Journal of the Marine Biological Association of the United Kingdom, page 1 of 9.
doi:10.1017/S0025315417001242

New reports and a new species of Syllidae (Annelida) from Chilean Patagonia

EULOGIO H. SOTO[1] AND GUILLERMO SAN MARTÍN[2]

[1]Facultad de Ciencias del Mar y de Recursos Naturales, Universidad de Valparaíso, Avenida Borgoño 16344, Viña del Mar, Chile, [2]Departamento de Biología (Zoología), Facultad de Ciencias, Universidad Autónoma de Madrid, Canto Blanco, 28049 Madrid, Spain

The Syllidae subfamilies Eusyllinae, Anoplosyllinae and Autolytinae, as well as the incertae sedis *genera (Aguado* et al.*, 2012), were studied from samples collected in shallow water from fjords and channels in Chilean Patagonia. One new species* Paraehlersia kawesqar *sp. nov. is described. The genus* Nudisyllis *Knox & Cameron, 1970 is recorded for the first time for Chile, while the species* Brachysyllis infuscata *(Ehlers, 1901a) and* Syllides japonica *Imajima, 1966 are recorded for the first time for continental Chile. Finally,* Syllides articulosa *Ehlers, 1897 and* Epigamia *sp. are also reported. The majority of the species were found inside tubes of the polychaete worm* Chaetopterus *cf.* variopedatus *(Renier, 1804) – a new habitat for syllid polychaetes. This work is an important contribution to the knowledge of syllids in Chile and to the polychaete fauna of the Patagonian region generally.*

Keywords: Eusyllinae, *incertae sedis*, Anoplosyllinae, Autolytinae, Polychaeta and Taxonomy

Submitted 17 March 2017; accepted 5 June 2017

INTRODUCTION

Syllidae is one of the most important polychaete families in Chilean waters, with 48 species (Álvarez-Campos & Verdes, 2017; San Martín *et al.*, in press). However, the knowledge of this family is poor with most records and descriptions from older studies (e. g. Ehlers, 1897; Hartmann-Schröder, 1962, 1965; Wesenberg-Lund, 1962; Hartman, 1964). With the exception of a study made by Álvarez-Campos & Verdes (2017) in central Chile (33°S), there is no specific taxonomic research on this family. San Martín *et al.* (in press) have summarized the knowledge of Syllidae in Chile. Moreover, the records of Syllidae in the Patagonian region of Chile (41°–55°S) are mainly related to ecological works indicating the presence of species for different localities such as Aysén fjord, Los Chonos Archipelago, Magellan Strait and Beagle Channel (Cañete *et al.*, 1999; Gambi & Mariani, 1999; Thatje & Brown, 2009; Soto & Paterson, 2010; Montiel *et al.*, 2011). Currently, 24 species of syllids have been reported in Chilean Patagonia showing that *Syllis* is the most diverse genus with eight species (San Martin *et al.*, in press).

In the current study, six species of syllids are reported: *Nudisyllis* sp., a new record of the genus for Chile; *Brachysyllis infuscata* (Ehlers, 1901a), a new record for continental Chile; *Syllides japonica* Imajima, 1966 recorded for the first time in Chile and *Paraehlersia kawesqar* sp. nov., a new species; *Syllides articulosa* Ehlers, 1897 and *Epigamia* sp. have previously been reported from Chilean Patagonia. Previous works highlighted within Eusyllinae the presence of *Odontosyllis magnanuchalata* Hartmann-Schröder, 1965, *Eusyllis nuchalata* Hartmann-Schröder, 1965 and *Pionosyllis kerguelensis* (McIntosh, 1885). Within the Anoplosyllinae *Syllides articulosa* Ehlers, 1897 was recorded and from the Autolytinae the species *Autolytus charcoti* Gravier, 1906, *Autolytus maclearanus* McIntosh, 1885, *Myrianida simplex* Ehlers, 1900 and *Proceraea micropedata* Hartmann-Schröder, 1962, have been reported. *Incertae sedis* species previously found was *Amblyosyllis granosa* Ehlers, 1897.

Corresponding author:
E.H. Soto
Email: eulogio.soto@uv.cl

MATERIALS AND METHODS

The study area was the zone of fjords, channels and ice-fields located in the Chilean Patagonia region (41°–55°S, South-east Pacific). The specimens were obtained by the Intertidal and subtidal Marine Biotopes Project (Soto *et al.*, 2012, 2015; Letelier *et al.*, 2013) undertaken between 2009 and 2010 as part of CIMAR 15 and 16 Oceanographic Cruises (Silva & Palma, 2006) supported by the Chilean Navy.

Polychaetes were collected in four sampling stations from intertidal rocky-shores and beaches by mean of manual methods and from the subtidal zone (up to 30 m depth) using scuba diving. From these environments boulders and sediments, as well as biological structures such as *Macrocystis pyrifera* kelp holdfasts and *Chaetopterus* cf. *variopedatus* tubes in the subtidal zone, were targeted for polychaetes. From each site (sampling station) environmental parameters such as salinity and temperature were measured *in situ* using a HANNA Instruments multiparameter sensor. For information on stations and environmental parameters see Table 1. For further details of study area see Soto *et al.* (2012) and Letelier *et al.* (2013).

The collected specimens were fixed in 10% formaldehyde–seawater solution and later transferred to 75% alcohol solution. The individuals were examined using both dissecting and compound light microscopes, the latter equipped with interference contrast optics (Nomarski). Drawings were made using a camera-lucida drawing tube attached.

Table 1. Sampling stations, position, locality and related environmental parameters.

