

Digenean parasites of *Cariama cristata* (Aves, Gruiformes) from Formosa Province, Argentina, with the description of a new species of the genus *Strigea*

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Abstract

A new strigeid digenean, *Strigea inflecta* sp. nov., is described from the small intestine of the Red-legged Seriema, *Cariama cristata* (L.) (Gruiformes, Cariamidae) from Formosa Province, Argentina. This species is characterized by having a body plump, a cup-shaped forebody with a large opening, a sacciform hindbody, without a neck region and strongly curved dorsally, a poorly delimited copulatory bursa, wider than longer, a shallow and asymmetrical genital atrium, and a genital cone well delimited from body parenchyma, strongly muscular, inclined towards the surface ventral of the body. Another digenean species collected from Red-legged Seriema, *Brachylaima yupanquii* Freitas, Kohn et Ibáñez, 1967 (Brachylaimidae) is described with the addition of new morphological characters and morphometrical data. This species is reported for the first time in Argentina and *C. cristata* represents a new host record.

Keywords

Strigeidae, *Strigea inflecta* sp. nov., Brachylaimidae, *Brachylaima yupanquii*, Cariamidae, Argentina

Introduction

The Red-legged Seriema, *Cariama cristata* (L.) (Gruiformes, Cariamidae), is among the largest birds endemic to the Neotropical Region, exclusively inhabiting a zone of South America between E Brazil, E Bolivia and Paraguay to Uruguay and central Argentina. It feeds mainly on arthropods, insect larvae, lizards, snakes, small vertebrates, grain and wild fruit (Gonzaga 1996). The helminth fauna of *C. cristata* has been poorly studied, so far seven species of helminths have been recorded parasitizing this species: *Ascaridia pterophora* (Creplin, 1845) (Nematoda) from Perú and Brazil; *Athesmia heterolecithodes* (Braun, 1899); *Strigea vaginata* (Brandes, 1888) (Digenea); *Oxyspirura brevipenis* (Molin, 1860), *Cramispirura altensis* (Rodrigues, 1962) (Nematoda); *Oligacanthorhynchus taenioides* (Diesing, 1851) (Acanthocephala) and *Idiogenes horridus* Fuhrmann, 1908 (Cestoda) from Brazil (Ransom 1904, 1911; Schultz 1939; Freitas and Ibáñez 1965; Travassos *et al.* 1969; Cristofaro and Feijo 1976).

The purpose of this paper is to increase the knowledge of the diversity of digenean parasites of the Red-legged Seriema, *C. cristata*, from Formosa Province, Argentina.

Materials and methods

The digeneans were collected from one specimen of *C. cristata* from La Marcela farm (26°17'35"S; 59°06'67"W), Pirané, Formosa Province, Argentina, on September 2009. The bird was dissected in the field and the viscera preserved in 10% formalin and transported to the laboratory for examination. The digenean specimens were removed, stored in 70% ethanol, stained with a 1:6 dilution in 96% ethanol of hydrochloric carmine, dehydrated and mounted between two microscope cover glasses in Canada balsam. Measurements are given in micrometers (µm) unless otherwise stated, as the range followed by mean in parentheses. Drawings were made with the aid of a drawing tube. In the description of specimens of *Brachylaima* Dujardin, 1843, the forebody is defined as the distance from the anterior end of body to the anterior border of the ventral sucker, and the hindbody from the posterior border of the ventral sucker to the posterior end. In the description of specimens of *Strigea* Abildgaard, 1790 the forebody and hindbody are defined according to Niewiadomska (2002). The abbreviations of relative proportions (ratios) are as follows: B/E: body length/egg length; BL/BW: body length/body

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width; Gc/E: genital cone length/egg length; Hi/E: hindbody length/egg length; Hi/Fo: hindbody length/forebody length; Hi/Gc: hindbody length/genital cone length; Os/Ph: ratio oral sucker length/pharynx length; Ph/Os: pharynx length/oral sucker length; T/O: ratio testes length/ovary length; Vs/Os: sucker width ratio.

