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Research Article

Planktonic ostracods off the north-central coast of Chile

Armando Mujica[1], María Luisa Nava[1] & Francisco Leiva Dietz[2]
[1]Departamento de Acuicultura, Universidad Católica del Norte, Coquimbo, Chile
[2]Instituto de Fomento Pesquero (IFOP), Valparaíso, Chile
Corresponding author: Armando Mujica (amujica@ucn.cl)

ABSTRACT. In the north-central zone of Chile (25°00'-31°40'S), zooplankton samples were taken in 103 oceanographic stations during February-March 2017 (0-70 m). Ostracods were separated, identified, and counted, making it possible to determine their distribution, abundance, species richness, and diversity. Twenty-one species belonging to 12 genera of the Halocyprididae family were identified, three of which had not been previously reported for the southeastern Pacific (*Conchoecetta acuminata*, *Mikroconchoecia stigmatica*, and *Orthoconchoecia atlantica*). The highest abundances, species richness, and diversity were found mainly in stations away from the coast (10 and 20 nm), sampled in hours of darkness. The most abundant species with the highest frequency of occurrence were *Archiconchoecia striata*, *Conchoecetta giesbrechti*, *Conchoecia magna*, and *Halocypris inflata*. *A. striata* constituted more than 50% of the total abundance of the ostracods identified.

Keywords: Halocyprididae; ostracods; abundance; diversity; distribution; southeastern Pacific

INTRODUCTION

Ostracods in plankton are abundant and frequently rank second after copepods in the zooplankton (Angel et al. 2008, Purushothaman 2015, Nigro et al. 2016). They belong to the subclass Myodocopa, and most of them belong to the order Halocyprida and a few to the order Myodocopida (Angel 1981, 1999, Angel et al. 2008, Purushothaman 2015, Brandão & Karanovic 2021). Despite their abundance, their contribution to plankton biomass is low due to their small size, often between 0.8 and 4 mm, although specimens that reach 32 mm (order Myodocopida, genus *Gigantocypris*) can be found (Angel 1999, Angel et al. 2008, Brandão & Karanovic 2021).

According to the database of Brandão & Karanovic (2021), 688 planktonic and benthic species of ostracods (order Halocyprida) are known. There are more than 200 described species of marine planktonic ostracods (Nigro et al. 2016). Although they can carry out extensive vertical migrations, they are most abundant between 200 and 300 m deep in intermediate latitudes, where the greatest species richness is also found (Mesquita-Joanes & Baltanás 2015).

Ostracods in the mesoplankton and mainly under the thermocline play an important role in the organic carbon cycle (Nigro et al. 2016). As active vertical migrators, their bathymetric distribution is diverse (Purushothaman 2015). They can be found from the surface to abyssal depths (Angel et al. 2008). Most epi- and mesopelagic species tend to be cosmopolitan (Mesquita-Joanes & Baltanás 2015). They are sensitive to variations in temperature and salinity (Nigro et al. 2016). Their geographical distribution is influenced by the advective transport generated by ocean currents, whose oceanographic characteristics determine their existence, development, size, and growth.

Halocyprids are detritivores and feed mainly on particulate organic matter (Nigro et al. 2016). They have often been defined as opportunistic, and although they do not have structures adapted to filtration (Angel 1981), phytoplankton has been detected in their digestive tract (Angel & Blachowiak-Samolyk 2014). They are mainly prey to planktivorous fish, pelagic decapods, heteropod mollusks, and siphonophores (Mesquita-Joanes & Baltanás 2015).

These arguments are perhaps the main reasons because the planktonic ostracods are poorly studied in

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the extensive Chilean coast, where numerous studies have reported planktonic ostracods without the species being identified. The complex species identification, frequently based on subtle morphological differences, has generated systematic uncertainties at the genus level, with morphologically very similar species mainly distinguished by size. Morphologically similar species differ only in carapace size and geographic or bathymetric distribution (Nigro et al. 2016), suggesting the existence of geographic races or subspecies (Angel 1981).

Martens (1979, 1981) reported the presence of species between 30 and 41°S and the association of some of them with distinct water bodies. Mujica (1979) analyzed the monthly variation of the ostracods species in the Valparaíso area (33°05'S). McKenzie et al. (1997) described the species present in the Strait of Magellan and the adjacent regions. Finally, Angel et al. (2008), in the Atlas of planktonic Atlantic ostracods, include species distributed in the southeastern Pacific.

The north-central coast of Chile (18- ~40°S) is influenced by the Humboldt Current System, which runs north and extends to the equator (Montecino et al. 2006) and is considered one of the most productive pelagic ecosystems in the world (Thiel et al. 2007, Gibbons et al. 2021). Its oceanography is complex, characterized mainly by cold waters, with periodic upwelling events that bring deep waters rich in nutrients to superficial layers. It is affected by the El Niño event, which generates considerable oceanographic variations (Thiel et al. 2007).