Station	Coordinates	Locality	Habitat	Depth (m)	Salinity (psu)	Temperature (°C)
36	54°57′30.9″S 70°44′41.0″W	Ballenero Channel: Magellan Strait	Tubes of *Chaetopterus*	14	35	8.7
41	50°16′37″S 74°53′21″ W	Concepción Channel, Drumond Hay Island	Boulders and sediment bottoms and *M. pyrifera* holdfasts	30	30.2	8.9
P	51°45′32″S 72°51′00″W	Antonio Varas Peninsula, Almirante Montt Gulf	Boulders and sediment bottoms and tubes of *Chaetopterus*	14–30	20–30.2	8.5–8.9
50	55°08′39.4″S 68°49′34.0″W	Ponsonby Bay, Beagle Channel	Tubes of *Chaetopterus*	14	35	8.5

Scanning electron microscope procedures and digitalization of images in some key species were made in the SIDI (Servicio Interdepartamental de Investigación) of the Universidad Autónoma de Madrid, Spain. Body width was measured across the proventricle and does not include parapodial lobes. Biological material is deposited at the Museo Nacional de Ciencias Naturales de Madrid (MNCNM), Spain, Museo Nacional de Historia Natural de Santiago de Chile (MNHN) and Laboratorio de Bentos, Universidad de Valparaíso (LBUV). For general morphology and biology of the family Syllidae see San Martín (2003), San Martín & Aguado (2014) and San Martín & Worsfold (2015). For each species, the station numbers are given along with the numbers of specimens in parentheses in the Material Examined section.

RESULTS

Family SYLLIDAE Grube, 1850
Subfamily *Eusyllinae* Malaquin, 1893
Genus *Nudisyllis* Knox & Cameron, 1970

Nudisyllis Knox & Cameron, 1970: 77. Emended by San Martín & Hutchings (2006): 280. Diagnosis follows San Martín *et al.* (2009).

Nudisyllis sp.

MATERIAL EXAMINED

Station 36 (1) (LBUV)

DISTRIBUTION

Southern Magellan Strait at Chilean Patagonia.

HABITAT

Inside tubes of *Chaetopterus* cf. *variopedatus* in fjords and channels from Chilean Patagonia (this study).

REMARKS

The only specimen is in poor condition, incomplete. The dorsum is strongly pigmented with black transversal bands, and the compound chaetae are elongated, distally hooked and unidentate. This specimen probably represents an undescribed species; however, it is a single, damaged specimen. This study represents the first report of the genus from Chile.

Incertae sedis (sensu Aguado *et al.*, 2012)
Genus *Paraehlersia* San Martín, 2003

Paraehlersia San Martín, 2003: 61.
Diagnosis follows San Martín & Hutchings (2006).

Paraehlersia kawesqar sp. nov.
Figures 1–4

MATERIAL EXAMINED

Station 41, Holotype (MNCNM pending code) and two Paratypes (1 SEM) (MNCN 16.01/17771). Three Paratypes (MNHN and LBUV).

DESCRIPTION

Body long, cylindrical, fragile, without colour markings, broad anteriorly (Figures 1A & 2A, B, D). Holotype, a pre-epigamic female, almost complete, broken into 5 pieces, 6 mm long, 0.4 mm wide, with 58 chaetigers. Paratypes between 55 and 60 chaetigers. Prostomium circular, large, covering dorsal part of peristomium and almost reaching chaetiger 1 (Figures 1A & 2A–C); 4 eyes arranged in open trapezoidal pattern and 2 anterior eyespots (Figure 1A). Median antenna long, slender, irregularly wrinkled, 2–2.5 times longer than combined length of prostomium and palps, inserted in the middle of the prostomium. Lateral antennae same shape as median one, but shorter, inserted in front of anterior eyes (Figure 1A), near to the anterior margin of prostomium (Figure 2A, B). Palps large, slightly longer than prostomium, broad (Figures 1A & 2A, B). Peristomium dorsally reduced, covered by prostomium, but laterally well developed (Figures 1A, B & 2A, B). The tentacular cirri similar to lateral antennae in shape, while dorsal tentacular cirri slightly longer than ventral ones. Nuchal organs densely ciliated between posterior part of prostomium and anterior part of peristomium (Figure 2B, C). Segments short, about 8 times wider than long (Figures 1A, B & 2A, B). Anterior dorsal cirri slightly wrinkled, remaining ones totally smooth (Figures 1A & 2A, B, D–F). Dorsal cirri relatively short in comparison with other species of the genus, anteriorly longer than body width and decreasing in length to the end of the body; they are shorter than body width. Row of cilia on dorsum of segments apparently absent (Figure 2A, D). Subcirral papilla small (Figure 2E, arrow), difficult to see, present on anterior and midbody segments. Parapodial lobes sub-rectangular to conical. Ventral cirri digitiform, distinctly shorter than parapodial lobes (Figures 1B & 2D). Parapodia with 2–3 compound chaetae with spiniger-like blades, and 8–10 falcigers. Spiniger-like chaetae with slender, smooth shafts, or with minute subdistal spines, and thin, slender, distally bidentate blades, with short spines on margin (Figures 1E, C, G & 3A). In most posterior parapodia there are two spiniger-like chaetae; one long and another one with shorter blade, but longer than falcigers (Figure 1I). Blades of spiniger-like

