neuropodial prechaetal lobes slightly more slender (Fig. 18J-K). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial prechaetal lobes or slightly shorter; in biramous parapodia more conical and longer than notopodial prechaetal lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as neuropodial postchaetal lobes; in enlarged biramous parapodia more conical, slightly shorter than neuropodial postchaetal lobes; in posterior parapodia slender, elongated and more digitiform, about as long as neuropodial prechaetal lobes. Notochaetae stout,

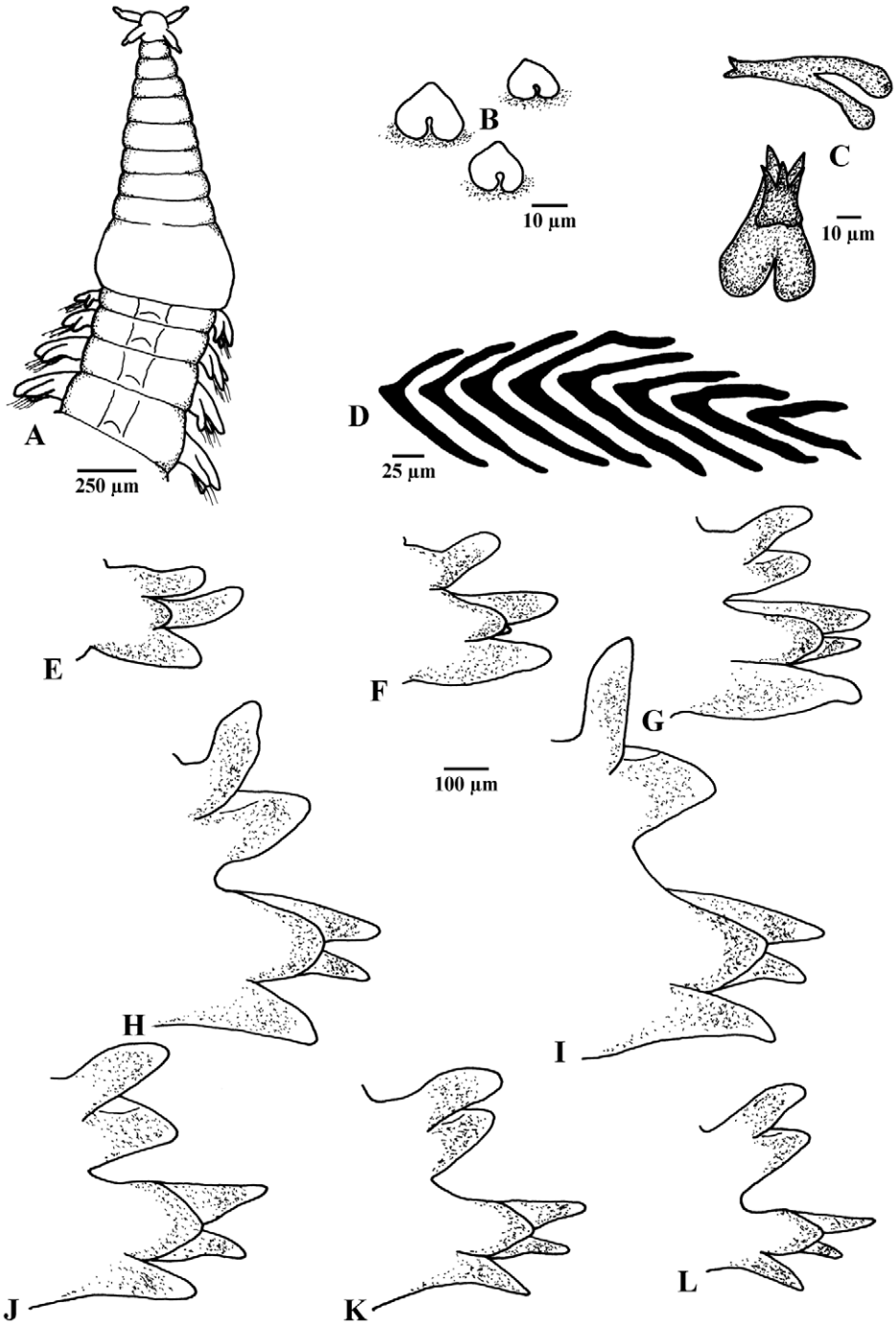



**Fig. 20.** *Goniada crudelis* (KINBERG, 1865). **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**, Chevrons. **E**-**L**, Anterior to posterior parapodia; posterior view, chaetae omitted (MACN In-36821).

hooked at tip and with terminal pointed hood; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – The conical proboscidial papillae of area V with curved and usually bifid tips are an unique character of *Glycinde multidens*.

D i s t r i b u t i o n. – West Atlantic, Gulf of Mexico, Caribbean Sea, east Pacific; intertidal to 80 m.

*Goniada* AUDOUIN & MILNE EDWARDS, 1833
*Goniada crudelis* (KINBERG, 1865)
(Figs 20-21)

*Lacharis crudelis* KINBERG, 1865: 247
*Goniada crudelis*, – BÖGGEMANN 2005: 98-101, Figs 53-54

M a t e r i a l e x a m i n e d. – KNIPOVITSCH: 248, af (MACN-In 37004) - KNIPOVITSCH:1059, af (MACN-In 36818) - KNIPOVITSCH:1066, af (MACN-In 36817) - SANJO-II:5, af (MACN-In 36819) - Off Mar del Plata, stomach content of *Nemadactylus bergi*, COTRINA col.; af (MACN-In 36820) - San José Gulf, El Riacho, ORENSANZ col., xii.2005, intertidal sand flat, mussel bed on sand; af (MACN-36821) - Puerto Madryn, Bahía Kaiser, VARELA col., i.1984, intertidal, af (CENPAT-CPW).

D i a g n o s i s. – Four Y-shaped dorsal and up to five ventral compound micrognaths; 7-15 pairs of chevrons; lower neuropodial prechaetal lobe developed from parapodium 15-32; 23-33 uniramous parapodia.

D e s c r i p t i o n. – Body at least 63 mm long with at least 165 parapodia. Segments uniannulate.