The present work provides specific information on Myodocopa ostracods to contribute to the knowledge of this important and scarcely studied zooplankton group, being the first one that details its distribution, abundance, species richness, and diversity in the extensive coastal epipelagic zone of north-central Chile.

MATERIALS AND METHODS

The zooplanktonic samples were obtained in 103 oceanographic stations, distributed in the perpendicular transects to the coast in north-central Chile (1, 5, 10 and 20 nm), between Paposo (25º00'S) and Oscuro Port (31º40'S), with the R/V Abate Molina between February 12th and March 2nd, 2017 (Leiva et al. 2017). In addition, a sample was obtained 1 nm off the coast between each transect (Fig. 1).

The samples were obtained using Bongo nets of 59 cm in diameter, 300 µm mesh opening, and equipped with flowmeters hoisted vertically from 70 m depth to the surface or 10 m above the bottom when the depth of the place was less. Most of the samples (75.7%) were collected out during darkness.

Ostracods were separated, species identified and counted (ind 100 m^{-3} of filtered seawater). Each species' numerical dominance was determined by the percentage relationship between the abundance of each species and the total ostracods collected in each station. Their frequency of occurrence was determined by the percentage relationship between the number of stations where each species was found and the total number of stations. The species diversity was determined by applying the Shannon index (H'):

$$H' = -\sum_{i=1}^{s}\left[\left(\frac{n_i}{N}\right) * ln\frac{n_i}{N}\right]$$

where n_i: number of individuals of the i^{th} species in the sample, N: total number of individuals in the sample, and s: total number of species.

RESULTS

Ostracods collected in 98% of the stations were very frequent, absent only at stations 50 and 85 (Table 1). Twenty one species belonging to 12 genera of the Halocyprididae family were identified (Table 2).

The highest abundances (256 to 548 ind 100 m^{-3}) were found mainly in stations located 1 nm off the coast in the northern half of the study area of central Chile, mainly during the night (Table 1, Fig. 2). The greatest species richness (8-9 species) were found mainly in stations away from the coast (10 and 20 nm), throughout the study area, except for the stations located north of the Carrizal Bajo Port (1 and 5 nm), which coincides with the highest diversity values (Table 1).

Archiconchoecia striata Müller, 1894 was the most abundant species (Table 1), constituting more than 50% of the identified ostracods and were also the species with the widest distribution (89.3% frequency of occurrence), prevailing in coastal stations (1 nm off the coast). Its highest abundances (>200 ind 100 m^{-3}) were found mainly in stations located in the northern half of the study area, with its numerical dominance decreasing from the coast to the west (Fig. 3a).

The other species with dominance >5% were *Conchoecetta giesbrechti* (Müller, 1906), *Conchoecia magna* Claus, 1874, *Metaconchoecia rotundata* (Müller, 1890), *Orthoconchecia striola* (Müller, 1906), and *Halocypris inflata* Dana, 1849, which were present in more than 50% of the stations, except *O. striola* (Table 2).

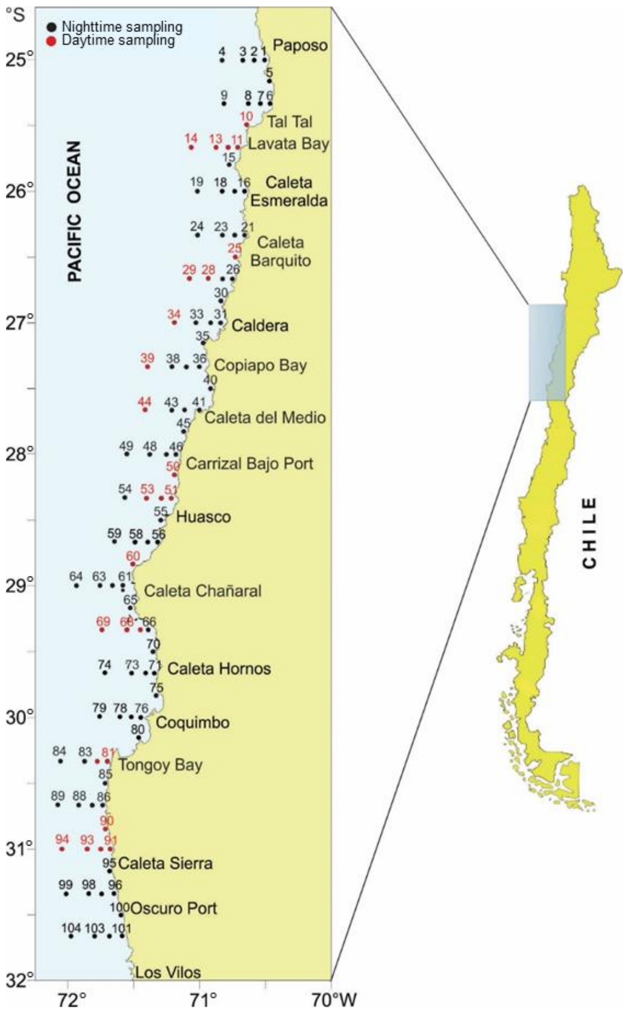

Figure 1. Oceanographic stations sampling during February-March, 2017.