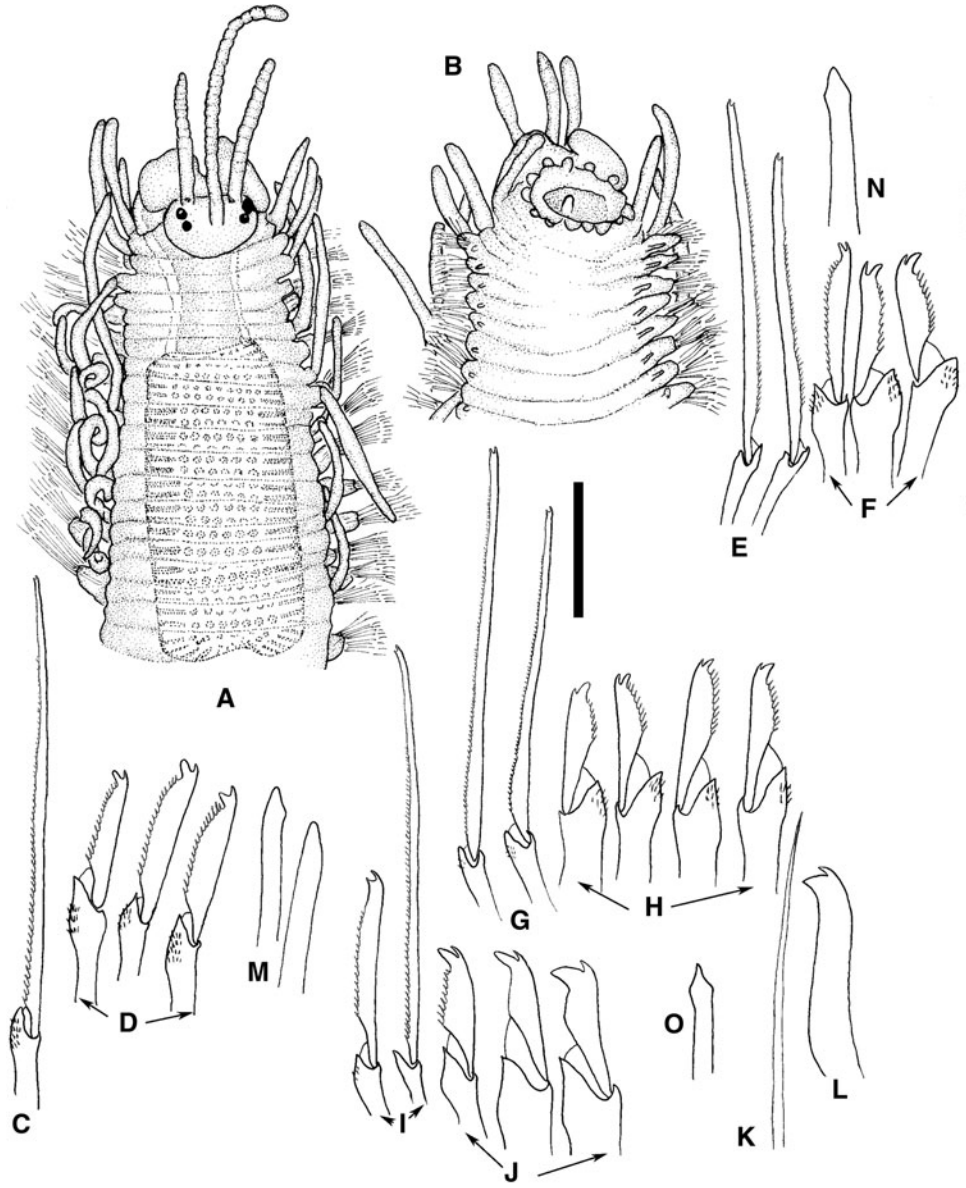

Fig. 1. *Paraehlersia kawesqar* sp. nov. Holotype. (A) Anterior end, dorsal view. (B) Anterior end, ventral view. (C) Spiniger-like compound chaetae, most anterior parapodia. (D) Falcigers, most anterior parapodia. (E) Spiniger-like chaetae, anterior parapodia. (F) Falcigers, anterior parapodia. (G) Spiniger-like chaetae, midbody parapodia. (H) Falcigers, midbody parapodia. (I) Spiniger-like chaetae, posterior parapodia. (J) Falcigers, posterior parapodia. (K) Dorsal simple chaetae. (L) Ventral simple chaetae. (M) Aciculae, anterior parapodia. (N, O) Aciculae, posterior parapodia. Scale bars. A, B: 0.4 mm. C–O: 20 μm.

chaetae with different sizes in same parapodium, most anterior ones of similar size, 72 μm (Figure 1C), and later usually one long and another shorter, 56/48 μm long on anterior parapodia, 64/52 μm long on midbody and posterior parapodia. Falcigers with shafts distally spinulate; blades elongated, with short spines on margin, and proximal tooth distinctly larger than distal tooth; blades of falcigers anteriorly elongated and slender, becoming progressively shorter and wider to posterior body, with lower number of spines on margin, even smooth, and proportionally larger on proximal tooth (Figures 1D, F, H, J, 3B–F & 4A, B). Blades of falcigers 26 μm long above, 20 μm long below on most anterior parapodia (Figures 1D & 3B); 24 μm long above, 18 μm long below on anterior (Figures 1F & 3C, D) and midbody parapodia (Figures 1H & 3E, F); 20 μm long on posterior parapodia (Figures 1J & 4A, B). Dorsal simple chaetae from mid-posterior segments, very slender, smooth, distally pointed (Figure 1K). Ventral simple chaetae present only on posterior segments, smooth, strongly bidentate with long and robust proximal tooth and with small distal tooth (Figure 1L). Anterior parapodia each with 2 aciculae (Figure 1M), reducing to 1 from midbody, distally acuminate (Figure 1N, O). Pharynx through 7 segments when everted and reaching until 9 segments relaxed; pharyngeal tooth on anterior margin, surrounded by crown of 10–13 soft papillae (Figure 1B). Proventricle through 14–15 segments, with about 27 muscle cell rows. Pygidium small, with two long, smooth, filiform anal cirri (Figure 2D).

REMARKS

According to Fukuda *et al.* (2012), there are seven described species of *Paraehlersia*: *P. articulata* (Kudenov & Harris, 1995), from N Pacific (California and Panamá); *P. dionisi*

