Latin American Journal of Aquatic Research, 50(5): 714-722, 2022
DOI: 10.3856/vol50-issue5-fulltext-2948

Research Article

Leocrates ernstehlersi n. sp. (Polychaeta: Hesionidae), a new species from Juan Fernández Archipelago, Chile

Oscar Díaz-Díaz[1,2], Nicolás Rozbaczylo[1] & Rodrigo A. Moreno[3,4]
[1]Faunamar Ltda., Consultorías Medio Ambientales e Investigación Marina, Santiago, Chile
[2]Postgrado en Ciencias Marinas, Instituto Oceanográfico de Venezuela, Sucre, Venezuela
[3]Facultad de Ciencias, Universidad Santo Tomás, Santiago, Chile
[4]Centro de Investigación e Innovación para el Cambio Climático (CIICC)
Universidad Santo Tomás, Santiago, Chile
Corresponding author: Oscar Díaz-Díaz (ofdiazd@gmail.com)

ABSTRACT. The genus *Leocrates* is currently made up of 11 nominal species, of which *Leocrates chinensis* Kinberg, 1866 is the type species. Kinberg's original description is brief, and the diagnostic morphological characters are poorly defined. Therefore, numerous subsequent records in different world regions have been considered doubtful. Numerous specimens of *Leocrates* collected by SCUBA diving in various locations of Robinson Crusoe Island (33°37'S, 78°51'W) in the Juan Fernández Archipelago, between 4 and 10 m depth were examined and determined as a new species herein named *Leocrates ernstehlersi* n. sp. It is characterized by the size of anterior and posterior eyes, the median chaetigers with scarce notochaetae and neurochaetae per bundle; neurochaetal blades are 4-14 times longer than wide and neuracicular lobes slightly longer than wide. A key to identifying species of *Leocrates* having large anterior eyes and anterior eyes/prostomial width ratio between 1/4 to 1/8 is also included.

Keywords: *Leocrates ernstehlersi*; polychaetes; Phyllodocida; Aciculata; hesionids; Hesioninae; taxonomy; biodiversity

INTRODUCTION

Kinberg (1866) erected *Leocrates* based upon a single specimen collected in Hong Kong waters named *L. chinensis*, corresponding to the type species. However, Kinberg's description is brief and does not provide detailed information about the species. Its translation from Latin indicates "prostomium wide, rectangular; first three segments of similar length; palps short, about half as long as lateral antennae; dorsal cirri longer than body width" (Kinberg 1866: 244). Furthermore, illustrations of the species were published almost 50 years later (Kinberg 1910: pl. 23, Fig. 7). Hartman (1948), during a revision of the type specimens of the marine annelids erected by Kinberg (1855-1910) deposited in the Swedish State Museum of Natural History at Stockholm, stated that the holotype was found dried in 1913 and its condition was poor. Pettibone (1970) redescribes the species based on specimens from the Mediterranean Sea, the Virgin Islands, Japan, and Samoa, but not from the type locality. Additionally, she validated *Leocrates claparedii* (Costa in Claparède 1868) from the Mediterranean Sea as an *L. chinensis* synonym as previously proposed by Hartman (1940), and considered *L. cupreus* Grube 1867 and *L. iris* Grube, 1878 (from the Philippines), *L. anonymus* Hessle, 1925 (from Japan) and *L. longicirrata* (Treadwell, 1902) (from Saint Thomas, Virgin Islands) as junior synonyms for *L. chinensis*. These and other records of *Leocrates*, such as *L. chinensis*, have been made worldwide, giving this species the status of cosmopo-

Corresponding editor: Paulo Paiva

litan (Ehlers 1901, Hartman 1940, 1948, Pettibone 1970). However, Parapar et al. (2004) established enough differences to separate *L. claparedeii* from *L. chinensis*, invalidating the synonymy proposed by Hartman and seconded by Pettibone.

Wang et al. (2018) found enough differences between the characterizations made by Pettibone (1970) for various species and found that the proposed synonyms were doubtful. Among those characteristics are the size proportions between palpophores and palpostyles, lateral antennae and middorsal tubercle, the shape and development of nuchal organs, the position of the median antenna, and the size of the ventral cirri. They redescribed *L. chinensis* based on specimens collected at the type locality. They concluded that the distribution of *L. chinensis* was limited to Victoria Harbour, Hong Kong, and that the records of other locations required confirmation.

Recently, Salazar-Vallejo (2020) revised *Leocrates* and *Leocratides*, Ehlers 1901. In this work, *Lamprophea* Grube, 1867 and *Dalhousia* McIntosh, 1885 were reinstated; *Leocrates* Kinberg, 1866 was restricted, and *Paraleocrates* was erected as a new genus. In this work, he described seven new species and recognized the validity of *L. iris* Grube, 1878, which Pettibone (1970) had considered synonymous with *L. chinensis*. Salazar-Vallejo (2020) defined additional morphological characters that allow a more efficient way of differentiating the species within the genus. We used those characters in the present study. Salazar-Vallejo (2020) considers *Leocrates japonicus* Gustafson, 1930 as a *nomen nudum*, pointing out that both Gustafson's (1930) and Orrhage's (1996) illustrations are not enough to sort this species out from other species in the genus. In addition, the work of Gustafson (1930) and Orrhage (1996) does not provide diagnostic features. The new arrangement established that *Leocrates* consists of 11 species with two recognized morpho-species groups according to the relative ratio of anterior eyes/prostomial width. The first group with small anterior eyes (1/10 to 1/16 ratio) with six species, and the second group with large anterior eyes (1/4 to 1/8 ratio) with five species (Salazar-Vallejo 2020).