Results

Strigeidae Railliet, 1919

Strigea inflecta sp. nov. (Figs 1 and 2; Tables I and II)

Description (based on 6 specimens). Body plump, 1.605–1.982 mm (1.795 mm) in total length. Tegument smooth. Forebody cup-shaped, with a large opening, 0.561–0.754 × 0.783–1.006 mm (652 × 899). Hindbody sacciform, strongly curved dorsally, without neck, about 2 times longer than forebody, 0.967–1.257 × 0.532–0.841 mm (1.143 × 0.675 mm). Hindbody length to forebody length ratio 1:1.5–2.1 (1:1.8). Oral sucker terminal, well developed, 183–241 × 126–155 (212 × 143). Ventral sucker well developed, always larger than oral sucker, 179–290 × 174–256 (244 × 223). Suckers width ratio 1:1.4–1.7 (1.5). Pseudosuckers conspicuous, about midway between suckers. Holdfast organ lobes occasionally projected from opening; proteolytic gland at base of forebody 72–121 × 121–174. Prepharynx absent; pharynx larger than oral sucker, 140–169 × 109–126 (158 × 119); oesophagus and intestinal caeca not discernible. Pharynx length to oral sucker length ratio 1:0.7–0.8. Testes in tandem, of variable appearance, cuneiform, or moderately lobed, occupying middle third of hindbody; anterior testis 135–232 × 401–483 (171 × 440); posterior testis 150–193 × 338–483 (171 × 425). Seminal vesicle long and folded on itself, posterior to posterior testis. Ovary ovoid, dorsal, 111–237 × 155–222 (169 × 190) at 242–290 (274) from junction of fore- and hindbody. Laurer's canal short, opening dorsally between ovary and anterior testis. Vitelline follicles similar in size in both parts of body; in forebody concentrated in base of holdfast organ and wall of body; slightly exceeding level of ventral sucker in dorsolateral region, and few follicles penetrate base of forebody in ventral region; in hindbody occupying almost whole width in preovarian region and extending ventrally to testes and terminating in the region of copulatory bursa. Mehlis' gland and vitelline reservoir in intertesticular region. Uterus ventral containing large eggs, 86–111 × 50–58 (104 × 55). Body length to egg length ratio 1:16–19 (1:17). Copulatory bursa poorly delimited, wider than longer, 314–435 × 483–652; genital atrium slightly, asymmetrical, 232–290 in depth; pore terminal, genital cone well delimited from body parenchyma, strongly muscular, inclined towards ventral surface of body, and opens close to ventral wall of copulatory bursa, 372–435 × 203–319; ejaculatory duct and uterus join at base of genital cone forming long and folded hermaphroditic duct. Muscular ring (Ring-

napf) absent. Ratio of hindbody length to genital cone length 1:2.4–3.1. Ratio of genital cone length to egg length 1:3.5–4.8 (1:4.1). Excretory vesicle and pore, not observed.

Taxonomic summary

Type host: *Cariama cristata* (L.) (Gruiformes, Cariamidae).

Site of infection: small intestine.

Type locality: La Marcela farm (26°17'35"S; 59°06'67"W), Pirané, Formosa Province, Argentina.

Type material: Holotype MLP 6445; paratypes, 5 specimens, MLP 6446.

Intensity of infection: 10.

Etymology: The specific name is derived from the body shape.