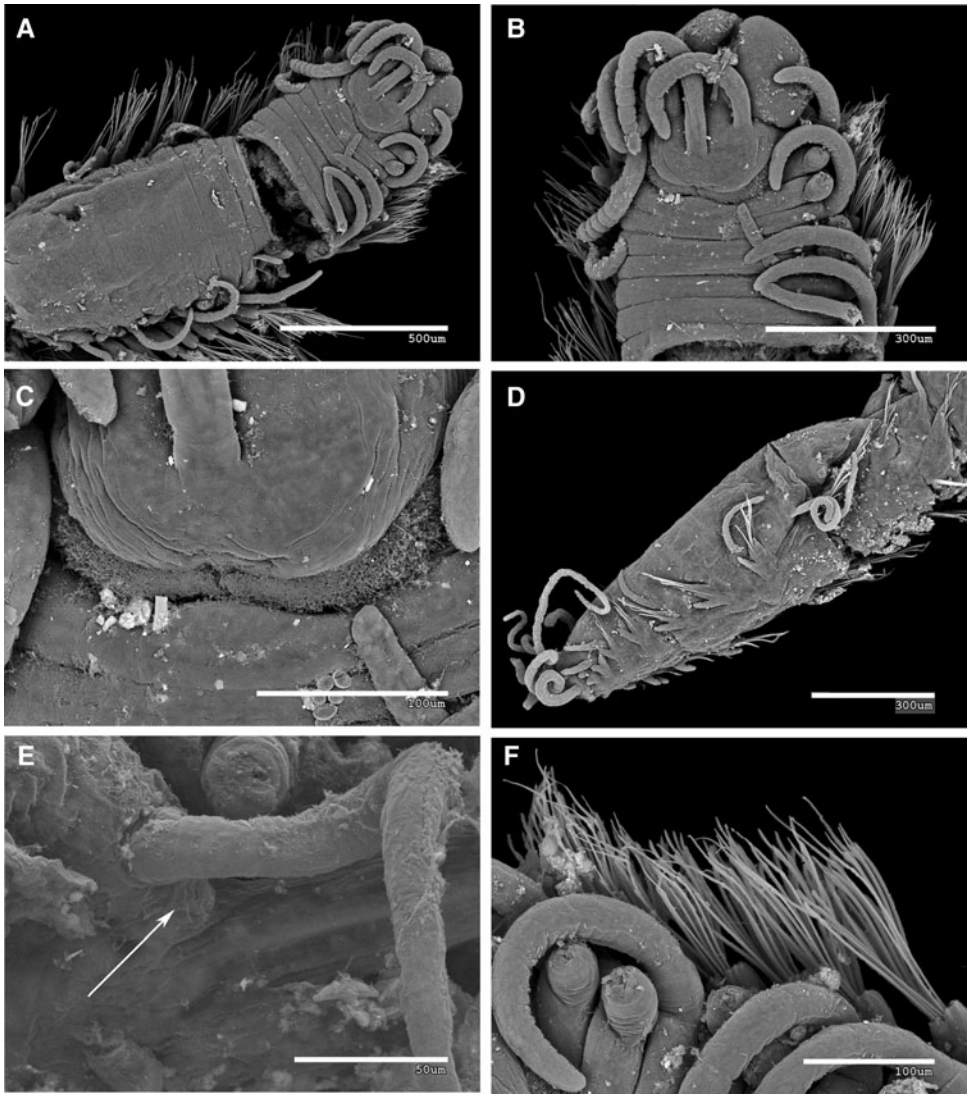

Fig. 2. *Paraehlersia kawesqar* sp. nov. SEM. (A) Anterior end, dorsal view. (B) Prostomium and most anterior segments. (C) Prostomium and nuchal organs. (D) Posterior end, lateral view. (E) Subcirral papilla. (F) Most anterior compound chaetae.

(Núñez & San Martín, 1991) (Canary Islands, Elephant Island and W Mediterranean); *P. ehlersiaeformis* (Augener, 1913) (Western Australia); *P. ferrugina* (Langerhans, 1881) (E Atlantic, Mediterranean, Gulf of Mexico); *P. longichaetosa* Fukuda, Centurión, Nogueira & San Martín, 2012 (Brazil and Argentina, from Rio de Janeiro to Banco Sarmiento); *P. martapolae* Fukuda, Centurión, Nogueira & San Martín, 2012 (similar distribution); and *P. weismannioides* (Augener, 1913) (Australia and Eastern Mediterranean). These authors discuss the characters useful to segregate these species. One of the most useful is the shape of the dorsal simple chaetae. *Paraehlersia kawesqar* sp. nov. is the only species with a slender, distally pointed dorsal simple chaeta, whereas this chaeta is bidentate, distally rounded or truncate in the other species. Also, *P. kawesqar* sp. nov. is characterized by the falcigers of the most posterior parapaodia, which are large, smooth or with very small spines on margin, with the proximal tooth much longer than distal tooth. *Paraehlersia kawesqar* sp. nov. also differs from all other species of the genus in having falcigers with larger proximal tooth than distal tooth from most anterior segments; in the remaining species, anterior falcigers have both teeth similar in size. Furthermore, *P. kawesqar* sp. nov. seems to lack row of cilia on dorsum, a distinct character present in all other species of the genus studied under SEM.

DISTRIBUTION

Chilean Patagonia, South-east Pacific.

HABITAT

Boulders and sediments from shallow subtidal (30 m depth) and *Macrocystis pyrifera* holdfasts in fjords and channels from Patagonia.

TYPE LOCALITY

Canal Concepción, Isla Drumond Hay near I. Madre de Dios (Chilean Patagonia). 30 m depth. Position: 50°16′37″S 74°53′21″W.

ETYMOLOGY

This species is named to honour the 'Kawesqar' people that inhabited the south of Chilean Patagonia.