The highest concentrations of *C. giesbrechti* were found in coastal stations (Table 2), with maximums (137 to 169 ind 100 m^{-3}) in three consecutive stations located 1 nm off the coast between Caleta del Medio and Carrizal Bajo Port (Fig. 3b). The frequency of occurrence of this species longitudinally was similar in the study area.

C. magna was found in 59.2% of the stations. Its abundance and frequency of occurrence increased from the coast to the west, present in 90.5% of the stations located 20 nm off the coast (Table 2). The highest abundance (71 ind 100 m^{-3}) was found in a station north of Tal Tal, 20 nm off the coast (Fig. 3c).

H. inflata was found in 69.9% of the stations. With the highest frequency of occurrence in stations at 10 and 20 nm off the coast (81 and 90.5%, respectively). The lowest total abundances were found in the stations located 5 nm off the coast and in the remaining distances from the coast, with similar abundance (Table 2). The highest abundances (53, 72, and 57 ind 100 m^{-3}) were found in stations located 10 nm off the coast (stations 23, 28, and 53, respectively) (Fig. 3d).

M. rotundata was found in half of the sampled stations (51.5%), and although they predominated in stations located 1 nm off the coast, its highest frequencies of occurrence were found in stations located 5 and 10 nm off the coast (Table 1). Its total abundance was 840 ind 100 m^{-3}, and its maximums (52, 51, and 73 ind 100 m^{-3}) were found at stations 52, 100, and 103, located 5, 1, and 10 nm off the coast, respectively (Fig. 4a).

O. striola was present in 43.7% of the stations; its frequency of occurrence progressively increased as it moved away from the coast. Its total abundance was 883 ind 100 m^{-3} (Table 2). The maximum abundance (167 ind 100 m^{-3}) was recorded at 1 nm, south of Copiapó Bay, representing almost 20% of the species' total number of specimens (Fig. 4b).

Of the remaining species, only *Orthoconchoecia haddoni* (Brady & Norman, 1896) had numerical dominance greater than 1%. It was found in 24.3% of the stations, and its distribution was preferably away from the coast (Table 2). Its maximum abundances (36, 38, and 50 ind 100 m^{-3}) were found in stations 14, 24, and 97. The first two are located 20 nm in the northern part of the study area, and the third in the extreme south, 5 nm off the coast (Fig. 4c). Only in one station located 1 nm off the coast were specimens of this species captured and in minimal concentrations (station 76).

Conchoecetta acuminata Claus, 1890, *Conchoecilla daphnoides* Claus, 1890, *Discoconchoecia discophora* Müller, 1906, *Mikroconchoecia stigmatica* Müller, 1906, *Orthoconchoecia atlantica* (Lubbock, 1856), *Paraconchoecia allotherium* (Müller, 1906), *Paraconchoecia spinifera* Claus, 1890, *Porroecia porrecta* (Claus, 1890), and *Proceroecia procera* (Müller, 1894), with total numerical dominance <1% (Table 1). Of these, only *D. discophora* and *P. porrecta* were captured in more than 10% of the stations, preferably 20 and 10 nm off the coast, respectively (Table 2, Fig. 4c).

Parvidentoecia parvidentata (Müller, 1906), *Mikroconchoecia curta* (Lubbock, 1860), *Paraconchoecia echinata* (Müller, 1906), *Porroecia spinirostris* (Claus, 1874), and *Proceroecia decipiens* (Müller, 1906); found only in one station and in minimal concentrations in stations 98, 25, 63, 52, and 9, respectively (Fig. 4d).

The highest values of species richness (8 and 9 species) were recorded in stations located 10 and 20 nm off the coast, except for stations 46 and 47, located 1 and 5 nm off the coast, north of Carrizal Bajo Port (Fig. 1). In general, the highest species richness values did

Table 1. Abundance, species richness, and diversity (Shannon *H'*) per sampling station and coastal distance (nm) of ostracods. Higher values of abundance (≥250), richness (8-9), and diversity (≥1.70) are in bold (daytime stations in red numbers).