Remarks: The genus *Strigea* is represented in the Neotropical region by 12 species of which only 4 have the hindbody moderately to strongly curved dorsally: *Strigea elliptica* (Brandes, 1888) Szidat, 1928, described parasitizing *Bubo virginianus nacurutu* (Vieillot) (Strigidae) and *Buteogallus meridionalis* (Latham) (Accipitridae) from Brazil and Argentina, respectively, *Strigea caluri* Dubois, 1962 described parasitizing *Pharomachrus mocinno* De la Llave (Trogonidae) from Central America, *Strigea sphaerocephala* Westrumb, 1823 in Icteridae, Cotingidae and Anatidae from Brazil and Venezuela and *S. vaginata* in Cathartidae, Falconidae, Accipitridae, Cariamidae, Threskiornithidae and Anatidae from Colombia, Venezuela, Brazil and Cuba (Lunaschi and Drago 2009). *Strigea elliptica*, differs from the specimens described here by having a calyciform forebody with a small aperture, a larger posterior testis, a smaller ovary and genital cone and by possessing a well developed muscular ring (Ringnapf). *Strigea sphaerocephala* differs by possessing the forebody of greater diameter with large oblique opening, a slightly arched hindbody, with a non-delimited copulatory bursa and rounded testes. *Strigea caluri* differs in having the testes deeply lobed, a copulatory bursa with a membranous fold originating from the muscular ring (Ringnapf) surrounding the genital cone. Finally, *S. vaginata* differs in having the vitelline glands in the forebody most densely concentrated in the lips of the holdfast organ, and by the enormous genital cone, reaching up to half the length of the hindbody (see Table I). Three other taxa of the genus are similar to *S. inflecta* sp. nov., namely *Strigea sphaerula macrosicya* Dubois et Rauch, 1950, *Strigea sphaerula sphaerula* (Rudolphi, 1803) Mathias, 1925 and *Strigea subglandulosa* Dubois et Beverley-Burton, 1971, the first two taxa having been reported in the Holarctic Region as parasites of passeriform and coraciiform birds, and the third species in falconiform birds from the Ethiopian Region. These resemble the new species principally in their body plump, the forebody being wider than long, with a large opening through which holdfast organ lobes can protrude, a sacciform or reniform hindbody and by possessing a poorly

Table 1. Comparative data for *Strigea inflecta* sp. nov. and related species of the Neotropical Region

Species	<i>Strigea inflecta</i> sp. nov.		<i>S. elliptica</i>		<i>S. caluri</i>	<i>S. sphaerocephala</i>	<i>S. vaginata</i>
Distribution	Argentina		Brazil, Argentina		Central America	Brazil, Colombia	Argentina, Brazil, Colombia, Cuba, Venezuela
Source	Present study		Dubois (1968)	Lunaschi & Drago (2009)	Dubois (1968)	Dubois (1968)	Dubois & Macko (1972)
Body length	605–1982		up to 2000	1137–2101	up to 2800	up to 3000	up to 3200
Forebody	561–754 × 783–1006		600 × 500	384–613 × 353–473	880–1100 × 850–1130	1000	740–1040 × 700–900
Hindbody	967–1257 × 532–841		1200 × 600–700	702–1488 × 324–522	1250–1800 × 850–1240	–	1170–2210 × 580–920
Oral sucker	183–241 × 121–155		100	69–106 × 66–105	180–240 × 160–200	100	110–160 × 100–130
Ventral sucker	179–290 × 174–256		170–200	102–130 × 76–115	260–290 × 290–310	–	185–265 × 160–200
Pharynx	140–169 × 109–126		50	72–87 × 64–86	160–180 × 130–150	60	105–145 × 90–145
Proteolytic gland	72–121 × 121–174		–	55–95 × 121–166	–	–	190–270 × 210–370
Ovary	111–237 × 155–222		–	60–97 × 116–213	180–230 × 220–320	–	100–190 × 200–310
Anterior testis	135–232 × 401–483		300 × 400	119–168 × 190–275	420–500 × 700–860	–	210–310 × 290–550
Posterior testis	150–193 × 338–483		–	167–367 × 226–290	480–600 × 750–860	–	220–400 × 350–570
Copulatory bursa	314–435 × 483–652		–	–	–	–	–
Genital cone	372–459 × 203–319		–	131–250 × 48–95	–	–	480–950 × 350–550
Genital atrium	232–290		–	90–143	–	–	–
Eggs	86–111 × 50–58		75–100 × 50–55	81–101 × 48–60	84–99 × 52–63	100 × 50	80–106 × 46–65
Ratios							
Hi/Fo	1:1.5–2.1		1:2*	1:1.3–2.5	1:1.4–1.8	1:2	1:1.5–2.3
Vs/Os	1:1.4–2.1		1:1.7–2*	1:0.8–1.3	1:1.6–1.8*	–	1:1.3–1.4*
Ph/Os	0.7–0.8		1:0.5*	0.8–1.1	0.8–0.9*	0.6	0.8*
B/E	16–19		20–27*	13–20	20–24*	30	–
Hi/E	10–12		12–1*	9–15*	15–18*	–	14–18*
Hi/Gc	2.4–3.1		–	5.4–6*	–	–	2.3–2.4*
Gc/E	3.5–4.8		–	1.6–2.5*	–	–	6–9*
Hosts	<i>C. cristata</i>	<i>B. virginianus nacurutu</i>	<i>B. meridionalis</i>	<i>P. mocinno</i>	<i>Pyroderus scutatus</i> <i>Psarocolius decumanus</i>	<i>Cathartes aura aura</i>	