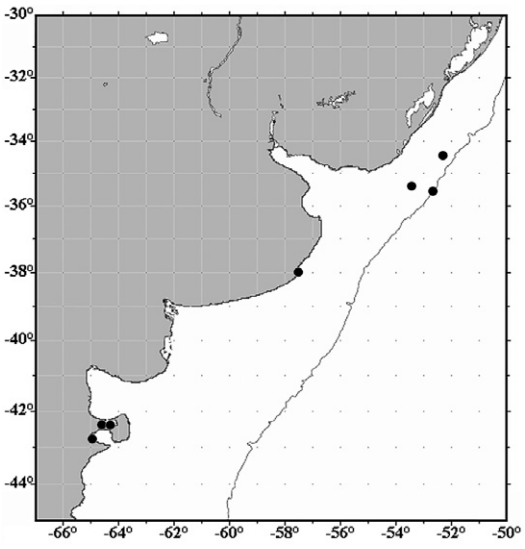



**Fig. 21.** Distribution of *Goniada crudelis* (KINBERG, 1865), in the studied area.

Conical prostomium consisting of 9-10 rings (Fig. 20A); pair of basal subdermal eyes may be present. Proboscis covered with usually short, heart-shaped papillae (Fig. 20B). Macrognaths with 4-7 teeth; dorsal arc with four Y-shaped micrognaths with bifid tips, ventral arc with 3-4 H+v/w-shaped compound micrognaths (Fig. 20C). 7-9 chevrons on each side of proboscis (Fig. 20D). Anterior chaetigers with only one neuropodial pre- and one postchaetal lobe (Fig. 20E); second, lower prechaetal lobe developed from chaetiger 15-32; upper prechaetal lobe digitiform, slightly broader and distinctly longer than rounded to conical lower one; rounded

to triangular postchaetal lobe always distinctly shorter (Fig. 20F); 24-28 uniramous chaetigers, following parapodia biramous with conical to triangular notopodial lobes (Fig. 20G); from 28th to 31st chaetiger parapodia enlarged and with noto- and neuropodia clearly separated (Fig. 20H-J), lower neuropodial prechaetal lobes more conical to digitifom and slightly shorter than upper ones; in posterior parapodia notopodial lobes, lower neuropodial prechaetal lobes and neuropodial postchaetal lobes shorter and upper neuropodial prechaetal lobes slightly more slender (Fig. 20K-L). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial postchaetal lobes or slightly longer; in biramous parapodia more conical and about as long as notopodial lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as neuropodial postchaetal lobes or slightly longer; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes; in posterior parapodia slender, elongated and more digitiform. Notochaetae capillary; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – *Goniada crudelis* and *Goniada virgini* belong to a group of species characterized by having only four simple dorsal micrognaths. However, the ventral micrognaths of *Goniada crudelis* are compound, in contrast to the simple ones of *Goniada virgini*. Furthermore, *Goniada crudelis* is usually provided with a considerably higher number of chevrons (7-15 instead of 4-7) and the lower neuropodial prechaetal lobe developed from parapodium 15-32 and not from parapodium 2-7 as in *Goniada virgini*.

D i s t r i b u t i o n. – West Atlantic, Gulf of Mexico, Caribbean Sea, west Pacific; intertidal to 188 m.

### *Goniada echinulata* GRUBE, 1870
(Figs 22-23)

*Goniada echinulata* GRUBE, 1870: 67
*Goniada echinulata*, – BÖGGEMANN 2005: 69-74, Figs 35-36

M a t e r i a l e x a m i n e d. – Puerto de La Paloma, El Banquito, DEMICHELI col., 31.i.1974, 0.5 m, fine sand; af (MNHNM 1177) - La Paloma, OLIVIER et al. col., x.1970, intertidal, sand bank; 2 cs + af (MACN-In 36822) - San Blas Bay, NE of Isla Jabalí, ORENSANZ col., 20.iv.1970, intertidal; 5 af + pf (MACN-In 36823) - San Antonio Bay, Marea Sur, ORENSANZ & PANETTA col., 8.ii.1971, high intertidal; af + 2 mf (MACN-In 36824) - San Matías Gulf, Las Grutas, ORENSANZ col., 14.i.1973, intertidal, sheltered sandy beach; 2 cs + 4 af (MACN-In 36825).

D i a g n o s i s. – Longer conical proboscidial papillae with distal beaks and basally with two long stilts; 10-20 pairs of chevrons; 29-46 uniramous parapodia.

D e s c r i p t i o n. – Body at least 71 mm long with up to 165 parapodia. Segments uniannulate.

Conical prostomium consisting of 9-10 rings (Fig. 22A); pair of basal subdermal eyes may be present. Proboscis covered with short, heart-shaped and longer conical papillae with distal beak, sometimes with secondary beak on opposite side, and basally with two

