

## RESEARCH NOTE/NOTA CIENTÍFICA

NEW HOST AND GEOGRAPHICAL RECORD OF *PARANCYLODISCOIDES CHAETODIPTERI* CABALLERO & BRAVO-HOLLIS, 1961 (DACTYLOGYRIDEA: ANCYROCEPHALIDAE) PARASITIC ON *PARAPSETTUS PANAMENSIS* (STEINDACHNER, 1876) (PERCIFORMES: EPHIPPIDAE) FROM TUMBES, PERU

NUEVO REGISTRO DE HOSPEDERO Y GEOGRÁFICO DE *PARANCYLODISCOIDES CHAETODIPTERI* CABALLERO & BRAVO-HOLLIS, 1961 (DACTYLOGYRIDEA: ANCYROCEPHALIDAE) EN *PARAPSETTUS PANAMENSIS* (STEINDACHNER, 1876) (PERCIFORMES: EPHIPPIDAE) DE TUMBES, PERÚ

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### ABSTRACT

The presence of *Parancylodiscoides chaetodipteri* Caballero and Bravo-Hollis, 1961 on *Parapsettus panamensis* (Steindachner), “common Panama spadefish benthic” of the eastern Pacific, from the coast of Puerto Pizarro, Tumbes (Peru) is recorded. The specimens of *P. chaetodipteri* on the coast of Peru extend the geographic distribution of the species from the original locality: Salina Cruz, Oaxaca, Mexico in the Pacific Ocean. This species has not been reported since its original description in 1961. In addition, *P. panamensis* is a new host for *P. chaetodipteri*.

**Keywords:** Monogenea - *Parancylodiscoides chaetodipteri* - *Parapsettus panamensis* - Peru.

### RESUMEN

La presencia de *Parancylodiscoides chaetodipteri* Caballero y Bravo-Hollis, 1961 en *Parapsettus panamensis* (Steindachner, 1876), “curaca zapatero común bentónico” del Pacífico oriental, de la costa de Puerto Pizarro, Tumbes (Perú) es registrada. Los especímenes de *P. chaetodipteri* en la costa de Perú extienden la distribución geográfica de la especie desde su localidad de origen: Salina Cruz, Oaxaca, México en el Océano Pacífico. Esta especie no se ha registrado desde su descripción original en 1961. También, *P. panamensis* es un nuevo hospedero para *P. chaetodipteri*.

**Palabras-clave:** Monogenea – *Parancylodiscoides chaetodipteri* – *Parapsettus panamensis* – Perú.

## INTRODUCTION

*Parapsettus panamensis* (Steindachner, 1876) or Panama spadefish is a benthic fish in the Ehippidae family that is distributed from Gulf of California (USA), Sihuatanejo (Mexico) to northern Peru (Tumbes), and common in the northern Peruvian coastal zone (López & Bussing, 1982; Chirichigno & Cornejo, 2001; Castellano-Galindo *et al.*, 2006; Bastida-Zavala *et al.*, 2013; Nuñez-Orozco *et al.*, 2013; Amezcua & Amezcua-Linares, 2014). This species is listed as presenting Least Concern (LC) by International Union for Conservation of Nature and Natural Resources (IUCN) (Smith-Vaniz *et al.*, 2010). There are no species specific conservation measures in place. However, its species' distribution includes a number of Marine Protected Areas in the tropical eastern Pacific region (Smith-Vaniz *et al.*, 2010).

Papers on parasites of *P. panamensis* are restricted to a single record of isopod *Cymothoa exigua* Schioedte & Meinert, 1884 from Colombian Pacific (Ramos *et al.*, 1994).

During a parasitological survey of marine fishes from the coastal zone of the Puerto Pizarro, Tumbes, Peru, were necropsied 50 specimens of *P. panamensis* and collected numerous polyonchoinean monogeneans. In this paper, we present the first record of an *Ancyrocephalidae* species (*Parancylodiscoides chaetodipteri* Caballero and Bravo-Hollis, 1961) in spadefish from Peru.

## MATERIAL AND METHODS

Monogeneans found were fixed in 4% hot formalin, slightly flattened between slide and coverslip, stained with Gomori's trichrome and mounted in Canada balsam to study internal

organs. Other specimens were mounted in Hoyer's liquid for studying sclerotized parts. Measurements were made in millimeters (mm). Some specimens were photographed using a Leica camera CME LeicaEC3 Software LAS (Leica Application Suite) - EZ version 1.80, 2009, Switzerland.

The identification of the host follows to Chirichigno & Cornejo (2001). The taxonomic determination of the parasites was in accordance with the diagnosis proposed by Caballero & Bravo-Hollis (1961) and Kritsky (2012). Voucher specimens of *P. chaetodipteri* were deposited in the Helminthological and Related Invertebrates Collection of the Museum of Natural History at the San Marcos University (MUSM-UNMSM N° 3247) and Scientific Collection of Protozoa and Metazoan Parasites of the Federico Villarreal University (CPMP-UNFV N° 172a-c).