The presence of *L. chinensis* in the Juan Fernández Archipelago has been indicated independently by two authors, Ehlers (1901) and Augener (1922), based on two sets of specimens.

Ehlers (1901) examined specimens of *Leocrates* collected in Juan Fernández by the German zoologist Ludwig H. Plate in early 1894 and later deposited in the Zoological Museum, Hamburg, Germany. He compared these samples with the type material of *L. chinensis* Kinberg, 1866. Ehlers (1901: 83-84) indicated that the type specimen was in poor condition and found no differences between Kinberg's specimen and his material. Therefore, he determined the presence of the species at the Juan Fernández Archipelago off the Pacific coast of Chile.

While Augener (1922) studied specimens collected during the Swedish Pacific Expedition, 1916-1917, obtained from Robinson Crusoe Island (Más a Tierra Island) between 30-45 m and deposited in the Swedish Museum of Natural History in Stockholm. Augener (1922) also reviewed material from the Plate's collection previously studied by Ehlers (1901).

More recently, Salazar-Vallejo (2020) examined, from the Zoologisches Museum, Berlin, Germany, two dried-out specimens (ZMB 3722) and one slide with five parapodia of the specimens collected by L. Plate that had been previously examined by Ehlers (1901). Salazar-Vallejo (2020) identified them, with some doubt, as conspecific with the new species *Leocrates harrisae*, which he described from the Revillagigedo Islands, off Western Mexico, and the Gulf of California. That conclusion was mainly based on the illustrations by Ehlers (1901, pl. 11, Figs. 10-15), especially regarding the relative size of the eyes. Ehlers figures show that the posterior eyes are as large as the anterior reniform ones or even slightly larger than them. Other features to argue that both correspond to the same species are the remaining pigmentation and the eye size is similar between anterior and posterior eyes (Salazar-Vallejo 2020). However, Salazar-Vallejo recognized the need to examine a more significant number of specimens from the Juan Fernández Archipelago to establish more definitively the affinities or similarities with *L. harrisae*.

In this paper, we examined 86 specimens of the genus collected in various locations around Robinson Crusoe Island in the Juan Fernández Archipelago. The careful review of the specimens led us to establish several characteristics that allow us to differentiate *L. ernstehlersi* n. sp. from *L. chinensis*. A key to identifying the species in the genus with large anterior eyes and anterior eyes/prostomial width ratio between 1/4 and 1/8 is included.

MATERIALS AND METHODS

Study area

The Juan Fernández Archipelago is in the southeastern Pacific Ocean, approximately 650 km west of

Valparaíso, Chile. It consists of three main islands: Robinson Crusoe (33°37'S, 78°51'W), Santa Clara (33°42'S, 79°01'W), and Alejandro Selkirk (33°45'S, 80°45'W) (Rozbaczylo & Castilla 1987). Benthic samples were collected in seven localities around the Robinson Crusoe Island: Bahía Padre, Puerto Inglés, El Palillo, Punta Pangal, Punta Lobería, Sal Si Puedes, and Bahía Tres Puntas (Fig. 1), utilizing SCUBA diving, from depths between 4 and 10 m, between the years 2008 and 2012.

Methodology

Specimens were fixed in 10% formalin and preserved in 70% ethanol. For the examination of the specimens, we followed the protocol described by Salazar-Vallejo (2020) regarding ratios of the size of anterior eyes/ prostomial width, the size of anterior eyes/posterior eyes, and length/width blade, among other features indicated in the publication.

Specimens were observed and photographed with a stereomicroscope and a trinocular phase contrast microscope with a high-resolution digital camera. The specimens were stained with methyl green and rose bengal to add contrast to external structures, such as parapodia. Drawings of Figure 2 were made with a drawing tube on a stereoscopic microscope. We took Figures 2 and 3c with a Sony cyber-shot camera.

Type specimens have been deposited in the Museo Nacional de Historia Natural, Santiago (MNHNCL ANN), and in the "Colección de Flora y Fauna Profesor Patricio Sánchez Reyes," Departamento de Ecología, Facultad de Ciencias Biológicas, Pontificia Universidad Católica de Chile, Santiago (SSUC). Non-type specimens are deposited in the reference collection of Faunamar Ltda., Santiago.

Nomenclature

The electronic edition of this article conforms to the requirements of the amended International Code of Zoological Nomenclature. Hence, the new name contained herein is available under that code from the electronic edition of this article (ICZN 1999, 2008). This published work and the nomenclatural acts it contains were registered in ZooBank (LSID urn: lsid:zoobank.org: pub: 3D42A701-27D0-45FA-AAF3-6631FBDD15EC).

Systematics

Phylum Annelida Lamarck, 1809

Class Polychaeta Grube, 1850

Subclass Errantia Audouin & Milne-Edwards, 1832

Order Phyllodocida Dales, 1962

Superfamily Nereidoidea de Blainville, 1818

Family Hesionidae Grube, 1850

Subfamily Hesioninae Grube, 1850

Genus *Leocrates* Kinberg, 1866 restricted (Salazar-Vallejo, 2020).

Type species: *Leocrates chinensis* Kinberg, 1866, by monotypy.