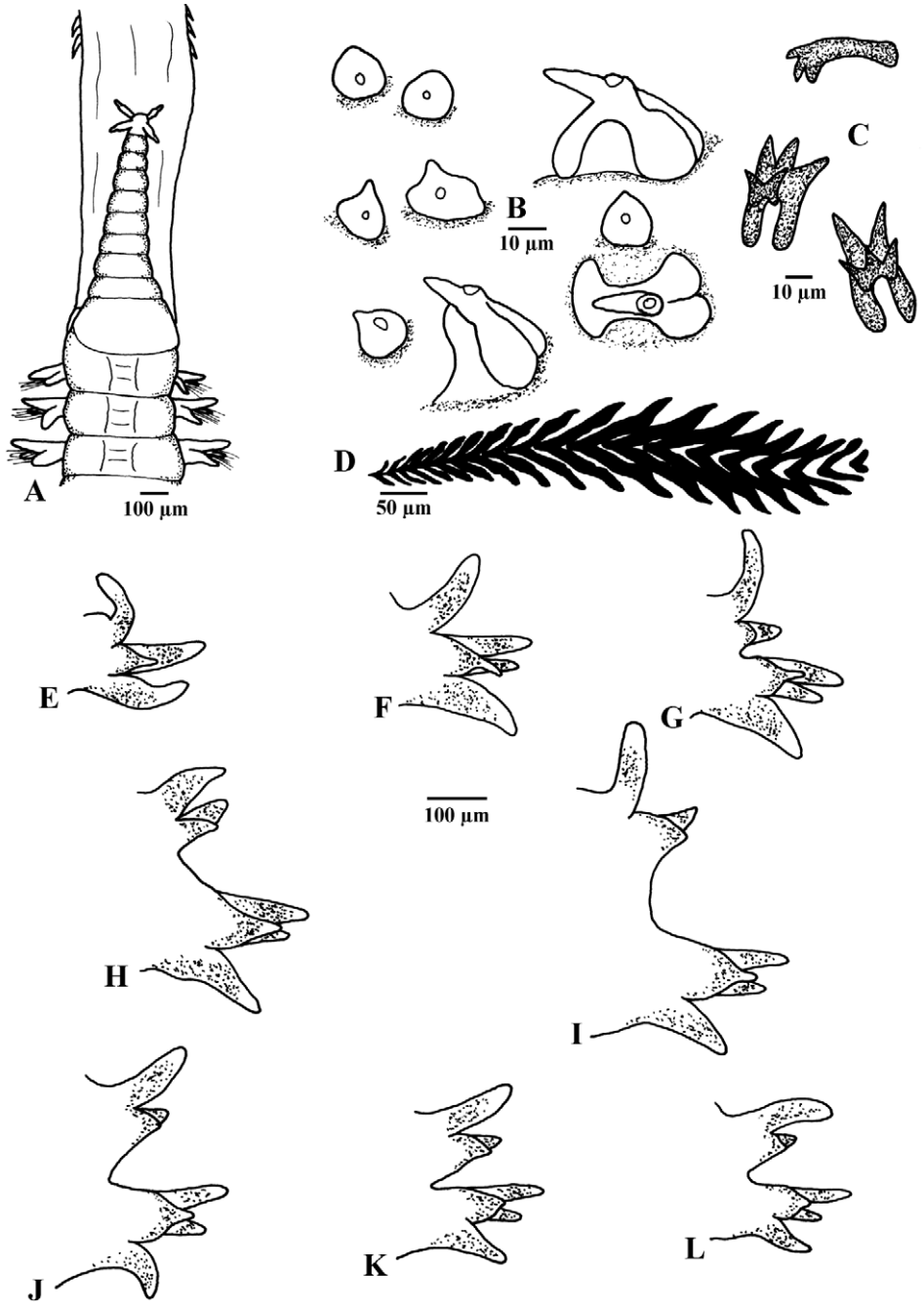



**Fig. 22.** *Goniada echinulata* GRUBE, 1870. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**, Chevrons. **E-L**, Anterior to posterior parapodia; posterior view, chaetae omitted (MACN In-36825).

long stilts (Fig. 22B). Macrognaths with 3-7 teeth; 5-10 H or sometimes W+v/w-shaped dorsal and 2-5 H+v/w-shaped ventral compound microgna ths, dorsal arc additionally always with four slightly larger, simple rod-like microgna ths with bi- to quadrifid tips in outer position and between other ones (Fig. 22C). 16-20 chevrons on each side of proboscis (Fig. 22D). Anterior chaetigers with only one neuropodial pre- and one postchaetal lobe (Fig. 22E); second, lower prechaetal lobe developed from chaetiger 8-11; both prechaetal lobes digitiform, upper one slightly longer and broader than lower one; conical to triangular postchaetal lobe always shorter (Fig. 22F); 35-42 uniramous chaetigers, following parapodia biramous with conical notopodial prechaetal lobes and shorter, rounded to conical postchaetal lobes (Fig. 22G); from 42nd to 52nd chaetiger parapodia enlarged and with noto- and neuropodia clearly separated (Fig. 22H-J), lobes of about same shape as before; in posterior parapodia notopodial lobes, lower neuropodial prechaetal lobes and neuropodial postchaetal lobes shorter and upper neuropodial prechaetal lobes slightly more slender (Fig. 22K-L). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial postchaetal lobes or slightly longer; in anterior biramous parapodia slightly longer than notopodial prechaetal lobes; in enlarged biramous parapodia more conical, about as long as notopodial prechaetal lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as lower neuropodial prechaetal lobes; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes or slightly shorter; in posterior parapodia slender, elongated and more digitiform, longer than neuropodial postchaetal lobes. Notochaetae capillary; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – *Goniada echinulata* can be clearly distinguished from all other species of the genus by the shape of the longer conical proboscidial papillae.

D i s t r i b u t i o n. – West Atlantic, Gulf of Mexico, Caribbean Sea, east Indian Ocean, west and east Pacific; intertidal to 58 m.