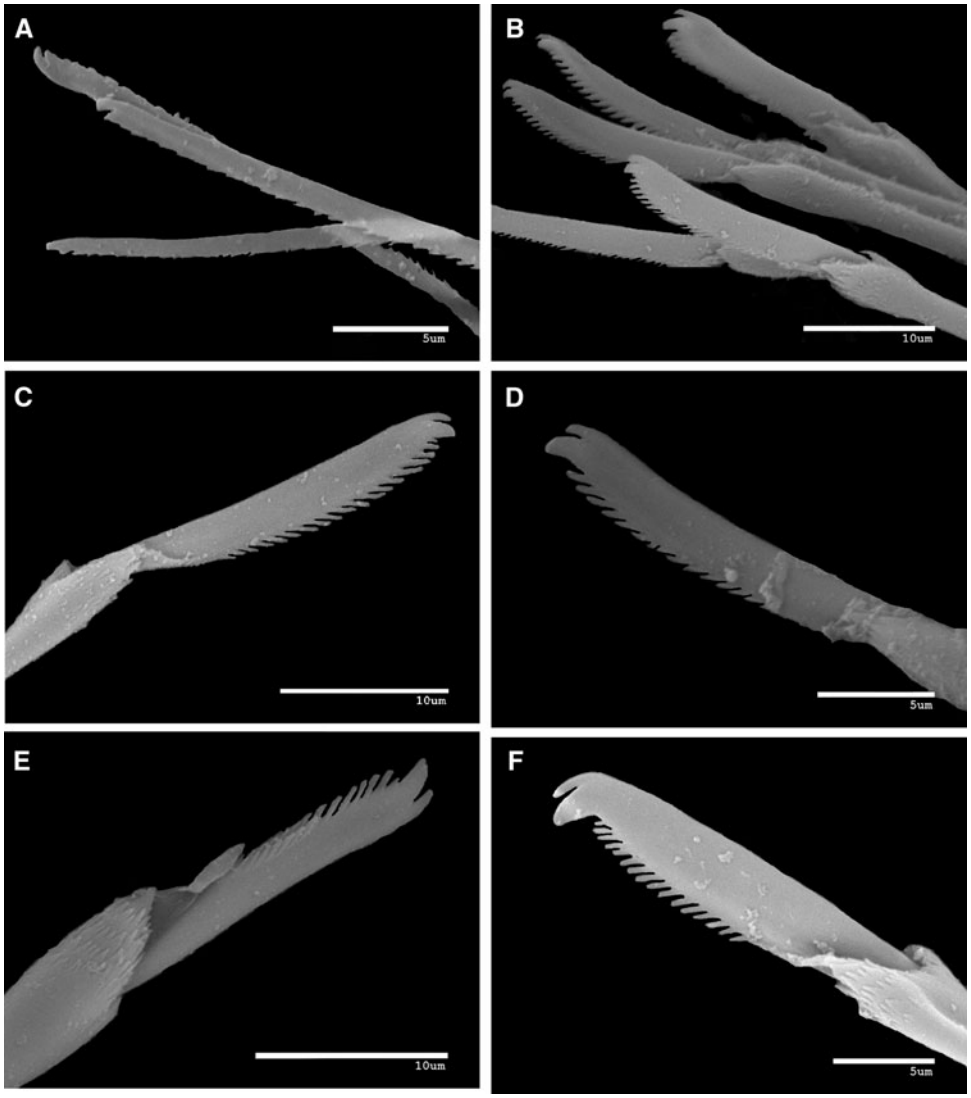

Fig. 3. *Paraehlersia kawesqar* sp. nov. SEM. (A) Distal part of blades, spiniger-like compound chaetae. (B) Falcigers, most anterior parapodia. (C, D) Falcigers, anterior parapodia. (E, F) Falcigers, midbody parapodia.

Genus *Brachysyllis* Imajima & Hartman, 1964

Brachysyllis Imajima & Hartman, 1964: 108.

Diagnosis follows Aguado & San Martín (2008).

Brachysyllis infuscata (Ehlers, 1901a)

Amblyosyllis infuscata Ehlers, 1901a: 258; (1901b): 100, pl. 11, figs 4–9.

Brachysyllis infuscata Aguado & San Martín (2008): 40, figs 3–4.

MATERIAL EXAMINED

Station 41 (1) (LBUV).

REMARKS

This study represents the first report of the species from continental Chile.

DISTRIBUTION

Juan Fernández Island at South-east Pacific Ocean, Chile (Ehlers, 1901b) and Chilean Patagonia, Canal Concepción, Isla Drumond Hay (this study).

HABITAT

Subtidal 36.5 m (Ehlers, 1901b). Boulders and sediment bottoms from shallow subtidal (30 m depth) and *Macrocystis pyrifera* holdfasts in fjords and channels from Patagonia (this study).

Subfamily *Anoplosyllinae* Aguado & San Martín, 2009

Genus *Syllides* Ørsted, 1845

Syllides Ørsted, 1845: 408. Diagnosis follows San Martín & Hutchings (2006).

Syllides japonica Imajima, 1966

Figure 5A, B

Syllides japonicus Imajima, 1966: 112, text- fig. 36. San Martín (2003): 142, fig. 69. San Martín & Hutchings (2006): 360, figs 86C-F, 87.

Syllides japonica Banse (1971): 1477, fig. 5.

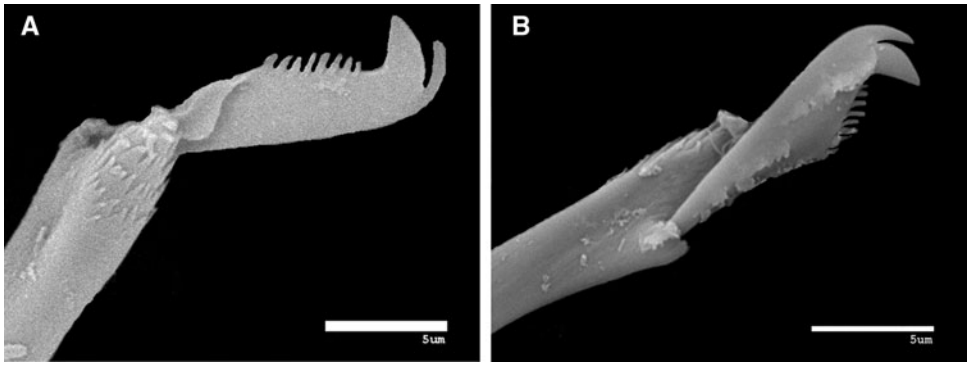

Fig. 4. *Paraehlersia kawesqar* sp. nov. SEM. (A, B) Falcigers, posterior parapodia.

MATERIAL EXAMINED
Station 36 (2) (LBUV), Station 41 (2) (LBUV), Station P (1) (LBUV).

REMARKS
This species is characterized by having slender, distally pointed dorsal simple chaetae (Figure 5A) and compound chaetae with 1–3 basal spines moderately long and curved on the longer blades, absent on shorter ones (Figure 5B). First report from Chile (Patagonia).

DISTRIBUTION
Widely distributed. This species has been reported from Japan, Western Mediterranean, Atlantic coast of USA (Massachusetts) and Australia (San Martín & Hutchings, 2006). Chilean Patagonia (several localities, see Table 1) (this study).