*Calculated from original descriptions.

delimited copulatory bursa and lacking of muscular ring or “Ringnapf”. *Strigea sphaerula macrosicya*, described parasitizing *Corvus corax principalis* Ridgway (Passeriformes) from Alaska, differs from the new species by having larger suckers and pharynx, and a smaller genital cone. *Strigea sphaerula sphaerula*, reported in *Corvus corone* L., *Corvus frugilegus* L., *Garrulus glandarius* (L.), *Lanius collurio* L. (Passeriformes), *Coracias garrulus* L. (Coraciiformes) from Eurasia, can be distinguished by having larger testes and eggs, and by having a smaller genital cone. Finally, *S. subglandulosa*, described in *Circus ranivorus* (Daudin) (Falconiformes) from Zambia, differs from *Strigea inflecta* sp. nov. in most metrical characters, i.e. the smaller size of the body, the suckers, pharynx, genital cone, and the depth of genital atrium, a longer ovary and wider testes (see Table II). Moreover, this species differs for possessing muscular ring or “Ringnapf”, and by the distribution of vitelline follicles in the forebody.

Brachylaimidae Joyeux et Foley, 1930

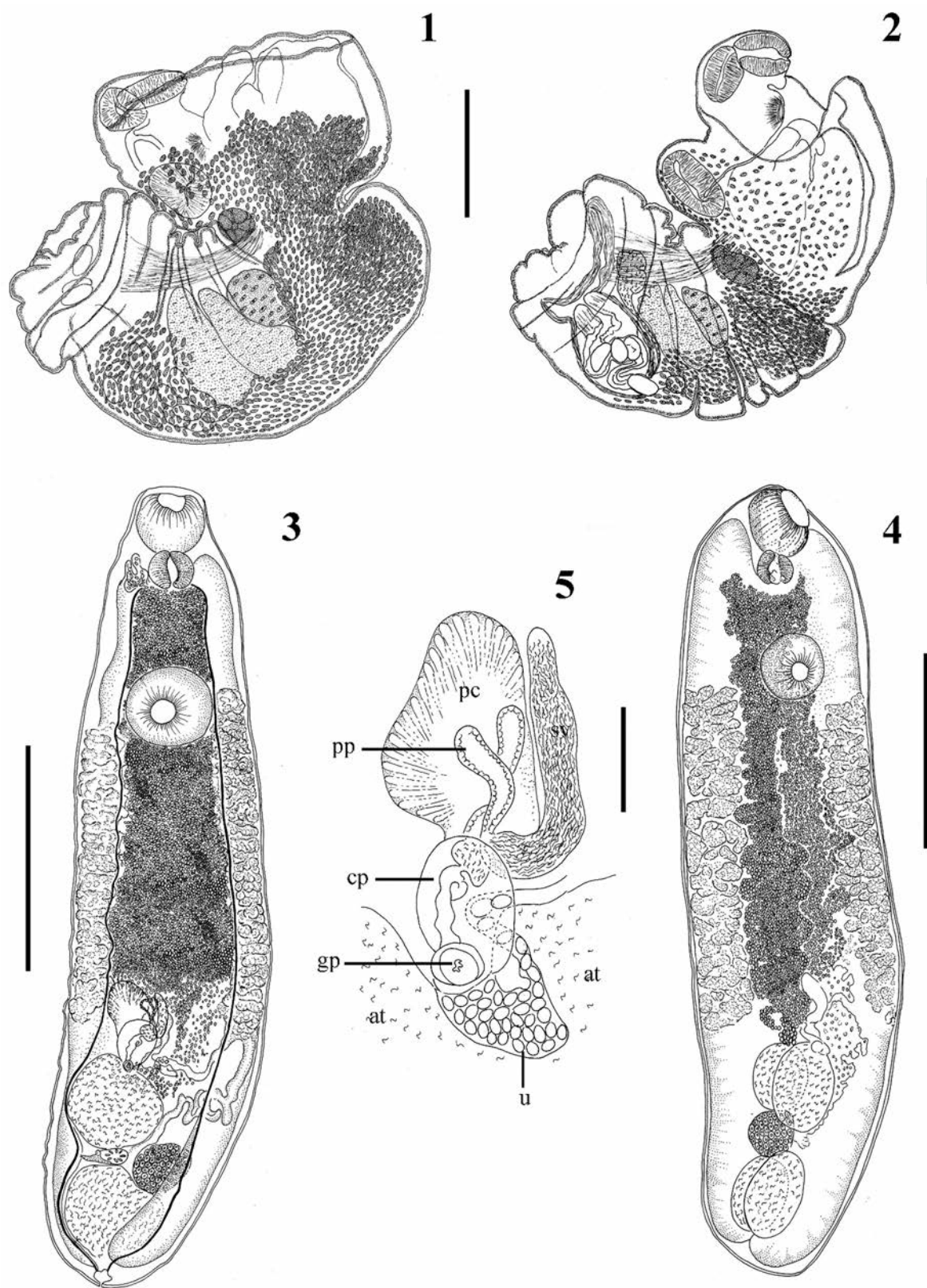
***Brachylaima yupanquii* Freitas, Kohn et Ibáñez, 1967**
(Figs 3–5, Table III)