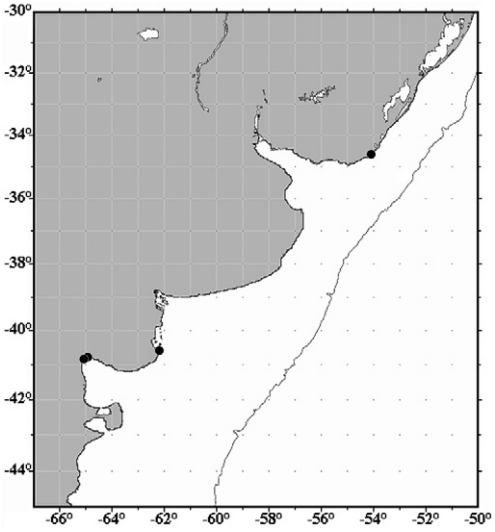



**Fig. 23.** Distribution of *Goniada echinulata* GRUBE, 1870, in the studied area.

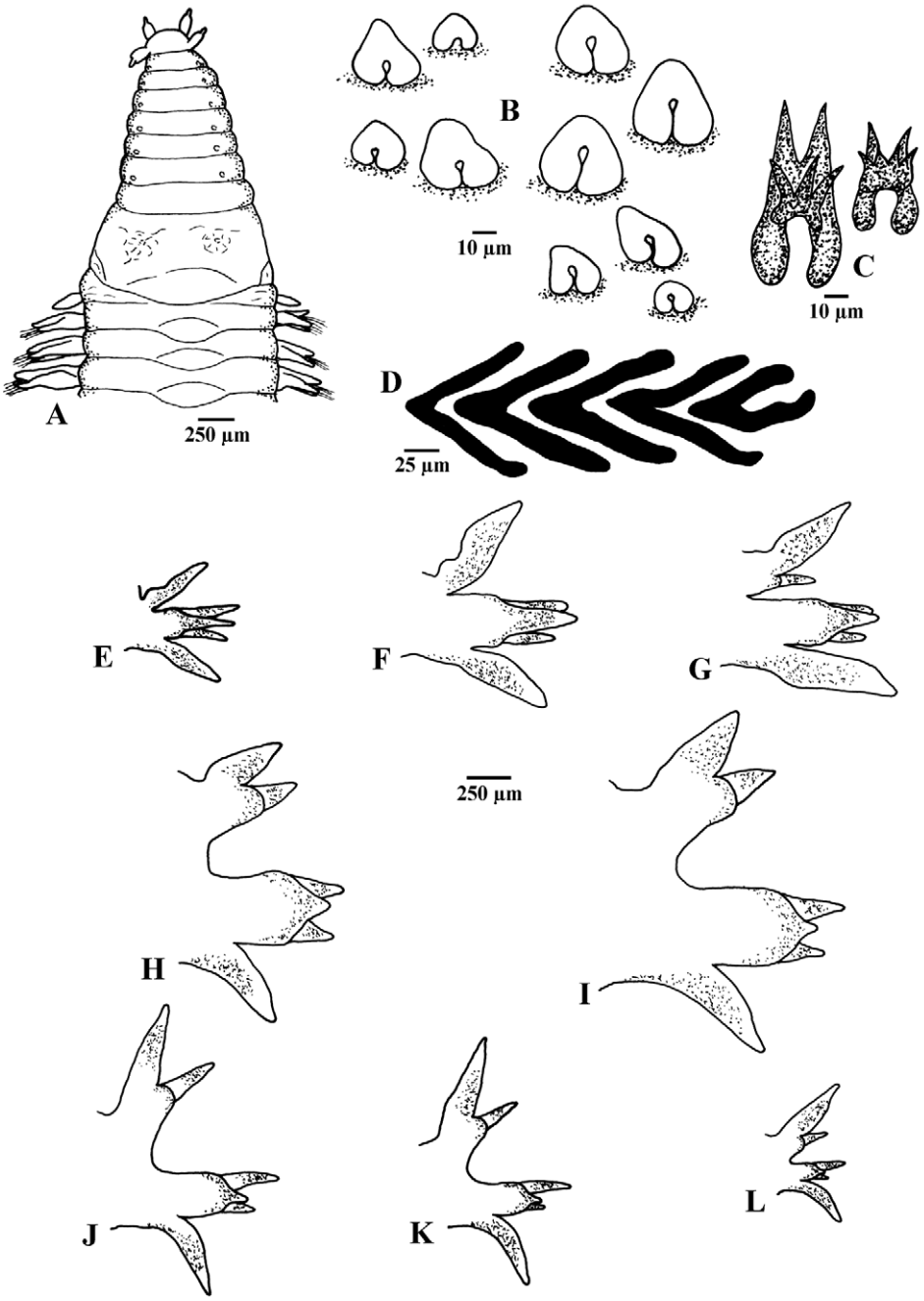



**Fig. 24.** *Goniada gigantea* (VERRILL, 1885). **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**, Chevrons. **E-L**, Anterior to posterior parapodia; posterior view, chaetae omitted (A, E-L: MACN In-36835; B-D: MACN In-36836).

## *Goniada gigantea* (VERRILL, 1885)
(Figs 24-25)

*Ophioglycera gigantea* VERRILL, 1885: 436-438
*Goniada gigantea*, – BÖGGEMANN 2005: 130-134, Figs 69-70
Previously published regional records:
*Goniada* sp., – OLIVIER et al. 1968: section IV
*Ophioglycera eximia*, – NONATO 1966: 66-69, Figs. 1-9; ORENSANZ & GIANUCA 1974: 13; PASTOR DE WARD 2000: 182
? Ophioglyceride, – FAGET 1983: Table 4

M a t e r i a l e x a m i n e d. – AUSTRAL:28, af (MACN-In 36826) - AUSTRAL:28+61, 2mf + 2 pf (CENPAT-CPW) - AUSTRAL:38+76+99+123, 2cs (CENPAT-CPW) - COMP-IV:66, 2 cs (MACN-In 36827) - MEJILLÓN I-St.:15 bis, af (MACN-In 36828) - SANJO-II:2, af (MACN-In 36833) - SANJO-II:3, 3 cs + 2 af + mf (MACN-In 36834) - SANJO-II:6, cs (MACN-In 36835) - SANJO-II:14, 2 cs + 2 af (MACN-In 36836) - SAO-I:48, af (MACN-In 36829) - SAO-I:51, in gravel retained within empty bivalve shells; cs (MACN-In 36830) - SAO-II:110, af (MACN-In 36831) - SAO-III:1041, mf (MACN-In 36832) - FRV Cruz del Sur, 36º15'S 54º42'W, ROA col., 3.ii.1972, drifting *Macrocystis* holdfast, trawled; cs (MACN-In 36837) - Mar del Plata, stomach content of *Cynoscion*; af (MACN-In 36838) - Mar del Plata Harbor, GAGGERO col., iv.1933, intertidal; cs (MACN-In 36839) - Tierra del Fuego, San Sebastián Bay, PASTOR DE WARD col., iii.1985, 2 cs + 5 af + 2 pf (CENPAT-CPW).

D i a g n o s i s. – Numerous dorsal and ventral compound micrognaths; 0-6 pairs of chevrons; ventral proboscidial papillae rounded to heart-shaped; 48-64 uniramous parapodia.

D e s c r i p t i o n. – Body up to 560 mm long with up to 299 parapodia. Segments uniannulate.

Conical prostomium consisting of about nine rings (Fig. 24A); pair of subdistal (between 3rd and 4th ring) and/or basal subdermal eyes may be present; especially in smaller specimens. Proboscis covered with rounded to heart-shaped papillae (Fig. 24B). Macrognaths with 4-5 teeth; 5-28 H+v/w/vv-shaped dorsal and 3-25 H+v/w/vv-shaped ventral compound micrognaths(Fig. 24C), dorsal arc sometimes with four small H- or X-shaped micrognaths in outer position and between other ones. 0-5 chevrons on each side of proboscis (Fig. 24D); larger specimens usually without chevrons. First segment apodous and achaetous, only with a pair of small lateral cirri (Fig. 24A).