## RESULTS

Class MONOGENEA (Carus, 1863)  
Bychowsky, 1937  
Subclass MONOPISTHOCOTYLEA  
Odhner, 1912  
Family ANCYROCEPHALIDAE  
Bychowsky & Nagibina, 1968  
*Parancylodiscoides chaetodipteri* Caballero & Bravo-Hollis, 1961

The description is based on 15 specimen and measurements in 6 (Figures 1 to 6). Body fusiform, slightly flattened dorsoventrally, 0.776-0.868 (0.833) (n = 6) long; greatest width 0.155-0.202 (0.175) (n = 6) usually at germarium level. Tegument smooth. Cephalic region broad, with well-developed cephalic lobes and head organs; cephalic glands in two bilateral groups lateral and anterolateral to pharynx. Pharynx elongate ovate, 0.052-0.060 (0.055) (n = 6) long, 0.039-0.050 (0.046) (n = 6) wide. Haptor subrectangular, 0.055 -0.084

(0.071) (n = 6) long, 0.117-0.153 (0.132) (n = 6) wide. Ventral anchors 0.051-0.060 (0.055) (n = 10) long; dorsal anchor 0.049-0.060 (0.056) (n = 12) long. Ventral bar 0.046-0.062 (0.057) (n = 6) long; dorsal bar 0.048-0.060 (0.054) (n = 6) long. Hooks 0.008-0.011 (0.009) (n = 14) long. Egg 0.068 (n = 4) long, 0.048 (n = 4) wide. Testis ovate, 0.115-0.158 (0.139) (n = 6) long 0.053-0.109 (0.081) (n = 6), entire margins. Germarium pyriform, 0.053-0.076 (0.063) (n = 6) long, 0.038-0.059

(0.048) (n=6) wide, lying to the right of the anterior end of the testis, with anterior end significantly tapered and recurved posteriorly, then bending anteriorly as oviduct. Vaginal aperture at level of base of MCO (Male copulatory organ); vaginal vestibule large, lightly sclerotized, 0.058-0.081 (0.069) (n = 6), lying diagonally on right side of body anterior to germarium. Filament of egg 0.006 (n=4).

**Table 1.** Comparative morphometric data of *Parancylodiscooides chaetodipteri* (Ancyrocephalidae) (measured in mm) in two Ephippid hosts from Pacific Ocean. L=long. W=wide.

Taxonomic Characters	<i>Parancylodiscooides chaetodipteri</i>		
Body	L	0.679-1.027	0.776-0.868
	W	0.196-0.286	0.155-0.202
Head organs	#	6	6
Haptor	L	0.060-0.075	0.055-0.084
	W	0.127-0.164	0.117-0.153
Ventral anchor	L	-	0.051-0.060
Ventral bar	L	0.057-0.072	0.046-0.062
Dorsal anchor	L	-	0.049-0.060
Dorsal bar	L	0.068-0.083	0.048-0.060
Hooks	L	0.008-0.013	0.008-0.011
Pharynx	L	0.041-0.057	0.052-0.060
	W	0.047-0.057	0.039-0.050
Testis	L	0.094-0.125	0.115-0.158
	W	0.060-0.104	0.053-0.109
MCO	L	-	0.075-0.114
MCO base	L	-	0.028-0.035
Germarium	L	0.061-0.082	0.053-0.076
	W	0.057-0.070	0.038-0.059
Vaginal vestibule	L	0.109-0.139	0.058-0.081
	W	0.021-0.037	-
Eggs	L	0.082-0.115	0.068
	W	0.047-0.057	0.048
Filament of egg	L	-	0.006
Host		<i>Chaetodipterus zonatus</i>	<i>Parapsetus panamensis</i>
Locality type		Salina Cruz, Oaxaca, México	Puerto Pizarro, Tumbes, Peru
Site of infestation		Gills	Gills
Distribution of host		Eastern Pacific: San Diego, California USA to Peru	Eastern Pacific: Gulf of California to Peru
Reference		Caballero & Bravo-Hollis (1961)	Present