Stations				Abundance (ind 100 m^{-3})				Richness (N° Sp.)				Diversity			
				20 nm	10 nm	5 nm	1 nm	20 nm	10 nm	5 nm	1 nm	20 nm	10 nm	5 nm	1 nm
4	3	2	1	114	**539**	237	33	5	7	7	1	1.36	0.83	1.49	0.00
			5				70				3				0.58
9	8	7	6	**403**	154	69	85	**8**	3	4	3	0.99	0.68	1.06	0.87
			10				232				4				0.48
14	13	12	11	162	43	171	104	**8**	3	1	3	**1.92**	0.61	0.00	0.66
			15				115				4				1.08
19	18	17	16	**343**	160	55	116	6	5	3	6	0.65	1.17	1.08	1.42
24	23	22	21	227	99	103	12	7	5	4	1	1.66	1.16	1.09	0.00
			25				182				5				0.89
29	28	27	26	72	177	188	163	4	4	6	4	1.02	1.31	1.33	0.82
			30				**404**				7				0.93
34	33	32	31	137	109	157	83	5	7	7	3	1.49	**1.79**	1.51	0.95
			35				21				4				1.33
39	38	37	36	**256**	73	46	230	**8**	6	2	7	**1.81**	1.64	0.34	1.25
			40				**303**				5				1.18
44	43	42	41	142	60	106	**525**	6	7	6	7	1.54	**1.76**	1.46	1.34
			45				**548**				7				1.29
49	48	47	46	7	4	114	**311**	2	1	**8**	**8**	0.69	0.00	**1.82**	1.38
			50				0								
54	53	52	51	33	152	233	**275**	3	6	7	5	1.01	1.55	1.45	0.52
			55				181				4				0.56
59	58	57	56	110	69	151	20	7	6	5	1	**1.74**	1.55	0.92	0.00
			60				162				3				0.63
64	63	62	61	65	128	129	5	4	**9**	7	1	0.93	**1.92**	1.61	0.00
			65				33				1				0.00
69	68	67	66	135	246	14	18	3	4	1	2	0.59	0.52	0.00	0.69
			70				169				4				0.72
74	73	72	71	142	233	20	106	6	**8**	3	5	1.51	1.36	0.84	1.18
			75				75				5				1.51
79	78	77	76	68	168	57	9	4	5	3	2	0.90	0.97	1.01	0.69
			80				25				2				0.67
84	83	82	81	49	4	219	138	6	1	3	2	**1.70**	0.00	0.22	0.18
			85				0								
89	88	87	86	99	133	47	19	4	5	5	2	0.71	1.39	1.52	0.69
			90				49				2				0.67
94	93	92	91	87	70	103	73	2	2	2	2	0.31	0.65	0.16	0.47
			95				48				3				0.87
99	98	97	96	102	110	219	49	6	**8**	7	6	1.57	**1.83**	1.67	1.38
			100				131				6				1.35
104	103	102	101	157	220	56	101	**9**	**8**	5	4	**1.98**	**1.77**	1.39	0.96

not coincide with the highest total abundances of ostracods (Table 1).

The highest diversity values (>1.7) were also found in stations away from the coast (5, 10, and 20 nm), which in general coincided with the highest species richness values (Table 1). The maximum values (1.92, 1.92, and 1.98) were found at stations 14, 63, and 104, located 20, 10, and 20 nm off Lavata Bay, Caleta Chañaral, and Oscuro Port, respectively (Fig. 1).

DISCUSSION

Archiconchoecia striata were originally described for the Mediterranean Sea, and its distribution was later extended to subtropical and tropical latitudes of the Atlantic, Indian and Pacific oceans (Deevey 1968, Angel et al. 2008). It is a mesopelagic species with a shallow distribution, whose highest abundances are between 50-150 m of depth (Drapun & Smith 2012).

Table 2. Abundance (ind 100 m^{-3}), dominance (%) and frequency of occurrence (%), and coastal distance (nm) of ostracods species.