Diagnosis (according to Salazar-Vallejo 2020). Hesioninae with two lateral antennae and one median antenna on the dorsal prostomial surface. Palps biarticulate, palpophores large, massive, palpostyles smaller, blunt. Eyes are dark, black, or brown, usually anterior ones larger than posterior ones, sometimes approaching each other in lateral view. Nuchal organs are horizontal C-shaped. Pharynx with dorsal tubercle located immediately anterior to the frontal edge of prostomium; jaws single, fang-shaped upper and lower, and a pair of tapered or globose swollen vesicles, laterally arranged. Parapodia subbiramous along a few anterior chaetigers, biramous after that. Notochaetae from chaetiger 5, subdistally denticulate, delicate, sometimes abundant, size variable, never reaching neurochaetal tips. Neurochaetae compound falcigers, blades biden-tate, guards approaching subdistal tooth.

Leocrates ernstehlersi n. sp.

(Figs. 2-4)

Diagnosis. *Leocrates ernstehlersi* n. sp. with prostomium 1.6 times as wide as long, slightly wider anteriorly; lateral antennae slightly longer than prostomium, 1/3 times longer than palps; palpophores more than two times longer than palpostyles. Median antenna 3/4 as long as prostomium, surpassing prostomial center but not reaching prostomial anterior margin. Anterior eyes (1/8 as wide as prostomium) larger than posterior ones. The longest dorsal tentacular cirri reach up to chaetiger 7, and the longest ventral cirri reach up to chaetiger 3. Dorsal cirri longer than body width. Less than 20 notochaetae per bundle. Notoacicular lobes tapered, in median chaetigers, short, less than half as long as dorsal cirrophores; neuroacicular lobes projected, blunt, tips round, slightly wider than long. Up to 25 bidentate falcigers neurochaetae per bundle, the blades decreasing in size ventrally.

LSID urn:lsid:zoobank.org:pub:3D42A701-27D0-45FA-AAF3-6631FBDD15EC

Type material: Juan Fernández Archipelago, Robinson Crusoe Island (33°37'S, 78°51'W): Holotype

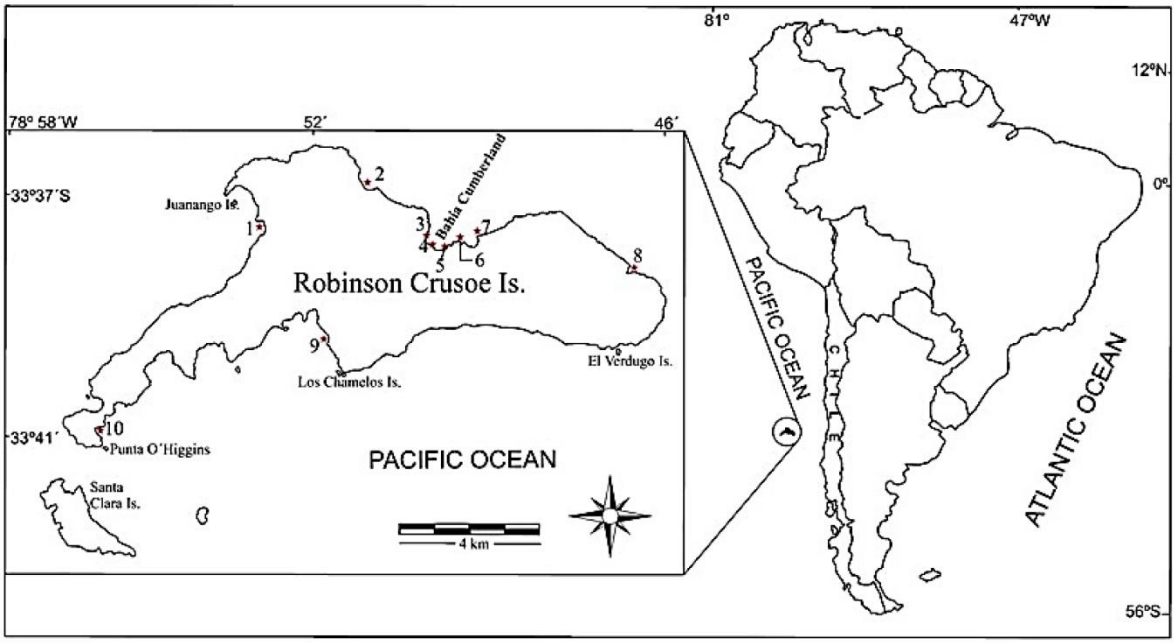

Figure 1. Map of Robinson Crusoe Island, Juan Fernández Archipelago. Stars correspond to the sampling localities of *Leocrates ernstehlersi* n. sp. (1: Bahía Tres Puntas, 2: Puerto Inglés, 3: Sal Si Puedes, 4: Estadio, 5: El Palillo, 6: Punta Lobería, 7: Punta Pangal, 8: Puerto Francés, 9: Bahía Villagra, 10: Bahía Padre).