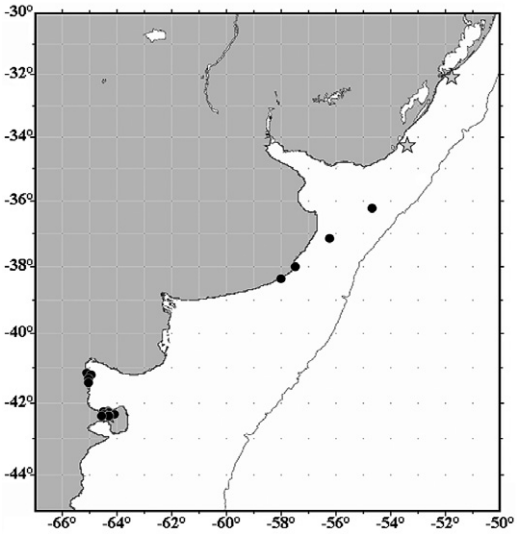



**Fig. 25.** Distribution of *Goniada gigantea* (VERRILL, 1885), in the studied area. Stars indicate records from previous studies.

Anterior chaetigers with only one neuropodial pre- and one postchaetal lobe; second, lower prechaetal lobe developed from chaetiger 2-5 (9-19 in juvenile specimens); both prechaetal lobes digitiform, upper one slightly longer and broader than lower one; conical to triangular postchaetal lobe, at first slightly shorter and then slightly or distinctly longer than prechaetal lobes (Fig. 24E-F); 56-64 uniramous chaetigers, following parapodia biramous with digitiform to conical notopodial prechaetal lobes and shorter, rounded postchaetal lobes (Fig. 24G); from 55th to 85th chaetiger parapodia enlarged and with noto- and neuropodia clearly separated (Fig. 24H-J), notopodial prechaetal lobes more conical to triangular, neuropodial postchaetal lobes slightly or distinctly shorter than prechaetal lobes; in posterior parapodia notopodial prechaetal lobes, lower neuropodial prechaetal lobes and neuropodial postchaetal lobes shorter and upper neuropodial prechaetal lobes slightly more slender (Fig. 24K-L). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial postchaetal lobes and in some large specimens even longer; in anterior biramous parapodia slightly longer than notopodial prechaetal lobes; in enlarged biramous parapodia more conical and about as long as notopodial prechaetal lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as neuropodial postchaetal lobes and in some large specimens even longer; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes or shorter; in posterior parapodia slender, elongated and more digitiform, about as long as upper neuropodial prechaetal lobes. Notochaetae capillary; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – *Goniada gigantea* seems to be the only species of *Goniada* in which larger specimens lose their few chevrons during the growth. Therefore, this species was originally described by VERRILL (1885) as *Ophioglycera gigantea*.

D i s t r i b u t i o n. – West and east Atlantic, Mediterranean Sea, northeast Pacific; intertidal to 634 m.

*Goniada virgini* KINBERG, 1865
(Figs 26-27)

*Goniada Virgini* KINBERG, 1865: 247
*Goniada virgini*, – BÖGGEMANN 2005: 93-96, Figs 49-50
Previously published regional records:
*Goniada maculata*, – PASTOR DE WARD 2000: 181

M a t e r i a l e x a m i n e d. – AUSTRAL:76, 6 af (CENPAT-CPW) - AUSTRAL:38+76+99+123, 32 cs + 28 af + 3 mf + 2 pf (CENPAT-CPW) - HOLMBERG-09:L31-R, af (MACN-In 36840) - KNIPOVITSCH:1058, af (MACN-In 36841) - KNIPOVITSCH: 1059, cs (MACN-In 36842) - KNIPOVITSCH:1066, af (MACN-In 36843) - KNIPOVITSCH:1074, af + mf (MACN-In 36844) - Puerto Madryn, Bahía Kaiser, VARELA col., i.1984, intertidal, af (MACN-In 36845).

D i a g n o s i s. – Two Y-shaped and two rod-like dorsal and up to five ventral simple micrognaths; 4-7 pairs of chevrons; lower neuropodial prechaetal lobe developed from parapodium 2-7; 29-43 uniramous parapodia.

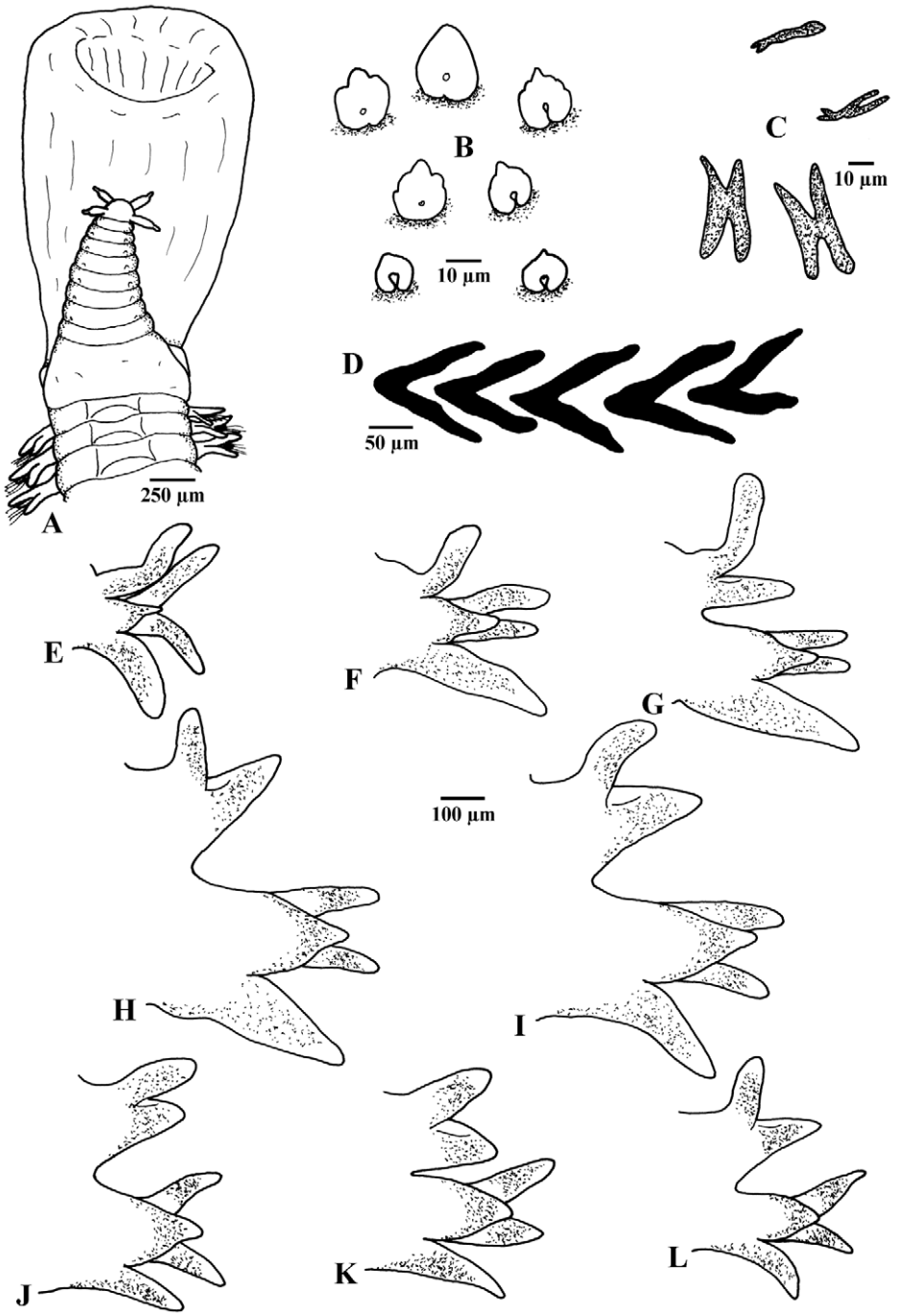
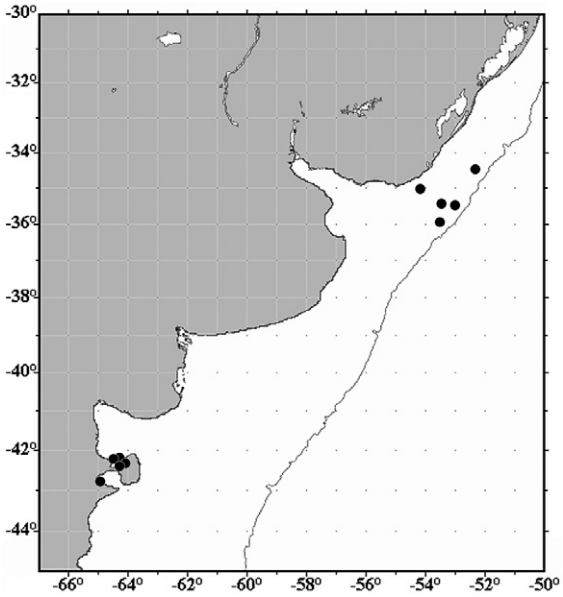