Family: Halocyprididae	Abundance (ind 100 m^{-3})					Dominance (%)					Frequency (%)				
Subfamily: Archiconchoeciinae	20 nm	10 nm	5 nm	1 nm	Total	20 nm	10 nm	5 nm	1 nm	Total	20 nm	10 nm	5 nm	1 nm	Total
Archiconchoecia striata	1347	1355	1263	3141	7105	46.3	45.9	50.6	60.2	52.3	90.5	85.7	95.2	87.5	89.3
Subfamily Conchoeciinae															
Conchoecetta acuminata	13			8	21	0.5			0.2	0.2	4.8			5.0	2.9
Conchoecetta giesbrechti	158	249	272	696	1375	5.4	8.4	10.9	13.3	10.1	52.4	52.4	57.1	55.0	54.4
Conchoecia magna	442	346	233	237	1259	15.2	11.7	9.3	4.5	9.3	90.5	71.4	57.1	37.5	59.2
Conchoecilla daphnoides	8	12		4	24	0.3	0.4		0.1	0.2	9.5	14.3		2.5	5.8
Discoconchoecia discophora	34	14	13	21	82	1.2	0.5	0.5	0.4	0.6	23.8	14.3	9.5	10.0	13.6
Metaconchoecia rotundata	182	171	166	321	840	6.3	5.8	6.7	6.1	6.2	42.9	57.1	61.9	47.5	51.5
Mikroconchoecia curta				5	5				0.1	< 0.1				2.5	1.0
Mikroconchoecia stigmatica	14				14	0.5				0.1	9.5				1.9
Orthoconchecia atlantica				9	9				0.2	0.1				5.0	1.9
Orthoconchecia haddoni	109	114	131	4	359	3.8	3.9	5.2	0.1	2.6	33.3	42.9	38.1	2.5	24.3
Orthoconchecia striola	248	144	148	343	883	8.5	4.9	6.0	6.6	6.5	66.7	47.6	47.6	27.5	43.7
Paraconchoecia allotherium		27	52	8	87		0.9	2.1	0.1	0.6		14.3	14.3	2.5	6.8
Paraconchoecia echinata		3			3		0.1			< 0.1		4.8			1.0
Paraconchoecia spinifera			11	23	34		0.0	0.5	0.4	0.3			9.5	5.0	3.9
Parvidentoecia parvidentata		5			5		0.2			< 0.1		4.8			1.0
Porroecia porrecta	16	67	5	8	97	0.6	2.3	0.2	0.2	0.7	14.3	28.6	4.8	5.0	11.7
Porroecia spinirostris			9		9			0.4		0.1			4.8		1.0
Proceroecia decipiens	4				4	0.2				< 0.1	4.8				1.0
Proceroecia procera	7	12	5	4	27	0.2	0.4	0.2	0.1	0.2	4.8	4.8	4.8	2.5	3.9
Subfamily Halocypridinae															
Halocypris inflata	324	433	184	390	1331	11.1	14.7	7.4	7.5	9.8	90.5	81.0	52.4	62.5	69.9

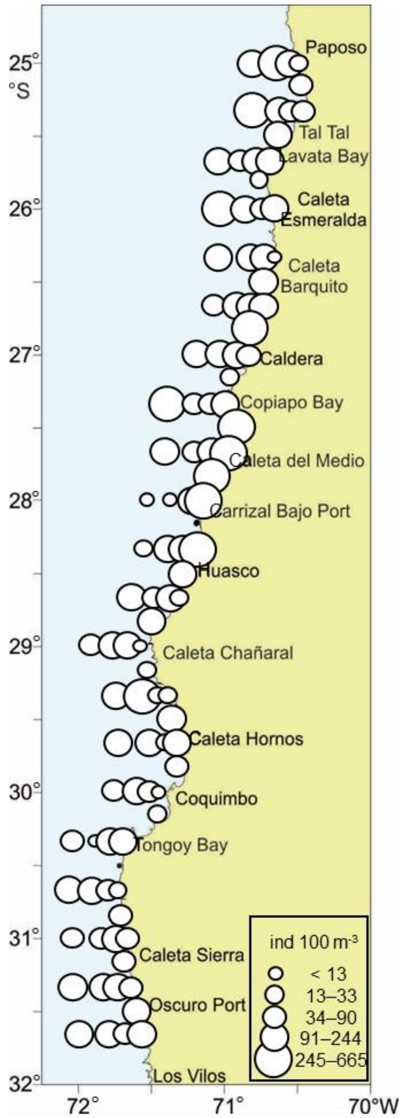

Figure 2. Distribution and total abundance of ostracods at sampling stations.

A. striata have been found in the Sargasso Sea in Bermuda and the Adriatic Sea, over 500 m depth throughout the year (Deevey 1968, Brautović et al. 2018). The collected specimens are small (0.54-0.62 mm) and abundant in mesopelagic samples (Angel 1999, Angel et al. 2008). It has been reported from the coasts of Peru to south-central Chile (Martens 1979, Mujica 1979, Castillo et al. 2007).

This species, which was the most abundant and with the highest frequency of occurrence, has also been reported among the most abundant and frequent off the coast of Peru (Castillo et al. 2007), as well as in the Arabian Sea (Drapun & Smith 2012) and the Adriatic Sea (Deevey 1968, Brautović et al. 2006, 2018).

Of the other abundant species and >50% frequency of occurrence, *Conchoecetta giesbrechti* and *Conchoecia magna* have been defined as shallow mesopelagic (Angel et al. 2008). These authors found *C. giesbrechti* preferably in tropical areas of the Atlantic, over 200 m deep. Drapun & Smith (2012) also found that it is more abundant above 200 m depth in the Arabian Sea, smaller in size, and slight differences in the mandible endopod setation than specimens of this species reported by Martens (1979) off the coasts of Chile.