(MNHNCL ANN-15038), Sal Si Puedes (33°37'S, 78°51'W), 4-10 m depth, (08/01/2012), coll. A. Palma. Paratypes: (MNHNCL ANN-15039), two specimens (Figs, 2b-c), Sal Si Puedes, 4-10 m depth, (08/01/2012), coll. A. Palma; (MNHNCL ANN-15040), two specimens (Fig. 2a), in front of Punta Lobería (33°38'S, 78°48'W), 4-10 m depth, (02/07/2010), coll. A. Palma; (MNHNCL ANN-15041), one specimen Bahía Padre (33°41´S, 78°56'32"W), 3-12 m depth, (09/11/2008), coll. A. Palma; (MNHNCL ANN-15042) two specimens, El Palillo (33°38'S, 78°48'40"W) 5-9 m depth (02/07/2010); (MNHNCL ANN-15043), one specimen Punta Pangal (33°37'30"S, 78°49'20"W) 4-8 m depth, (28/03/2010); coll. A. Palma; (SSUC-7773) one specimen, Bahía Padre (33°41'S, 78°56'32"W), 3-12 m depth (04/11/2008), coll. A. Palma; (SSUC-7774) one specimen, Puerto Inglés (33°36'29"S, 78°51'27"W), 5-10 m depth (23/03/2010), coll. A. Palma; (SSUC-7775) one specimen, Puerto Inglés (33°36'29"S, 78°51'27"W), 5-10 m depth (15/01/2011), coll. A. Palma; (SSUC-7776) three specimens, Punta Lobería (33°38'S, 78°48'W), 4-10 m depth, (02/07/2010); coll. A. Palma; (SSUC-7777) three specimens, Bahía Tres Puntas (33°37'41"S, 78°53'20"W), 3-12 m depth (17/11/2008).

Non type material: Juan Fernández Archipelago, Robinson Crusoe Island (33°37'S, 78°51'W): 77 specimens. Bahía Padre: one specimen (04/11/2008). Puerto Inglés: one specimen (08/01/2012); one specimen (23/03/2010); two specimens (28/03/2010). El Palillo: two specimens (16/01/2008); one specimen (09/01/2012); one specimen (16/01/2011). Punta Pangal: one specimen (01/11/2008); five specimens (03/11/2008); two specimens (28/01/2009); one specimen (17/01/2011); Punta Lobería: three specimens (28/03/2012); four specimens (20/01/2011); seven specimens (10/01/2012); eight specimens (28/03/2010); 12 specimens (02/07/2010). Sal Si Puedes: three specimens (02/07/2010); eight specimens (21/01/2011); 10 specimens (08/01/2012). Bahía Tres Puntas: three specimens (17/11/2008); one specimen (29/01/2009).

Description

Holotype and paratypes complete, body fusiform, blunt anteriorly, tapered posteriorly. Holotype 19 mm long, 4 mm wide, 16 chaetigers; body pink-pale (Fig. 2a). Prostomium 1.6 times as wide as long, slightly wider anteriorly. Lateral antennae directed ventrally, with ceratophores distinct, antennae slightly longer than prostomium, 1/3 times longer than palps, palpophores more than two times longer than palpostyles. The median antenna inserted between posterior eyes, 3/4, as long as the prostomium, surpassing the prostomial