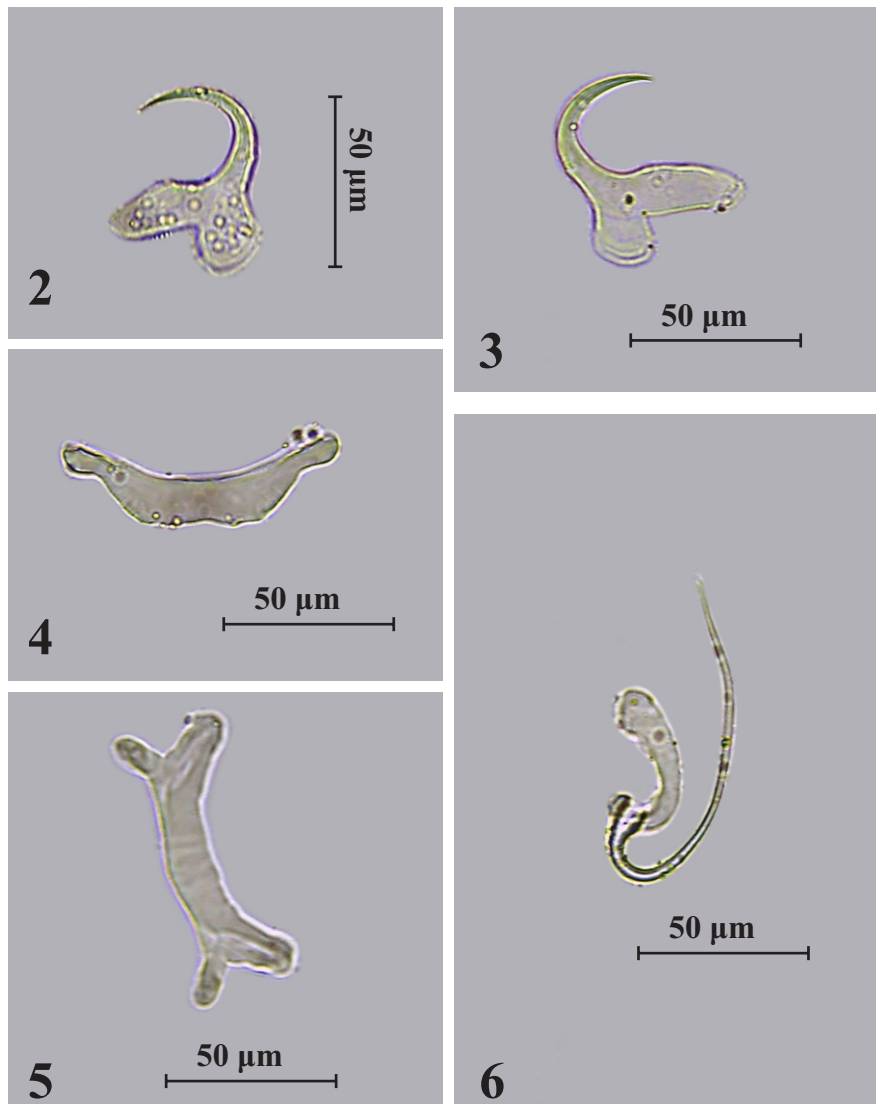
**Figure 1.** Whole mounted specimens of *Paracylodosoides chaetodipteri* Caballero and Bravo-Hollis, 1961.

## DISCUSSION

Genus *Paracylodosoides* was created by Caballero & Bravo-Hollis (1961) with the description of *Paracylodosoides chaetodipteri* using specimens collected of Pacific Spadefish *Chaetodipterus zonatus* (Girard, 1858) of the Mexican Pacific Ocean. Subsequently it amended by Kritsky (2012). To date there have been described three species in *Paracylodosoides*: *P. chaetodipteri* Caballero and Bravo-Hollis, 1961 on *Chaetodipterus zonatus* (Mexico); *P. longiphallus* (MacCallum, 1915) on

*Chaetodipterus faber* (Broussonet, 1782) (Mexico, Brazil and Puerto Rico) and *P. platacis* (Young, 1968) Kritsky, 2012 on *Platax pinnatus* (Linnaeus, 1758) (Kritsky, 2012). All fish parasites of Ephippidae family belong to *Chaetodipterus* and *Platax* genus (Caballero & Bravo-Hollis, 1961; Young, 1968; Lim & Gibson, 2009; Kritsky, 2012; Cohen *et al.*, 2013).

Specimens collected in this study show morphometric characteristics similar those designated for type species *P. chaetodipteri*, and we believe that dealing with the same species. However, we can notice some



**Figure 2-6.** *Parancylodiscoides chaetodipteri* Caballero and Bravo-Hollis, 1961. 2. Ventral anchor. 3. Dorsal anchor. 4. Ventral bar. 5. Dorsal bar. 6. MCO (Male copulatory organ).

differences we attribute to intraspecific variation, as the smaller size of vestibule of vagina, dorsal bar long (0.109-0.139 of Caballero & Bravo-Hollis (1961) vs 0.058-0.081 of the current study) and eggs (0.082-0.115 of Caballero & Bravo-Hollis (1961) vs 0.068 of the current study) in the specimen Peru (Table 1).

The results of this research contribute to increasing knowledge of the parasitic marine

fish biodiversity in Peru's north coast. *P. chaetodipteri* is considered a new record for the South American Pacific and *P. panamensis* is a new host record for this parasite. Furthermore, this study is the first report of *P. chaetodipteri* since its original description by Caballero & Bravo-Hollis (1961).

The presence of *P. chaetodipteri* in the South American Pacific might be a result from the overlapped geographical distribution of the

two host, *Ch. zonatus* (USA, Mexico and Peru) and *P. panamensis* (Mexico and Peru) (Chirichigno & Cornejo, 2001).

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