Description (based on 6 mature specimens): Body elongate, linguiform, 1.6–3.9 mm (2.8 mm) long by 0.586–1.029 mm (0.788 mm) wide. Ratio length/width of body 1:3.3–4 (1:3.7). Forebody 483–803 (670) long, 19–31% of body length; hindbody longer than forebody, 1.5–2.9 mm (2.04 mm) long. Hindbody length to forebody length ratio 1:2.5–3.9 (1:3). Tegument spined around anterior end. Oral sucker subterminal, 227–338 long by 217–300 wide (278 × 267). Ventral sucker well developed, larger than oral sucker, located in first quarter of body, 227–362 long by 241–386 wide (305 × 317). Sucker-width ratio 1:1.1–1.3 (1:1.2). Inter-sucker distance 101–532 (344). Prepharynx absent; pharynx muscular, well developed, 119–193 long by 145–232 wide (172 × 193); oesophagus not discernible; intestinal caeca narrow and sinuous

Table II. Comparative data for *Strigea inflecta* sp. nov. and related species of the Neotropical Region

Species	<i>Strigea inflecta</i> sp. nov.	<i>S. sphaerula macrosicya</i>	<i>S. sphaerula sphaerula</i>	<i>S. subglandulosa</i>
Distribution	Argentina	Alaska	Eurasia	Zambia
Source	Present study	Dubois (1968)	Dubois (1968)	Dubois & Beverley-Burton (1971)
Body length	1605–1982	1950–2250	up to 3000	1040–1340
Forebody	561–754 × 783–1006	660–750 × 1050	420–1080 × 630–1350	400–470 × 450–580
Hindbody	967–1257 × 532–841	1500 × 780–1020	660–1710 × 520–1050	640–960 × 360–560
Oral sucker	183–241 × 121–155	260–315 × 250–270	106–260 × 105–190	105–130 × 80–105
Ventral sucker	179–290 × 174–256	350–360 × 290–315	220–315 × 160–300	135–185 × 90–160
Pharynx	140–169 × 109–126	180–215 × 180–190	100–165 × 90–165	60–84 × 68–86
Proteolytic gland	72–121 × 121–174	–	–	100–155 × 180–245
Ovary	111–237 × 155–222	160 × 230	180–200 × 150–260	60–120 × 125–220
Anterior testis	135–232 × 401–483	200–390	310–500 × 210–450	100–200 × 210–330
Posterior testis	150–193 × 338–483	270 × 390	270–630 × 180–500	130–270 × 205–330
Copulatory bursa	314–435 × 483–652	–	–	–
Genital cone	372–435 × 203–319	280–300 in diam.	120–235 × 180–190	120–160 × 100–120
Genital atrium	232–290	210–350	150–180	140–220
Eggs	86–111 × 50–58	100–108 × 60–63	100–123 × 60–77	85–94 × 52–63
Ratios				
Hi/Fo	1.5–2.1	1.8–1.9*	1.1–2.7*	1.47–2.25
Vs/Os	1.4–2.1	1.2*	1.5–1.6*	1.1–1.5*
Ph/Os	0.7–0.8	0.7	0.6–0.9	0.6*
B/E	16–19	20–21*	24–30*	12–14*
Hi/E	10–12	14–15*	7–14*	7–10*
Hi/Gc	2.4–3.1	5–5.3*	5.5–7.3*	5.3–6*
Gc/E	3.5–3.8	2.8*	1.2–1.9*	1.4–1.7*
Hosts	<i>Cariama cristata</i>	<i>Corvus corax principalis</i>	<i>Corvus corone</i> , <i>Corvus frugilegus</i> , <i>Garrulus glandarius</i> , <i>Lanius collurio</i> , <i>Coracias garrulus</i>	<i>Circus ranivorus</i>