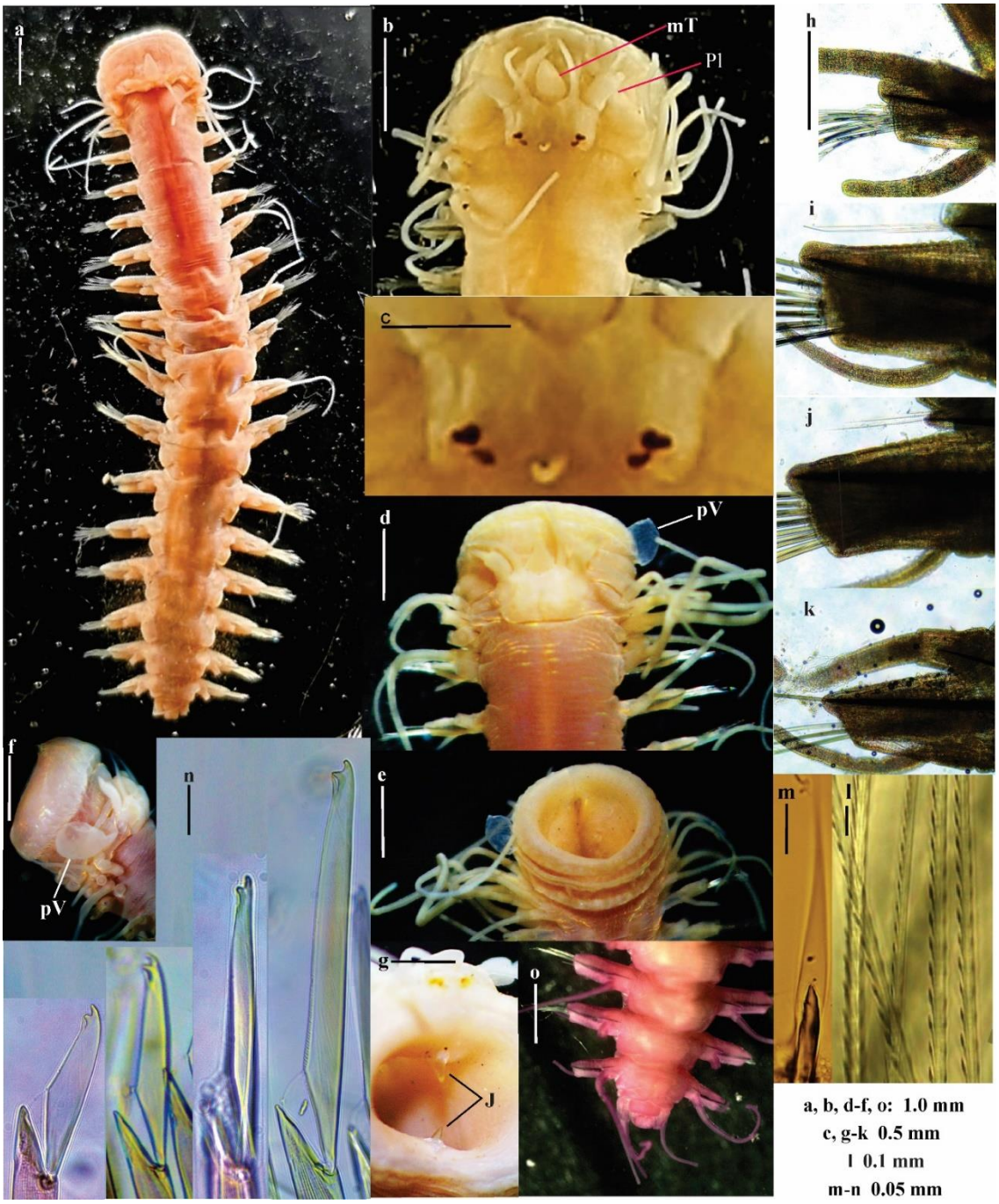

Figure 2. *Leocrates ernstehlersi* n. sp. a) Complete holotype (MNHN ANN-15038) dorsal view; b) anterior end, paratype (MNHN ANN-15039) dorsal view; c) same specimen, ventral view; d) prostomium, paratype (MNHN ANN-15040) dorsal view; e) prostomium detail, same paratype; h) parapod 1, anterior view paratype; i) parapod 7, anterior view; j) parapod 10, anterior view; k) parapod 16, anterior view; l) notochaetae, median parapods; m) anterior chaetigers neurochaeta with long hood; n) middle chaetigers neurochaetae with hood; o) posterior end, dorsal view. J: jaws; mT: peristomial tubercle, Pl: palp; pV: peristomial vesicle.

center but not reaching the anterior margin (Figs. 2b-d, 3a). Eyes dark brown. Anterior eyes slightly emarginate anterolaterally to reniform, larger than posterior ones, arranged in trapezoid, and more distant to each other than posterior, slightly oval eyes (Figs. 2b-c, 3a). Anterior eyes 1/8 as wide as prostomium. Nuchal

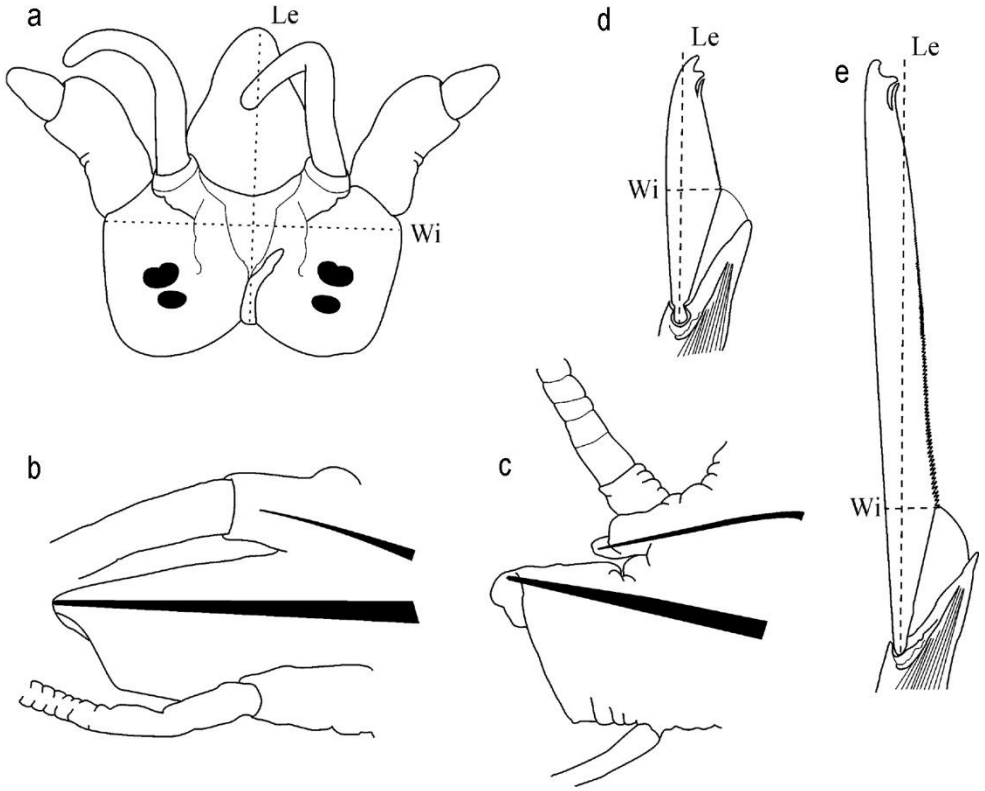

Figure 3. *Leocrates ernstehlersi* n. sp. a) Anterior end, dorsal view; b) chaetiger third parapod, anterior view; c) chaetiger eight parapod, anterior view; d) short blade falciger chaeta; e) long blade falciger chaeta. Le: length; Wi: width.