HABITAT
Sand, sandy mud, rhizomes of seagrasses, algae and sponges, in shallow depths (San Martín & Hutchings, 2006). Boulders and sediment bottoms from shallow subtidal (14–30 m depth) and *Macrocystis pyrifera* holdfasts in fjords and channels from Patagonia. Also inside tubes of *Chaetopterus* cf. *variopedatus* (this study).

Syllides articulosa Ehlers, 1897
Figure 5C, D

Syllides articulosus Ehlers, 1897: 42, pl. 2, figs 48–52; (1912): 18; (1913): 487, pl. 31, figs. 4, 5. Hartman (1964): 89, pl. 28, figs 6, 7. Hartmann-Schröder (1965): 111, figs 71–73.
Syllides articulosa Banse, 1971: 1475.

MATERIAL EXAMINED
Station 36 (1) (LBUV).

REMARKS
This species is characterized by having relatively thick, distally stout dorsal simple chaetae, with compound chaetae lacking basal spurs or long spines, all the spines on margin short (Figure 5C, D). The report of this species in the Western Mediterranean by Somaschini & San Martín (1997) is probably wrong and should be referred to a different, undescribed species.

DISTRIBUTION
Subantarctic islands. Strait of Magellan area. South Chile (Ehlers, 1897). Magellan Strait, Chilean Patagonia (this study).

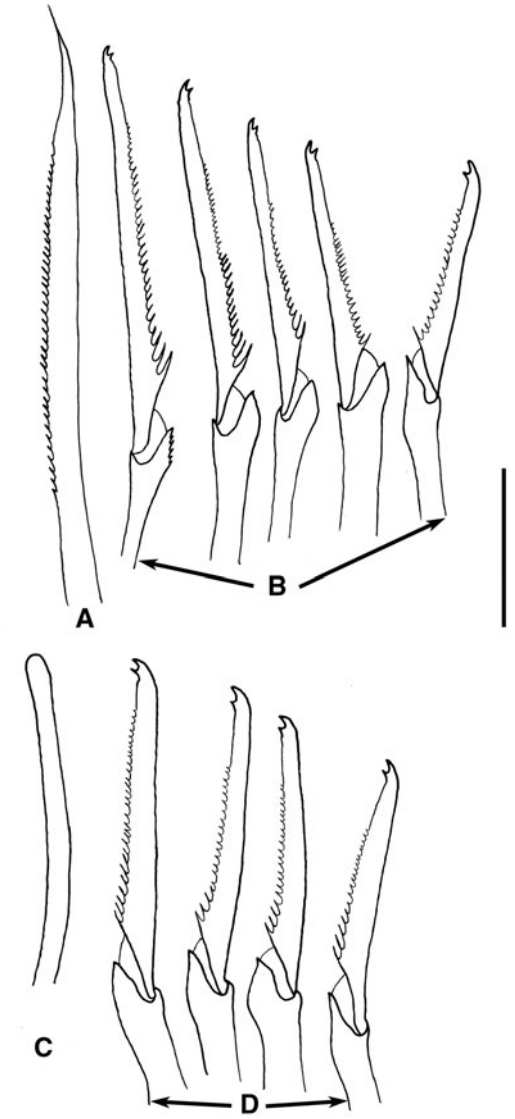

Fig. 5. *Syllides japonica* Imajima, 1966. (A) Dorsal simple chaetae. (B) Compound chaetae, midbody parapodium. *Syllides articulosa* Ehlers, 1897. (C) Dorsal simple chaeta. (D) Compound chaetae, midbody parapodium. Scale bars. 20 μm.

HABITAT
Sand, rhizoids of kelps, sublittoral to 84 m depth (Hartmann-Schröder, 1965). Inside tubes of *Chaetopterus* cf. *variopedatus* (this study).

Subfamily *Autolytinae* Langerhans, 1879
Genus *Epigamia* Nygren, 2004
Epigamia sp.

(?) *Autolytus charcoti* Gravier, 1906: 283–285.

Autolytus gibber non Ehlers, 1897, Hartmann-Schröder (1965): 129, figs 96–98.

(?) *Epigamia charcoti* Nygren (2004): 169, figs 85A–E.

MATERIAL EXAMINED

Station 50 (1) (LBUV).

REMARKS

The specimen agrees with Hartmann-Schröder's (1965) description of *Autolytus gibber non* Ehlers, 1897 from Chile and Argentina. According to Nygren (2004), this report could likely represent the species *E. charcoti* or a very close species. Our specimen does not match the description of *Autolytus gibber* Ehlers, 1897, considered by Nygren (2014) as a junior synonym of *Autolytus maclearanus* McIntosh, 1885. We only have a single specimen so cannot contribute to better identification of this species, however the morphological characters are those of the genus *Epigamia*.

DISTRIBUTION

Antarctica and subantarctic islands (?) (Nygren, 2004). Chile and Argentina (Ehlers, 1897). Beagle Channel at Chilean Patagonia (this study).

HABITAT

Fine sand with algae and detritus. 50–174 m depth (Hartmann-Schröder, 1965). Sublittoral. Inside tubes of *Chaetopterus* cf. *variopedatus* in fjords and channels (this study).

CONCLUDING REMARKS

The current research improves the taxonomic knowledge of Syllidae family in Chile as well as adding to the marine biodiversity knowledge of the Patagonian region. The number of species of syllids recorded for continental Chile increases to 51. Biological structures have demonstrated to accommodate a high number of polychaete species (Martin & Britayev, 1998; Pabis & Sicinski, 2010) as well as syllid species (Martins *et al.*, 2013; Álvarez-Campos & Verdes, 2017). In the same way the studied biological structures such as *Macrocystis pyrifera* kelp holdfasts and *Chaetopterus* cf. *variopedatus* (Renier, 1804) tubes (Annelida, Chaetopteridae) appear to be suitable habitats for species of the Syllidae. *Chaetopterus* tubes are a new habitat for syllids and appear to yield a higher species diversity in comparison to other structures. Syllids possibly colonize these tubes for reproduction, development and/or shelter. Habitats such as *Chaetopterus* tubes appear to be a solution to the scarcity of suitable places for living due to permanent environmental extreme conditions (strong winds, low temperatures and salinity and surficial ice-cover) found in the fjords and channels region of Chilean Patagonia.