*Calculated from original descriptions.



Digeneans from *Cariama cristata*. **Figs 1–2.** *Strigea inflecta* sp. nov. **1.** Holotype, entire worm, lateral view. Scale bar = 200 µm. **2.** Paratype, entire worm, lateral view. Scale bar = 300 µm. **Figs 3–5.** *Brachylaima yupanquii*. **3 and 4.** Entire worm, ventral view. **4.** Specimen showing the bilobed appearance of testes. Scale bar = 1 mm. **5.** Enlarged ventral view of terminal genitalia. Scale bar = 100 µm. **Abbreviations:** at – anterior testis, cp – cirrus pouch, gp – genital pore, pc – prostatic cells, pp – pars prostatic, sv – seminal vesicle, u – uterus

Table III. Comparative data for *Brachylaima yupanquii* Freitas, Kohn et Ibáñez, 1967 and *Brachylaima migrans* Dujardin, 1845

Species	<i>Brachylaima yupanquii</i>				<i>Brachylaima migrans</i>			
	Argentina	Perú	France	Brazil	Brazil	Brazil	Brazil	Argentina
Distribution								
Source	Present study	Freitas <i>et al.</i> (1967)	Dujardin (1845)	Lutz (1895)	Freitas <i>et al.</i> (1967)	Dobbin & Freitas (1968)	Martínez (1986)	
Cited as			<i>B. migrans</i>	<i>B. migrans</i>	<i>B. advena</i>	<i>B. advena</i>	<i>B. advena</i>	
Body length	1600–3914	3470	800–1800	4000	4530–6670	3600–5140	3420–8000	
width	586–1029	1010	300–750	1100	1400–1630	930–1200	1210–1450	
Oral sucker	227–338 × 217–300	310 × 330		–	450–510 × 590–640	290–350 × 350–400	278 in diam.	
Ventral sucker	227–362 × 241–386	400 × 430	140–210	Smaller than Os	430–480 × 510–560	270–320 × 320–350	278–343 in diam.	
Pharynx	119–193 × 145–232	220 in diam.	100–120	–	210 × 270–300	160–190 × 240–270	–	
Ovary	135–266 × 198–256	230 in length	–	–	200–240 × 300–370	160–210 × 270–400	–	
Anterior testis	199–507 × 304–444	280 × 350	–	–	220–480 × 250–590	350–670 × 370–560	–	
Posterior testis	256–497 × 314–444	290 × 350	–	–	230–530 × 330–510	370–510 × 450–590	–	
Eggs	24–29 × 14–19	29 × 18	36 × 18	–	20–26 × 15–17	26–30 × 16–19	25–29 in length	
Ratios								
BL/BW	3.3–4	3.4*	2.4–2.7*	3.6*	3.2–4.1*	3.9–4.3*	2.8–5.5*	
B/E	62–137	120*	22–50*	–	174–334*	120–198*	118–320*	
Vs/Os	1.1–1.3	1.3*	= 1	< 1	0.9	0.91–0.97	1–1.2*	
Os/Ph	1.4–1.9	1.4*	1.4–1.8*	–	2.1–2.4*	1.8*	–	
T/O	1.7–2.2	1.2–1.3*	–	–	1.1–2.2*	2.2–3.2*	–	
Hosts	Aves	Aves	Mammalia	Mammalia	Mammalia	Mammalia	Mammalia	
	<i>Cariama cristata</i>	<i>Turdus fuscater</i>	<i>Sorex araneus</i>	<i>Didelphis aurita</i>	<i>Didelphis aurita</i>	<i>Zygodontomys pixuna</i>	<i>Didelphis albiventris</i>	
			<i>Sorex leucodon</i>			<i>Oryzomys subflavus</i>		
			<i>Eliomys quercinus</i>					
			<i>Rattus rattus</i>					
			<i>Rattus norvegicus</i>					
			Aves					
			<i>Turdus iliacus</i>					