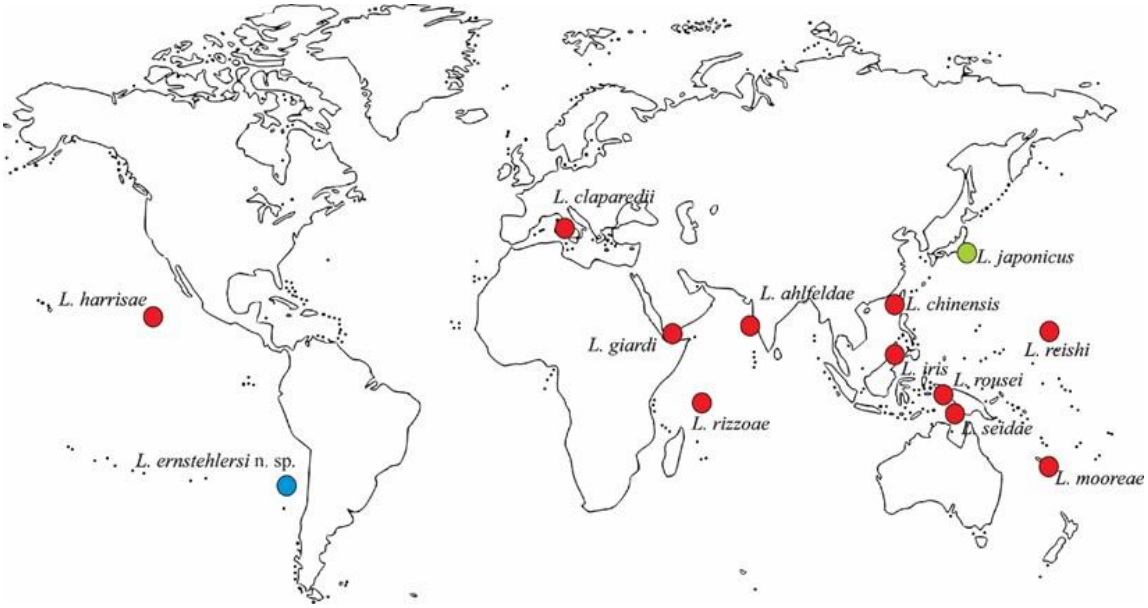

Figure 4. Type localities for *Leocrates* species (red circles: species according to Salazar-Vallejo (2020); green circle for *L. japonicus* Gustafson, 1930 *nomen nudum*, and blue circle for *L. ernstehlersi* n. sp.).

organs are horizontal C-shaped, wholly concealed by the anterior margin of the tentacular belt. Longest dorsal tentacular cirri reach up to chaetiger 7; longest ventral cirri reach up to chaetiger 3. Lateral cushions

are low in anterior chaetigers, best developed in chaetigers 8-10 but irregularly projected throughout the body. Transverse striae are visible along the body.

Pharynx exposed, with a pair of tapered lateral vesicles (Figs. 2d-f) very delicate and collapsed in most specimens. Anterior margin with 13-16 regular constrictions per side. Middorsal and midventral jaws brownish, exposed, tapered; ventral jaw smaller than dorsal one (Fig. 2g). Middorsal pharyngeal tubercle slightly longer than wide, about as long as the prostomium (Figs. 2b-c, 3a).

Most dorsal cirri are broken or lost. Some complete cirri longer than body width, at least along median chaetigers. Chaetigers 1-4 without notochaetae (Fig. 2h). Notochaetae present along chaetigers 5-16 (Figs. 2i-k); broken off in several parapodia, sparse (<20 per bundle), most arranged in fascicles. In median chaetigers, notoacicular lobes are tapered, short, less than half as long as dorsal cirrophores (Fig. 3j); neuroacicular lobes projected, blunt, tips round, slightly wider than long (Figs. 2h-k, 3b-c). Notochaetae subdistally denticulate, denticles fine, with basal portion striated (Fig. 2l). Neurochaetae falcigers (20-25 per bundle), blades decreasing in size ventrally, bidentate, 4-12 times longer than wide, guards approaching subdistal tooth (Figs. 2n, 3d-e). Aciculae black with blunt tip; notoaciculae thinner than neurociculae; notoaciculae present from chaetiger 5.

Pygidium with anus terminal, anal cirri are broken, reaching the preanal segment (Fig. 2o). The posterior region is tapered. The preanal segment with cirri broken, dorsal ones 2-3 times longer than ventral ones.

Variation

Specimens 6.5-24.0 mm long, 1.5-5.5 mm width. Two specimens with prostomia as long as wide. Biramous parapodia are usually from chaetiger 5. Five specimens with the first five chaetigers subbiramous. Anterior margin of the pharynx with 26 to 34 regular constrictions. Some specimens with darkened anterior regions due to the thick and muscular pharynx that runs through the first six chaetigers. The color in preserved material is mainly pale, but some specimens are pink-pale or tan-light.

Remarks

Until 2018, 13 species of *Leocrates* were recognized (Wang et al. 2018). Salazar-Vallejo (2020) reviewed the genus; in this work, *Lamprophea* Grube, 1867, and *Dalhousia* McIntosh, 1885, were reinstated. He proposed three new genera, *Paradalhousia*, *Paralamprophaea*, and *Paraleocrates*, described 18 new species, and established many new combinations or statuses to other species.

Leocrates differs from *Lamprophea* and *Dalhousia* in the form of the nuchal organs being C-shaped in the first. In contrast, in the others, these organs have an L or U-shape, respectively. Differs from *Paraleocrates* by the presence, in the latter, of neurochaetae unidentate and not bidentate as in *Leocrates*.