**Fig. 26.** *Goniada virgini* KINBERG, 1865. **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**, Chevrons. **E**-**L**, Anterior to posterior parapodia; posterior view, chaetae omitted (A-B, D-L: MACN In-36844; C: MACN In-36841).

D e s c r i p t i o n. – Body at least 64 mm long with at least 203 parapodia. Segments uniannulate.

Conical prostomium consisting of about ten rings (Fig. 26A); eyes absent. Proboscis covered with usually short, heart-shaped papillae, which have often up to four more or less distinct tiny teeth on each side of larger median tip (Fig. 26B). Macrognaths with 4-6 teeth; dorsal arc with four simple micrognaths, superior pair rod-like and inferior pair inverted Y-shaped both with bifid tips, ventral arc with 0-3 H-shaped simple micrognaths (Fig. 26C). 4-7 chevrons on each side of proboscis (Fig. 26D). Anterior chaetigers with only one neuropodial pre- and one postchaetal lobe; second, lower prechaetal lobe developed from chaetiger 2-7; both prechaetal lobes digitiform and of about same length, upper one slightly broader than lower one; conical to triangular postchaetal lobe always distinctly shorter (Fig. 26E-F); 40-43 uniramous chaetigers, following parapodia biramous with conical to triangular notopodial lobes (Fig. 26G); from 40th to 48th chaetiger parapodia enlarged and with noto- and neuropodia clearly separated (Fig. 26H-J); in posterior parapodia notopodial lobes, lower neuropodial prechaetal lobes and neuropodial postchaetal lobes shorter and upper neuropodial prechaetal lobes slightly more slender (Fig. 26K-L). Dorsal cirri on anterior chaetigers digitiform, about as long as neuropodial postchaetal lobes or slightly longer; in biramous parapodia more conical and about as long as notopodial lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, longer than neuropodial postchaetal lobes; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes or slightly shorter; in posterior parapodia slender, elongated and more digitiform. Notochaetae capillary; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – See *Goniada crudelis*.




D i s t r i b u t i o n. – Northwest Atlantic, Gulf of Mexico, southwest Atlantic; intertidal to 200 m.

**Fig. 27.** Distribution of *Goniada virgini* KINBERG, 1865, in the studied area.

*Goniada vorax* (KINBERG, 1865)
(Figs 28-29)

*Leonnatus vorax* KINBERG, 1865: 247
*Goniada crudelis*, – BÖGGEMANN 2005: 126-130, Figs 67-68

M a t e r i a l e x a m i n e d. – KNIPOVITSCH: 248, af (MACN-In 36846) - KNIPOVITSCH:250, cs (MACN-In 36847).

D i a g n o s i s. – Numerous dorsal and ventral compound micrognaths; 9-36 pairs of chevrons; ventral proboscidial papillae in median part conical to globular with bifid tips; 45-69 uniramous parapodia.

D e s c r i p t i o n. – Body up to 34 mm long with up to 143 parapodia. Segments uniannulate.