*Calculated from original descriptions.

or conspicuously widened and straight, extending to near posterior body end. Ratio oral sucker length to pharynx length 1:1.4–1.9 (1:1.6). Gonads in tandem, located in posterior quarter of body. Genital pore ventral, pretesticular, near anterior margin of anterior testis, surrounded by gland cells free in parenchyma. Cirrus sac 76–118 long by 45–74 wide (94×56), containing only unarmed cirrus; seminal vesicle elongate, tubular; pars prostatica long surrounded by numerous prostatic cells. Testes round to oval, (in one specimen with bilobed appearance due to pressure caused by caeca), up to 2 times larger than ovary; anterior testis 299–507 long by 304–444 wide (406×388); posterior testis 256–497 long by 314–444 wide (391×374). Ovary spherical to cuneiform, intertesticular, 135–266 long by 198–256 wide (214×227). Ratio testes length to ovary length 1.7–2.2:1 (1.9:1). Mehlis gland lateral to ovary and intertesticular; Laurer's canal short. Uterus intercaecal, entirely preovarian, extends anteriorly, reaching pharynx. Metraterm short, muscular, 95–120 long (101). Vitelline bands composed of caecal and extracaecal follicles, extend from ventral sucker to pretesticular region. Eggs numerous, small, light brown, 24–29 long by 14–19 wide (27×17). Ratio of body length to egg length 90–137:1 (120:1). Excretory vesicle short, Y-shaped, posterior to extremities of caeca, with two long main excretory canals. Excretory pore terminal.

Taxonomic summary

Host: *Cariama cristata* (L.) (Gruiformes, Cariamidae).

Site of infection: small intestine.

Locality: La Marcela farm (26°17'35"S; 59°06'67"W), Pi-rané, Formosa Province, Argentina.

Intensity of infection: 18.

Material deposited: MLP 6444.

Remarks: The family Brachylaimidae includes seven genera, principally parasites of the alimentary tract of birds and mammals, and with a life cycle that includes only terrestrial molluscs as intermediate hosts. The type-genus, *Brachylaima* has been reported in South America as a parasite of passeriform, galliform and columbiform birds naturally infected from Brazil, Venezuela and Perú, and dasipodid, didelphid, murid and cricetid mammals from Brazil and Argentina. At present, five species of *Brachylaima* have been described as parasites of South American birds: *B. yupanquii* parasitizing *Turdus fus-cater* d'Orbigny et Lafresnaye (Turdidae) from Perú; *Brachylaima digiustii* Nasir et Rodríguez, 1966 in columbids from Venezuela; *Brachylaima mazzantii* (Travassos, 1927) Freitas et Kohn, 1964 in columbids from Brazil; *Brachylaima mordens* (Braun, 1901) in rallids from Brazil and *Brachylaima marsupium* (Braun, 1901) Dollfus, 1935 parasitizing galliforms from Brazil (Braun 1901, 1902; Travassos 1927, 1928; Dollfus 1935; Nasir and Rodríguez 1966; Freitas et al. 1967; Travassos et al. 1969; Yamaguti 1971; Corrêa Gomes and Magalhães Pinto 1978; Adriano et al. 2001). Moreover, Heyne-