Salazar-Vallejo (2020) described seven new species, and currently, the genus *Leocrates* consist of 12 species, including *L. ernstehlersi* n. sp. and a *nomen nudum* species (*L. japonicus* Gustafson, 1930) (Fig. 4).

Ehlers (1901), in his illustration of *L. chinensis*, shows that the posterior eyes are twice the size of the anterior eyes. The specimens we examined in this study, collected between 2008 and 2012, are different by having anterior eyes longer than posterior ones. Salazar-Vallejo (2020) reviewed Plate's material from the Juan Fernández Archipelago, identified by Ehlers as *L. chinensis*. He considered it conspecific with *L. harrisae* based on Ehlers illustrations (1901, pl. 11, Figs. 10, 15). Especially regarding the relative size of eyes, being the posterior ones as large as anterior reniform ones, or even slightly larger than them, and because the smaller specimen had some remaining pigmentation, and the eye size was similar between anterior and posterior eyes. Specimens in the present study differ from *L. chinensis* and *L. harrisae* because anterior eyes are a 1/12 prostomial width, twice larger than posterior ones in *L. chinensis* and *L. harrisae*. In contrast, these are a 1/18 prostomial width, 1/3 larger than posterior ones in *L. ernstehlersi* n. sp.

Leocrates ernstehlersi n. sp. belongs to the group of those species that have anterior eyes of 1/4 to 1/8 the width of the prostomium. It differs from *L. rousei* Salazar-Vallejo, 2020, because the palpophores are 2-3 times longer than palpostyles and anterior eyes, each 1/4 prostomial width. It differs from *L. mooreae* Salazar-Vallejo, 2020, and *L. seidae* Salazar-Vallejo, 2020, because the notacicular lobe has up to three small projections in the former, and this lobe is twice longer than wide in the last one. *Leocrates ernstehlersi* n. sp. is very close to *L. iris* Grube, 1878 and *L. rizzoae* Salazar-Vallejo, 2020, being the main difference between the three species the ratio of anterior eyes/prostomium width (Table 1).

Etymology

This species is being named as a tribute to the late Dr. Ernst Ehlers, a German polychaetologist who, with the study of the Plate collection, contributed to the knowledge of the polychaete fauna of the Juan Fernández

Table 1. Comparison between the *Leocrates* species with anterior eyes larger than the posterior pair and with a ratio of the anterior eye/prostomium width <1/8. AE: anterior eyes; MA: median antenna; NoL: notoacicular lobe; NeL: neuroacicular lobe; PE: posterior eyes; Pl: prostomial length; Pw: prostomial width. AE: anterior eyes; MA: median antenna; NoL: notoacicular lobe; NeL: neuroacicular lobe; PE: posterior eyes; Pl: prostomial length; Pw: prostomial width.

Species	LP/WP	AE/PE size	AE/Pw ratio	AE/PE shape	Palpophores/ palpostyles	MA/Pl	NoL; shape	NeL; shape
L. ernstehlersi n. sp.	1.6 Wider than long;	Larger	1/8	Slightly emarginate to reniform/slightly oval	More than 2 times longer	3/4	1.5 wider than long; rounded and smooth	1.5 wider than long; rounded and smooth
L. iris Grube, 1878	Slightly longer than wide	Larger	1/5	Reniform/rounded	More than 3 times longer	1/2	Smooth	
L. mooreae Salazar-Vallejo, 2020	Longer than wide	Larger	1/5 - 1/6	Reniform/rounded	More than 2-3 times longer	3/5	With small projections	Longer than wide; conical
L. rizzoae Salazar-Vallejo, 2020	Longer than wide	Larger	1/6	Emarginate anterolaterally /rounded	More than 2 times longer	?	Smooth	Slightly longer than wide; triangular blunt
L. rousei Salazar-Vallejo, 2020	Slightly longer than wide	Twice larger than posterior ones	1/4	Emarginate anterolaterally /rounded	More than 2-3 times longer	Short	Smooth, tapered	Slightly longer than wide, blunt
L. seidae Salazar-Vallejo, 2020	Longer than wide	Larger	1/5	Slightly emarginate anteriorly/rounded	Similar	Short	Smooth, tapered, twice longer than wide	About as long as wide, blunt

Archipelago. The species-group name is a noun in the genitive case (ICZN 1999, Art. 31.1.2).

Distribution

So far, only known from the type locality, Robinson Crusoe Island, Juan Fernández Archipelago, southeastern Pacific Ocean (Figs. 1, 4).

Key to species of *Leocrates* Kinberg, 1866, with large anterior eyes and anterior eyes/prostomial width ratio between 1/4 to 1/8.

(Partially modified after Salazar-Vallejo 2020).