C. magna is a species with controversy in its identification, product of subspecies descriptions, and similarities with some congeners from different oceans and latitudes (Angel et al. 2008). These authors point out that it is widely distributed (54°S to 54°N). Deevey (1983) finds it widely distributed in the South Pacific (35-47.5°S) and Chavtur & Kruk (2003) between 33 and 54°S in the Australia-New Zealand sector.

The specimens captured on this occasion correspond to the morphology and size ranges described by Angel (1969), Mujica (1979), Angel et al. (2008), and Drapun & Smith (2012). However, Martens (1979) and Castillo et al. (2007) denominate as *Conchoecia* aff. *magna* the specimens collected in Chile and Peru's central coast, respectively. The wide distribution and abundance of this species in the present study correspond to the cosmopolitan character indicated by Angel et al. (2008).

Halocypris inflata, the other abundant and widely distributed species in this study, has been described for different oceans and latitudes (Angel et al. 2008). Its nomination has had important discrepancies with existing species of the genus with subtle morphological and size differences (Chavtur & Stovbun 2008). Angel & Blachowiak-Samolyk (2014) concluded that the existing information is insufficient to separate the genus species south of 40°S. On the other hand, Nigro et al. (2016) pointed out that *H. pelagica* and *H. inflata* have been reported in the subtropical Atlantic epi- and mesopelagic zones. However, they consider that the genetically analyzed specimens of *H. inflata* suggest the existence of cryptic species.

Chavtur & Stovbun (2008) and Chavtur & Bashmanov (2014) indicate the existence of three species of the genus *Halocypris* (*H. inflata*, *H. pelagica*, and *H. angustifrontalis*) that have small morphological and size differences, antecedents that indicate the current difficulty to identify the species of the genus. In this regard, it can be noted that only a detailed genetic analysis of the specimens of different oceans and depths will allow establishing the existence of the species of the genus that has been described with such subtle differences. Finally, it should be noted that Martens (1979), Mujica (1979), Deevey (1983), and Castillo et al. (2007) have reported the existence of *H. inflata* from the southeastern Pacific coast.