man et al. (1960) described an indeterminate species parasitizing a species of passeriform bird from Venezuela. Of these species reported to date, the specimens here described principally differ from *B. mordens* in the distribution of the uterus which does not extend anteriorly beyond the level of the ventral sucker. The remaining species share with the specimens recovered from *C. cristata* the extension of the uterus which reaches into the inter-sucker region. Nevertheless, *B. marsupium*, *B. digiustii* and *B. mazzantii* differ from our specimens by the distribution of the vitelline follicles, which extend into the forebody whereas, *B. yupanquii* has a similar distribution of vitelline follicles. The specimens of *B. yupanquii* studied here, showed a wide variation in the body size, and the shape of the testes and ovary, which could be related with the degree of contraction of specimens. Given that *B. yupanquii* was originally described based on a single specimen, the present study has enabled us to augment the original description with new morphological characters and morphometrical data. The presence of *B. yupanquii* in *C. cristata* represents a new host record, the first record in gruiform birds and the first report in Argentinean birds.

On the other hand, we have observed that the type-species of the genus, *Brachylaima migrans* Dujardin, 1845 (syn. *Brachylaima advena* Dujardin, 1843 according to Butcher and Grove 2001) possesses morphological characters and morphometrical data similar to *B. yupanquii* (see Table III), however according Freitas et al. (1967), these species can be differentiated by the ratio ventral sucker/oral sucker, being higher than 1 in the last species.

Dujardin (1845) reported the presence of *B. migrans* parasitizing the following species of mammals and birds in France: *Sorex araneus* L., *Sorex leucodon* Herman (Rodentia: Soricidae), *Eliomys quercinus* L. (as *Myoxus nitella*) (Rodentia: Gliridae), *Rattus rattus* L. (as *Mus rattus*) and *Rattus norvegicus* Berkenhout (as *Mus decumanus*) (Rodentia: Muridae) and *Turdus iliacus* L. (as *T. musicus*) (Aves: Turdidae). In South America, this species was reported parasitizing several species of mammals infected naturally from Brazil (murids, cricetids, didelphids and dasypodids) and a species of didelphid marsupial from Argentina (Lutz 1895; Freitas et al. 1967; Dobbin and Freitas 1968; Travassos et al. 1969; Martínez 1986). In addition, Freitas et al. (1967) provide a long list of synonymous species of *B. advena*, extending its geographic distribution to North America, Africa, and Europa and, its list of natural hosts; and reported adult specimens obtained experimentally both in mammals and birds, such as *Columba livia* Gmelin, *Numida meleagris* L. and *Gallus gallus* L. Given the above, *B. migrans* is a generalist species that parasitizes both mammals and birds.

The comparative analysis of the specimens here studied with those of *B. yupanquii* originally described in Perú, and *B. migrans* described in France, Brazil and Argentina (Table III), revealed that the specimens described by Martínez parasitizing *Didelphis albiventris* did not conform to the specific diagnosis of *B. migrans* by having a ventral sucker larger than

oral sucker, and their correct identification corresponds to *B. yupanquii*. Therefore, this species as *B. migrans* can be found in the digestive tract of both birds and mammals.

Acknowledgments. Special thanks are due to Dr. Carlos Montoya for help and hospitality during our stay in La Marcela farm, Formosa Province. The authors, Lía Lunaschi and Fabiana Drago are members of the Comisión de Investigaciones Científicas de la Provincia de Buenos Aires (CIC) and Universidad Nacional de La Plata (UNLP), respectively. The present study was funded by CIC (Res. No. 1535/10).

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