1 Anterior eyes larger than posterior ones; anterior eyes each 1/5 to 1/8 prostomial width ……..…… 2

- Anterior and posterior eyes subequal; anterior eyes each 1/4 prostomial width …… *L. rousei* Salazar-Vallejo, 2020

2(1) Notacicular lobe smooth, tapered, or rounded, without lateral or distal projections ……..…….....…..... 3

- Notacicular lobe with up to three small projections; eyes blackish round to emarginate; anterior eyes each 1/5-1/6 prostomial width …….... *L. mooreae* Salazar-Vallejo, 2020

3(2) Neuracicular lobe longer than broad or as long as wide ……..……..…..… 4

- Neuracicular lobe wider than long; notacicular lobe twice longer than wide; palpophores up to twice longer than palpostyles; anterior eyes each 1/5 prostomial width ……...… *L. seidae* Salazar-Vallejo, 2020

4(3) Notacicular lobes longer than dorsal cirrophores in middle segments; anterior eyes each 1/5 prostomial width ……..… *L. iris* Grube, 1878

- Notacicular lobes shorter than cirrophores or as long as dorsal cirrophores in middle chaetigers; anterior eyes each more than 1/5 prostomial width ……....……. 5

5(4) Notacicular lobes as long as dorsal cirrophores in middle chaetigers; palpophores twice longer than palpostyles; anterior eyes each 1/6 prostomial width …… *L. rizzoae* Salazar-Vallejo, 2020

- Notacicular lobes lightly shorter than dorsal cirrophores in 5-16 chaetigers; palpophores more than twice longer than palpostyles; anterior eyes each 1/8 prostomial width …..……...….. *L. ernstehlersi* n. sp.

ACKNOWLEDGMENTS

We are grateful to Dr. Alvaro Palma B., who kindly made all his specimens collected on Robinson Crusoe Island to NR between 2008 and 2012, allowing us to describe this new species. Dr. Darko Cotoras was of great help in improving the manuscript. Faunamar Ltda. provided funding for this study.

REFERENCES

Augener, H. 1922. Litorale Polychaeten von Juan Fernandez. The natural history of Juan Fernandez and Easter Island, 3: 161-218, pl. 7.

Claparède, R.E. 1868. Les annélides chétopodes du Golfe de Naples. Mémoires de la Société de Physique et d'Histoire Naturelle de Genève, 19: 313-584.

Ehlers, E. 1901. Die Polychaeten des Magellanischen und Chilenischen Strandes: Ein faunistischer Versuch. In: Fetschrift zur Feier des Hundertfünzigjährigen bestehens der Könglichen Gesellschaft der Wissenschaften zu Göttingen Abhandlungen der Matematisch-Physikalischen Klasse. Weidmannsche, Berlin.

Gustafson, G. 1930. Anatomische studien über die polychäten-familien Amphinomidae und Euphrosynidae. Zoologiska bidrag från Uppsala, 12: 305-471.

Hartman, O. 1940. Polychaetous annelids, 2. Chrysopetalidae to Goniadidae. Allan Hancock Pacific Expeditions, 7: 173-287.

Hartman, O. 1948. The marine annelids erected by Kinberg, with notes on some other types in the Swedish State Museum. Arkiv för Zoologi, 42: 1-137.

International Commission on Zoological Nomenclature (ICZN). 1999. International Code of Zoological Nomenclature. International Trust for Zoological Nomenclature in association with the British Museum (Natural History), London.

International Commission on Zoological Nomenclature (ICZN). 2008. Proposed amendment of the International Code of Zoological Nomenclature to expand and refine methods of publication. Zootaxa, 1908: 57-67.

Kinberg, J.G.H. 1866. Annulata nova (Nephtydea, Phyllodocea, Alciopea, Hesionida, Glycerea, Goniadea, Syllidea, Ariciea, Spiodea, Aonidea, Cirratulida, Opheliacea). Öfversigt af Kongelige Vetenskaps-Akademie's Förhandlingar, 22: 239-258.

Received: June 24, 2022; Accepted: September 29, 2022

Kinberg, J.G.H. 1910. Zoologi. Annulater. Kongliga Svenska Fregatten Eugenies Resa omkring jorden under befäl af C.A. Virgin Anen 1851–1853. Vetenskapliga Iakttagelser på Konung Oscar den Förstes befallning utgifna af Kongliga Svenska Vetenskapsakadeinien, Zoologi, 3: 33-78.

Orrhage, L. 1996. On the microanatomy of the brain and the innervation and homologues of the cephalic appendages of Hesionidae and Syllidae (Polychaeta). Acta Zoologica, 77: 137-151.

Parapar, J., Besteiro, C. & Moreira, J. 2004. Familia Hesionidae Grube, 1850. Fauna Ibérica, 25: 210-267.

Pettibone, M.H. 1970. Polychaeta Errantia of the Siboga Expedition, 4. Some additional polychaetes of the Polynoidae, Hesionidae, Nereidae, Goniadidae, Eunicidae, and Onuphidae selected as new species by the late Dr. Hermann Augener with remarks on other related species. Siboga Expeditie Monographie, 24: 199-270.

Rozbaczylo, N. & Castilla, J.C. 1987. Invertebrados marinos del Archipiélago de Juan Fernández. In: Castilla, J.C. (Ed.). Islas oceánicas chilenas: conocimiento científico y necesidades de investigaciones. Ediciones Universidad Católica de Chile, Santiago, pp. 167-189.

Salazar-Vallejo, S.I. 2020. Revision of *Leocrates* Kinberg, 1866 and *Leocratides* Ehlers, 1908 (Annelida, Errantia, Hesionidae). Zootaxa, 4739: 1-114. doi: 10.11646/zootaxa.4739.1.1

Wang, Z., Qiu, J.-W. & Salazar-Vallejo, S.I. 2018. Redescription of *Leocrates chinensis* Kinberg, 1866 (Annelida, Hesionidae). Zoological Studies, 57: 1-11. doi: 10.6620/ZS.2018.57-05