ACKNOWLEDGEMENTS

We thank the crew of BO 'AGOR Vidal Gormaz' belonging to the Chilean Navy for support in the CIMAR 15 Oceanographic Cruise and to the crew of 'Abbate Molina' belonging to the IFOP for assistance on CIMAR 16 Oceanographic Cruise. We also thank Javier Naretto, Sergio Letelier and two anonymous divers from the Chilean Navy for collecting samples. Many thanks also to Enrique Rodríguez and Esperanza Salvador for help with SEM observations at SIDI, UAM. Finally, the authors thank Matías Peñaloza (Universidad de Valparaiso) for his support on the *Paraehlersia* drawings and Dr Gordon Paterson for improving the English language of this manuscript.

FINANCIAL SUPPORT

This work was partially supported by Academic Division of Universidad de Valparaiso through Competition of Academic Stays in the country or overseas for Universidad de Valparaiso Academicians. The National Oceanographic Committee funded the Marine Biotopes Project.

REFERENCES

Aguado M.T. and San Martín G. (2008) Re-description of some enigmatic genera of Syllidae (Phyllodocida: Polychaeta). *Journal of the Marine Biological Association of the United Kingdom* 88, 35–56.

Aguado M.T. and San Martín G. (2009) Phylogeny of Syllidae (Annelida, Phyllodocida) based on morphological data. *Zoologica Scripta* 38, 379–402.

Aguado M.T., San Martín G. and Siddall M.E. (2012) Systematics and evolution of syllids (Annelida, Syllidae). *Cladistics* 28, 234–250.

Álvarez-Campos P. and Verdes A. (2017) Syllids inhabiting holdfasts of *Lessonia spicata* in Central Chile: diversity, systematics and description of three new species. *Systematics and Biodiversity*. doi: 10.1080/14772000.2017.1285364.

Augener H. (1913) Polychaeta I, Errantia. Die Fauna Südwest-Australiens. *Ergebnisse der Hamburger Südwest-australischen Forschungreise 1905* 4, 65–304.

Banse K. (1971) A new species, and additions to the descriptions of six other species of Syllides Örsted (Syllidae: Polychaeta). *Journal of the Fisheries Research Board of Canada* 28, 1469–1481.

Cañete J.I., Leighton G.L. and Aguilera F.F. (1999) Polychaetes from Aysén Fjord, Chile: distribution, abundance and biogeographical comparison with the shallow soft-bottom polychaete fauna from Antarctica and the Magellan Province. *Scientia Marina* 63(Suppl. 1), 243–252.

Ehlers E. (1897) *Polychaeten*. Hamburg: Hamburger Magellanische Sammelreise, Friedrichsen & Co., 148 pp.

Ehlers E. (1901a) Die Anneliden der Sammlung Plate. *Zoologische Jahrbücher Jena* 2, 251–272.

Ehlers E.E. (1901b) Die Polychaeten des magellanischen und chilenischen Strandes. Ein faunistischer Versuch. Festschrift zur Feier des Hundertfünfzigjährigen Bestehens der Königlichen Gesellschaft der Wissenschaften zu Göttingen. *Abhandlungen der Mathematisch-Physikalischen Klasse 1901*, 1–232.

Ehlers E. (1912) Polychaeta. *National Antarctic Expedition, 1901–1904. Natural History*, vol. 6, Zoology. London: British Museum Trustees, pp. 1–32, 3 plates.

Ehlers E. (1913) Die Polychaeten-Sammlungen der Deutschen Südpolar-Expedition 1901–1903. *Deutsche Südpolar-Expedition* 13, 397–598, pls. 26–46.

Fukuda M.V., Centurión R., Nogueira J.M.M. and San Martín G. (2012) Two new species of *Paraehlersia* San Martín, 2003 (Polychaeta, Syllidae) from the Atlantic Coast of South America. *Zootaxa* 3264, 38–52.

Gambi M.C. and Mariani S. (1999) Polychaetes of the soft bottoms of the Straits of Magellan collected during the Italian oceanographic cruise in February–March 1991. *Scientia Marina* 63(Suppl. 1), 233–242.

Gravier C. (1906) Sur les annélides polychètes recueillies par l'expédition Antarctique Française (Syllidiens). *Bulletin du Muséum d'histoire Naturelle* 12, 283–290.

Grube A.E. (1850) Die Familien der Anneliden. *Archiv für Naturgeschichte* 16, 249–364.

Hartman O. (1964) Polychaeta Errantia of Antarctica. *Antarctic Research Series* 3, 1–131.

Hartmann-Schröder G. (1962) Zur Kenntnis des Eulitorals der chilenischen Pazifikküste und der argentinischen Küste Südpatagoniens unter besonderer Berücksichtigung der Polychaeten und Ostracoden. Tl. II. Die Polychaeten des Eulitorals. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 60(Suppl.), 57–167.

Hartmann-Schröder G. (1965) Zur Kenntnis des Sublittorals der chilenischen Küste, unter besonder Berücksichtigung der Polychaeten und Ostracoden. Die Polychaeten des Sublitorals. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 62(Suppl.), 59–305.

Imajima M. (1966) The Syllidae (Polychaetous Annelids) from Japan. III. Eusyllinae. *Publications of Seto Marine Biological Laboratory* 14, 85–116.

Imajima M. and Hartman O. (1964) The polychaetous annelids of Japan. *Allan Hancock Foundation Occasional Paper* 26, 1–452.

Knox G.A. and Cameron D.B. (1970) Polychaeta from the Snares Islands, New Zealand. *Transactions of the Royal Society of New Zealand* 12, 73–85.

Kudenov J.D. and Harris L.H. (1995) Family Syllidae Grube, 1850. In Blake J., Hilbig B. and Scott P.H. (eds) *Taxonomic atlas of the benthic fauna of the Santa Maria Basin and western Santa Barbara Channel*. Santa Barbara: Santa Barbara Museum of Natural History, vol. 5, pp. 1–97.