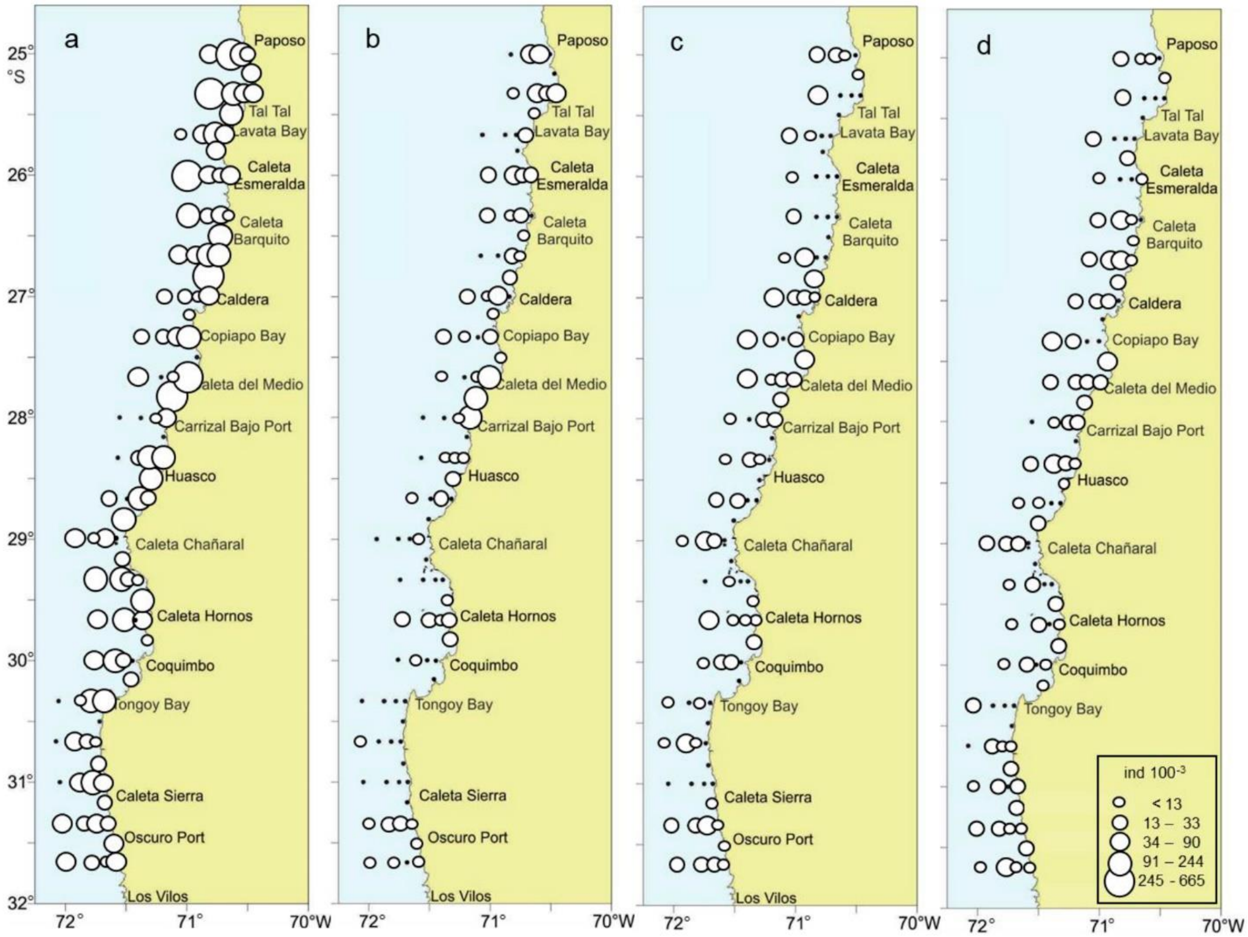

Figure 3. Distribution and abundance of a) *Archiconchoecia striata*. b) *Conchoecetta giesbrechti*. c) *Conchoecia magna*. and d) *Halocypris inflata* at sampling stations.

The other two species, abundant and widely distributed (*Metaconchoecia rotundata* and *Orthoconchoecia striola*), have been described in the southeastern Pacific (Martens 1979, Mujica 1979).

Angel et al. (2008) indicate that *M. rotundata*, originally reported in the Mediterranean Sea, is found in all oceans, and there are few records in the Pacific Ocean. *M. rotundata* is an epipelagic species (50-500 m); its latitudinal range is 46°N to 50°S but is generally less abundant at latitudes >30°S. In the Pacific Ocean. Deevey (1983) recorded this species between 36 and 47°S (0-500 m deep), and Mujica (1979) in the epipelagic zone (0-100 m) off the central coast of Chile (33°S).

Drapun & Smith (2012) found that *O. striola* has been recorded in the Indian and Pacific oceans, mainly in the tropical zone, and that the records of the Atlantic Ocean are unknown. This species has been recorded for the epipelagic zone in the southeastern Pacific Ocean, with low abundances (Martens 1979, Mujica 1979, Castillo et al. 2007, Ayón et al. 2008). These authors found similar frequency and abundance between 20 and 2000 m depth, with maximums between 50 and 300 m. Angel et al. (2008) indicate that *O. striola* has been defined as a type species of the genus and that there would be at least two sizes of specimens in the Pacific Ocean, although they do not include it in their work.

According to Angel et al. (2008) *Orthoconchoecia haddoni* is a mesopelagic species widely distributed in the Atlantic Ocean between 63°N and 64°S. On this occasion, it was found between 32°N and 20°S in 24.3% of the stations with a numerical dominance >2%, and it would be a smaller breed, more abundant, and typical of cold waters associated with upwelling regions. Also, these authors found that the species is most abundant between 200-400 m and that a small proportion of the population (juvenile stages) migrating up to 100 m.

Martens (1977) indicates the wide distribution of the species (*O.* aff. *Haddoni*) in the central coast of