Conical prostomium consisting of about nine rings (Fig. 28A); pair of subdistal (between 3rd and 4th ring) and/or basal subdermal eyes may be present; especially in smaller specimens. Proboscis covered with rounded to heart-shaped papillae, ventral papillae in median part conical to globular with bifid tips (Fig. 28B). Macrognaths with four teeth; five H+v/w-shaped dorsal and four H+w-shaped ventral compound micrognaths(Fig. 28C), dorsal arc with four small H- or X-shaped micrognaths in outer position and between other ones. 13-15 chevrons on each side of proboscis (Fig. 28D). First segment apodous and achaetous, only with a pair of small lateral cirri (Fig. 28A). Anterior chaetigers with only one neuropodial pre- and one postchaetal lobe; second, lower prechaetal lobe developed from chaetiger 2-5; both prechaetal lobes digitiform, upper one longer and slightly broader than lower one; conical to triangular postchaetal lobe, at first shorter and then slightly longer than upper prechaetal lobes (Fig. 28E-F); 57 uniramous chaetigers, following parapodia biramous with conical notopodial prechaetal lobes and shorter, rounded postchaetal lobes, neuropodial postchaetal lobes more conical to triangular and slightly or distinctly shorter than lower prechaetal lobes (Fig. 28G); from 62nd chaetiger parapodia enlarged and with noto- and neuropodia clearly separated (Fig. 28H-J); in posterior parapodia notopodial prechaetal lobes, lower neuropodial prechaetal lobes and neuropodial postchaetal lobes shorter and upper neuropodial prechaetal lobes slightly more slender (Fig. 28K-L). Dorsal cirri on anterior chaetigers digitiform, usually shorter than neuropodial lobes; in biramous parapodia more conical and about as long as notopodial prechaetal lobes; in posterior parapodia slender, elongated and more digitiform. Ventral cirri in anterior parapodia digitiform, about as long as neuropodial postchaetal lobes; in enlarged biramous parapodia more conical, about as long as neuropodial postchaetal lobes or slightly shorter; in posterior parapodia slender, elongated and more digitiform, about as long as upper neuropodial prechaetal lobes. Notochaetae capillary; neurochaetae compound spinigers with blades of different lengths.

R e m a r k s / D i s c u s s i o n. – *Goniada vorax* and *Goniada gigantea* are the only species in the studied region with numerous dorsal and ventral compound micrognaths and notopodia with simple capillary chaetae. In contrast to *Goniada gigantea*, some of

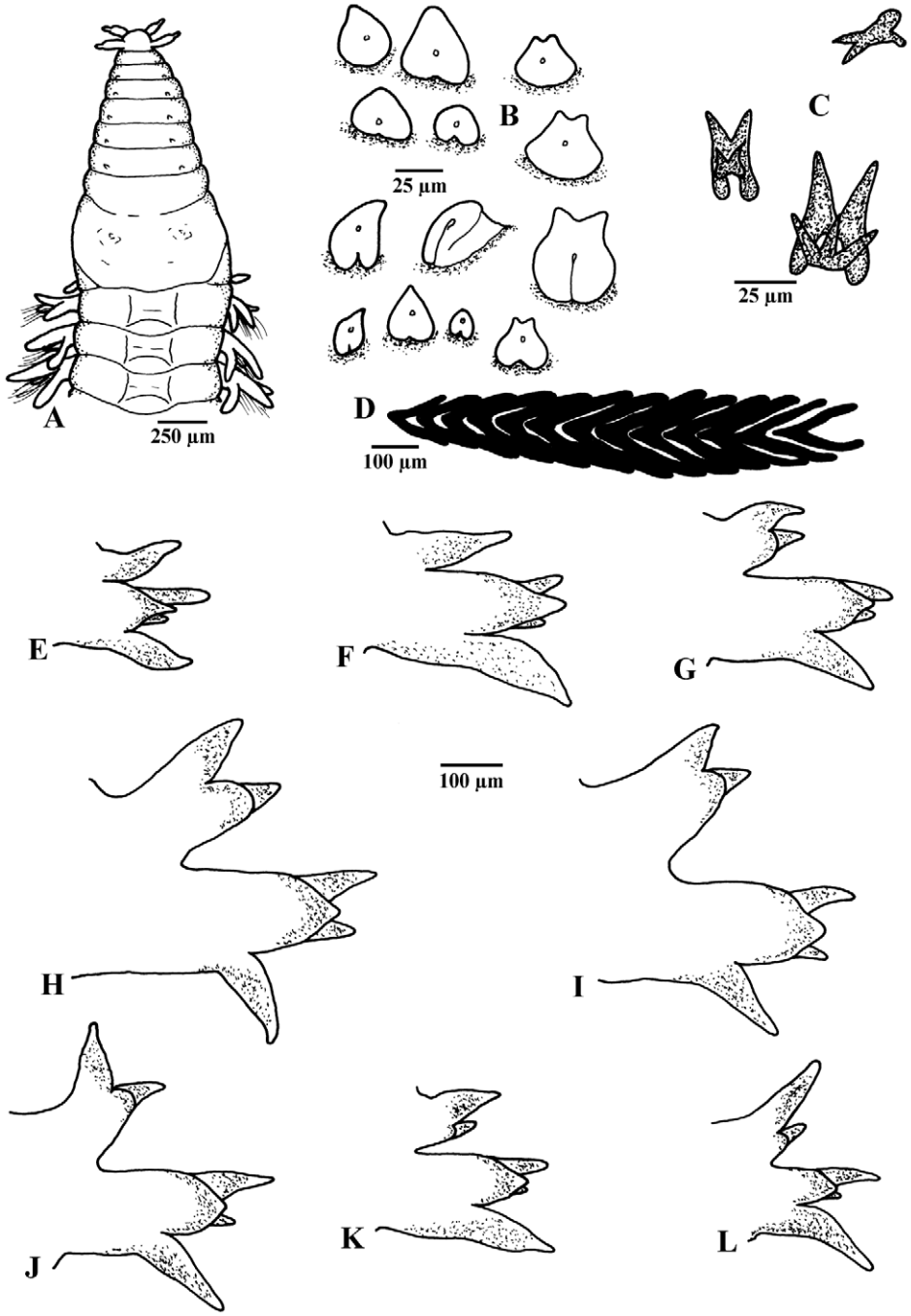
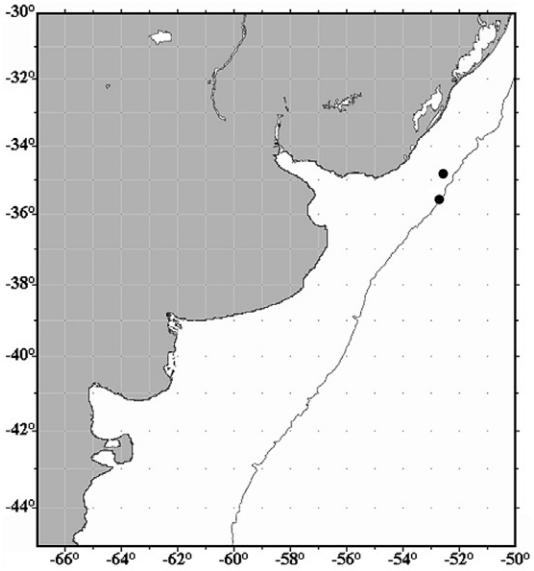



**Fig. 28.** *Goniada vorax* (KINBERG, 1865). **A**, Anterior end. **B**, Proboscidial papillae. **C**, Micrognaths. **D**: Chevrons. **E-L**: Anterior to posterior parapodia; posterior view, chaetae omitted (A-B, D: MACN In-36846; C, E-L: MACN In-36847).




the ventral proboscidial papillae of *Goniada vorax* are conical to globular with bifid tips and even larger specimens are provided with numerous pairs of chevrons.