Langerhans P. (1881) Ueber einige canarische Anneliden. *Nova acta Academiae Caesareae Leopoldino-Carolinae Germanicae Naturae Curiosorum* 42, 93–124.

Letelier S., Báez P., Ramírez M.E., Rebolledo A., Soto E.H. and Naretto J. (2013) Biotopos marinos intermareales y submareales (Crucero CIMAR 16 Fiordos) desde el Estrecho de Magallanes al Canal Beagle. *Boletín del Museo Nacional de Historia Natural, Chile* 62, 147–157.

Martin D. and Britayev T.A. (1998) Symbiotic polychaetes: review of known species. *Oceanography and Marine Biology* 36, 217–340.

Martins R., Magalhaes L., Peter A., San Martin G., Rodrigues A.M. and Quintino V. (2013) Diversity, distribution and ecology of the family Syllidae (Annelida) in the Portuguese coast (Western Iberian Peninsula). *Helgoland Marine Research* 67, 775–788.

McIntosh W.C. (1885) Report on the Annelida Polychaeta collected by H.M.S. Challenger during the years 1873–1876. Report on the Scientific Results of the Voyage of H.M.S. Challenger during the years 1872–76. *Ser. Zoology* 12, 1–554.

Montiel A., Quiroga E. and Gerdes D. (2011) Diversity and spatial distribution patterns of Polychaete assemblages in the Paso Ancho, Strait of Magellan Chile. *Continental Shelf Research* 31, 304–314.

Núñez J. and San Martín G. (1991) Two new species of Syllidae (Polychaeta) from Tenerife (Canary Island, Spain). *Bulletin of Marine Science* 48, 236–241.

Nygren A. (2004) Revision of Autolytinae (Syllidae, Polychaeta). *Zootaxa* 680, 1–314.

Ørsted A.S. (1845) Fortegnelse over dyr, samlede i Christianiafjord ved Drobak fra 21–24 Juli 1844. *Naturhistorisk Tidsskrift* 2, 400–427.

Pabis K. and Sicinski J. (2010) Polychaete fauna associated with holdfasts of the large brown alga *Himantothallus grandifolius* in Admiralty Bay, King George Island, Antarctic. *Polar Biology* 33, 1277–1288.

Renier S.A. (1804) Prospetto della Classe dei Vermi, nominati el ordinati secondo il Sistemo de Bosc. xv–xxviii. Padua. Unavailable publication, ICZN Opinion 316.

San Martín G. (2003) *Annelida Polychaeta II. Syllidae*. In Ramos M.A. *et al.* (eds) *Fauna Ibérica, Museo Nacional de Ciencias Naturales*. Madrid: CSIC, vol. 21, 554 pp.

San Martín G. and Aguado M.T. (2014) Family Syllidae. In *Phyllodocida: Nereidiformia. Handbook of Zoology, Annelida. A Natural History of the Phyla of the Animal Kingdom*. Schmidt-Rhaesa A. (Ed. in chief). Berlin: Verlag Walter der Gruyter GmbH & Co, 52 pp.

San Martín G. and Hutchings P. (2006) Eusyllinae (Polychaeta, Syllidae) from Australia, with the description of a new genus and fifteen new species. *Records of the Australian Museum* 58, 257–370.

San Martín G., López E. and Aguado M.T. (2009) Revision of the genus *Pionosyllis* Malmgren, 1867, with a cladistic analysis, and the description of six new genera and two new species. *Journal of the Marine Biological Association of the United Kingdom* 89, 1–44.

San Martín G., Rozbaczylo N. and Díaz-Díaz O. (in press). Guía y claves para el reconocimiento de las subfamilias, género y especies de Syllidae registradas a lo largo de la costa de Chile, archipiélago Juan Fernández e isla de Pascua (Annelida: Phyllodocida: Syllidae). *Anales del Instituto de la Patagonia*.

San Martín G. and Worsfold T. (2015) Guide and keys for identification of Syllidae (Annelida: Phyllodocida) from the British Isles (reported and expected species). *Zookeys* 488, 1–29.

Silva N. and Palma S. (eds) (2006) *Avances en el conocimiento oceanográfico de las aguas interiores chilenas, Puerto Montt a cabo de Hornos*. Valparaíso: Comité Oceanográfico Nacional – Pontificia Universidad Católica de Valparaíso, 162 pp.

Somaschini A. and San Martín G. (1997) First report of *Syllides articulosus* (Polychaeta: Syllidae: Eusyllinae) for the Mediterranean Sea. *Vie et Milieu* 47, 267–271.

Soto E.H., Báez P., Ramírez M.E., Letelier S., Naretto J. and Rebolledo A. (2012) Biotopos marinos intermareales entre Canal Trinidad y Canal Smyth, sur de Chile. *Revista de Biología Marina y Oceanografía* 47, 177–191.

Soto E.H., Báez P., Ramírez M.E., Letelier S., Naretto J. and Rebolledo A. (2015) Biotopos marinos intermareales y sublitorales someros entre Canal Trinidad y Canal Smyth, XII región, Chile. *Ciencia y Tecnología del Mar* 36, 91–103.

Soto E.H. and Paterson G.L.J. (2010) Poliquetos bentónicos intermareales y sublitorales de la región de Aysén, Chile. *Anales Instituto de la Patagonia* 38, 69–80.

Thatje S. and Brown A. (2009) The macrobenthic ecology of the Straits of Magellan and the Beagle Channel. *Anales Instituto de la Patagonia* 37, 17–27.

and

Wesenberg-Lund E. (1962) Polychaeta Errantia. Reports of the Lund University Chile Expedition 43. *Acta University of Lund* 57, 1–139.

Correspondence should be addressed to:
E. H. Soto
Facultad de Ciencias del Mar y de Recursos Naturales, Universidad de Valparaíso, Avenida Borgoño 16344, Viña del Mar, Chile
email: eulogio.soto@uv.cl