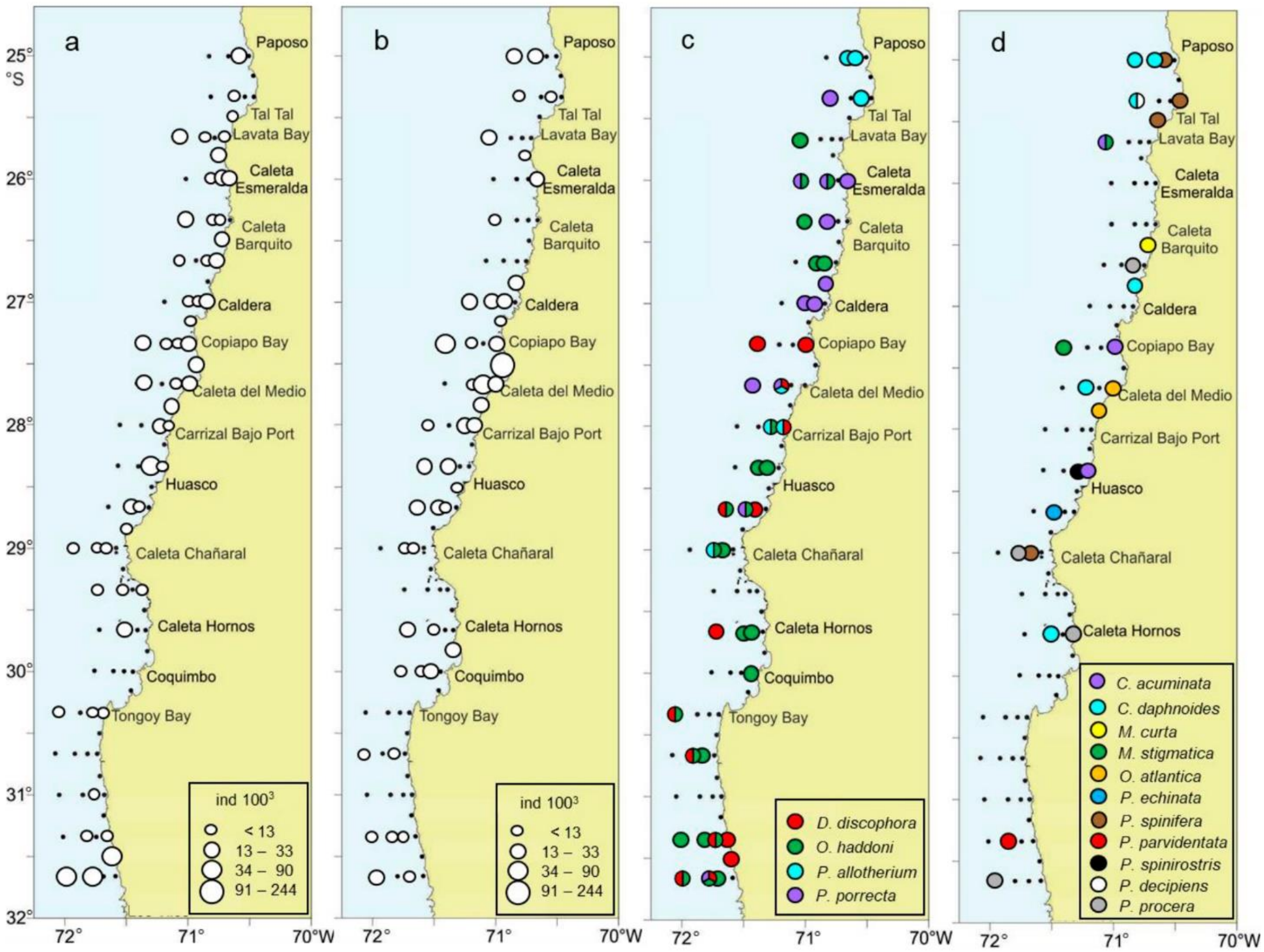

Figure 4. Distribution and abundance of a) *Metaconchoecia rotundata*. b) *Orthoconchoecia striola*. Distribution of species with numerical dominance c) between 0.5-2.6% and d) <0.5% at sampling stations.

Chile associated with the Subantarctic Surface Waters. He names the subspecies *O. haddoni marchilensis* for the upwelling zone of the Humboldt Current System. Mujica (1979) finds it in the epipelagic zone off Valparaíso, mainly in spring, when the maximum abundance in this region occurs.

The remaining species (*Conchoecetta acuminata*, *Conchoecilla daphnoides*, *Discoconchoecia discophora*, *Mikroconchoecia curta*, *M. stigmatica*, *Orthoconchoecia atlantica*, *Paraconchoecia allotherium*, *P. echinata*, *P. spinifera*, *Parvidentoecia parvidentata*, *Porroecia porrecta*, and *P. spinirostris*) had low numerical dominance and frequency of occurrence (<1 and <14%. respectively). In general, they are epi- and mesopelagic species with a wide distribution (Angel et al. 2008); these authors have registered most of them for the southeastern Pacific near the coast of Chile, except for *C. acuminate*, *M. stigmatica*, and *O. atlantica*, the only ones that have not been recorded for the study area.

Among the most abundant and frequently occurring species found on this occasion, *Conchoecetta giesbreschti*, *Conchoecia magna*, and *H. inflata* coincide with the wide distribution indicated by Martens (1979, 1981) off the coast of Chile, to the south of the present survey. On the other hand, *A. striata*, the most abundant species collected in the present study, was only found by Martens in the far north of his study area.

In general, it can be pointed out that the highest values of richness and species diversity were found in stations away from the coast and sampled in hours of darkness, which allows us to suppose that mesopelagic species could have been collected in the epipelagic zone, given the vertical migration performed by most of the identified species (Purushothaman 2015).

This study is the first to describe the distribution and species abundance of planktonic ostracods in the coastal zone of north-central Chile. The community structure of this group and its relationship with environmental variables should be the subject of future research.

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