D i s t r i b u t i o n. – West Atlantic, Caribbean Sea, northeast Atlantic, Mediterranean Sea, Indian Ocean, northwest and southwest Pacific; 7.32 to 512 m.

**Fig. 29.** Distribution of *Goniada vorax* (KINBERG, 1865), in the studied area.

## Summary

Our study of the glyceriform polychaetes from the transitional zone between the warm and cold temperate regions of the Southwest Atlantic (30º S to 45º S) documented or confirmed the presence of 16 species, including eight glycerids and eight goniadids. One of the species found by us (*Glycinde henningi* sp. nov.) was unknown to science. Seven species are new records for the region: *Glycera boeggemanni*, *G. oxycephala*, *Hemipodia pustatula*, *Goniada crudelis*, *G. echinulata*, *G. virgini* and *G. vorax*. Seven species had been previously recorded: *Glycera americana*, *G. capitata*, *G. lapidum*, *Hemipodia californiensis* (as *Hemipodus olivieri*), *Glycinde armata*, *G. multidens* and *Goniada gigantea* (as *Ophioglycera eximia*). *Hemipodia simplex* was recorded by BÖGGEMANN (2002) from "Patagonia, Argentina", which could correspond to our region of interest or to the Patagonian coast south of 45ºS. *Goniada maculata* Örsted, 1843 had been recorded for the region by NONATO (1973), PASTOR DE WARD (2000) and CAPÍTOLI (2002), and *G. brunnea* by CAPÍTOLI (2002). Individuals of *G. maculata* sensu PASTOR DE WARD (2000) were re-examined and correspond to *G. virgini*. Some records of *Goniada maculata* and *G. brunnea* by previous authors (NONATO 1973, CAPÍTOLI 2002) could not be validated, and may correspond to one or more of the five species of *Goniada* with capillary notochaeta identified by us; neither *G. maculata* nor *G. brunnea* are known to occur in the tropical or temperate waters of the southwest Atlantic (BÖGGEMANN 2005). FAGET (1983) listed an unidentified species of *Goniadides* HARTMANN-SCHRÖDER, 1960 for the Uruguayan Shelf. One species of the genus, *G. carolinae* DAY, 1973 (= *G. uncata* NONATO, 1981, unpublished Ph. D. thesis, nomen nudum) has been reported for southeast Brazil (BÖGGEMANN 2005); it is plausible that the Uruguayan record, if confimed, could correspond to the same species.

Out of the 16 species studied by us, ten are distributed in warm-temperate or tropical/warm-temperate waters (*Glycera boeggemanni*, *G. oxycephala*, *Hemipodia californiensis*, *H. pustatula*, *Glycinde henningi*, *G. multidens*, *Goniada crudelis*, *G. echinulata*, *G. virgini* and *G. vorax*), and four in both cold and warm temperate regions (*Glycera americana*, *G. lapidum*, *Hemipodia simplex* and *Goniada gigantea*). Only two species are primarily restricted to cold or cold temperate seas: *Glycera capitata*, widely distributed, and *Glycinde armata*, endemic of the Magellanic Biogeographic Province.

Focusing on the West Atlantic, twelve of the species are present in the northwestern and southwestern sectors with a distributional gap at low latitudes, within the tropical zone. Such patterns, well documented in classical marine biogeography, are usually referred to as "antitropical" or "bipolar" (HUBBS 1952, LINDBERG 1991). Because the tropical barrier between north and south temperate zones was established very early in the history of the World ocean, explanations of antitropical patterns tend to emphasize dispersal over vicariance (LINDBERG 1991). This is implicit in accounts of "biotic interchanges". Major north-south marine biotic interchanges have been well documented for the Indopacific, the East Pacific and the East Atlantic (VERMEIJ 1991, LINDBERG 1991), but not for the West Atlantic. One likely reason is that compilations of geographic ranges of West Atlantic organisms have often mentioned the northern and southern ends of distribution ranges, as is best illustrated in the case of mollusks (e.g. ABBOTT & DANCE 1982). Over recent years, however, a growing yet fragmentary body of information has documented important aspects of discontinuous north-south geographic ranges in the West Atlantic. First, it is now well established that many invertebrate species (or pairs of closely related species) have a disjoint north-south distribution, as perhaps best exemplified by blue mussels (*Mytilus* spp.; HILBISH et al. 2000) and blue crab (*Callinectes* spp.; WILLIAMS 1974, DOS SANTOS & D'INCAO 2004). Because these are conspicuous and commercially significant species, the patterns are unlikely to reflect "sampling bias", in spite of the fact that the biota from northeastern Brazil and the Guyanas Shelf is still poorly documented. The gap is even present in species whose ranges are centered at comparatively low latitudes, as best illustrated by JOYEUX et al. (2001) for reef fishes. Discontinuous patterns in the West Atlantic range from strictly bipolar to subtropical, implying different historical events and dispersal mechanisms. While low latitude disjoint stocks show little divergence and may be interconnected by Recent dispersal (e.g. some of the fishes studied by JOYEUX et al. 2001), HILBISH et al. (2000) concluded, based on the analysis mtDNA lineages, that transequatorial dispersal of blue mussels probably occurred in the West Atlantic during Pleistocene cold periods, when the intertropical zone narrowed. Strictly bipolar patterns may have an even older origin. In the case of the families studied by us, and considering only coastal to slope records, the spread of the gap is widest for *Glycera capitata* (gap from New England to the Uruguayan Shelf) and narrowest for the warm-temperate *Glycera americana* (gap from Gulf of Mexico to northeast Brazil). Based on these preliminary results we hypothesize that a large number of invertebrates from the region studied by us (polychaetes included) will show an antitropical pattern of distribution, reflecting pulses of dispersal events across the tropical zone.

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