

New records of *Lubens lubens* (Braun, 1901) and *Pojmanskia riosae* Zamparo, Brooks & Causey, 2003 (Digenea) in *Taraba major* (Vieillot) (Aves: Thamnophilidae) from Argentina

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ABSTRACT: *Pojmanskia riosae* (Digenea: Leucochloridiidae) and *Lubens lubens* (Digenea: Dicrocoeliidae) are described from the intestine and cloaca of the Chororó or Great Antshrike, *Taraba major* (Passeriformes: Thamnophilidae) from Formosa Province, Argentina. The finding of *P. riosae* constitutes the first record of the genus for South American birds and the first record in thamnophilid birds. The discovery of *L. lubens* in *T. major* represents a new host record and the first report of this species in Argentina. Moreover, *Lubens phelpsi* is synonymized with *L. lubens*.

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The Chororó or Great Antshrike, *Taraba major* (Vieillot) (Passeriformes, Thamnophilidae), is a little bird with a wide distribution in the Neotropical Region from Mexico to Tierra del Fuego, Argentina. It is generalist feeder, including a wide variety of invertebrates, small vertebrates and vegetables in their diet. Arthropods, mollusks, fishes, lizards, frogs, tadpoles and mammals are the most common prey items (López *et al.* 2005; Zimmer and Isler 2003). Usually, the generalist feeders are exposed to a greater number of potential intermediate host species, resulting in greater helminth richness when compared to a specialized consumer (Poulin 1997, 2007; Santoro *et al.* 2012). In despite of the broad diet of *T. major*, a few reports about its helminths are known: *Prosthogonimus ovatus* (Rudolphi, 1903) (Digenea: Prosthogonimidae), *Tetrameres* sp. (Nematoda: Tetrameridae) and *Diplotriaeana* sp. (Nematoda: Diplotriaeidae) from Brazil; *Strigea orbiculata* Lunaschi & Drago, 2013 (Digenea: Strigeidae) and *Lyperosomum oswaldoi* (Travassos, 1919) (Digenea: Dicrocoeliidae) from Argentina (Travassos and Freitas 1940; Kohn and Fernandes 1972; Vicente *et al.* 1983; Lunaschi and Drago 2013).

The aim of this paper is to increase the knowledge of the diversity of helminths of the Great Antshrike, *T. major*, as well as actualize the geographical distribution of its parasites.

Seven specimens of *Taraba major* were collected with a shotgun in September 2009, June and September 2012 at La Marcela farm, Pirané, Formosa Province, Argentina (26°17'35" S; 59°08'38" W), with authorization of Ministerio de la Producción y Ambiente, Dirección de Fauna y Parques of Formosa Province. The birds were dissected in the field and their viscera immediately analyzed after capture. All specimens were recovered alive, fixed in 5% hot formalin, stored in 70% ethanol, stained with

hydrochloric carmine, and mounted in Canada balsam (Langeron 1942). The drawings were made with the aid of a light microscopy with a drawing tube. Measurements are given in micrometres (µm) unless otherwise stated, as the range followed by the mean in parentheses. The digeneans were deposited in the Helminthological Collection of the Museo de La Plata (MLP-He), and the hosts in the Ornithological Collection of the Museo de La Plata (MLP), La Plata, Argentina. The abbreviations of the metrical features are as follows: Atl: Anterior testis length; Atw: Anterior testis width; Bl: body length; Bw: body width; Csl: cirrus sac length; Csw: cirrus sac width; Dvg-Ep: distance from the extremity of vitelline bands to the posterior extremity of the body; E: eggs; Ltl: left testis length; Ltw: left testis width; M: Metraterm; Oel: oesophagus length; Ol: ovary length; Osl: oral sucker length; Osw: oral sucker width; Ow: ovary width; Phl: pharynx length; Phw: pharynx width; Ptl: Posterior testis length; Ptw: Posterior testis width; Rtl: right testis length; Rtw: right testis width; Vg: vitelline glands length; Vsl: ventral sucker length; Vsw: ventral sucker width. The abbreviations of relative proportions (ratios) are as follows: B/E: Body length/Egg length; L/W: Body length/Body width; Ph/Os: pharynx length/oral sucker length; Vs/Os: sucker width ratio.

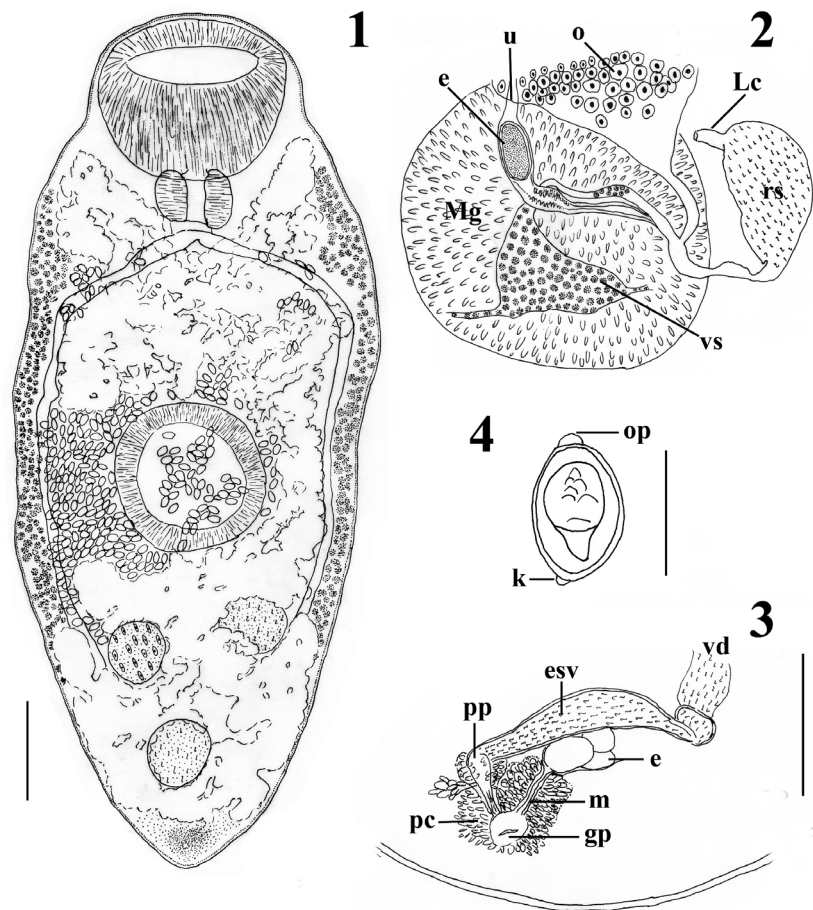
Brachylaimoidea Poche, 1907

Leucochloridiidae Poche, 1907

Pojmanskia Zamparo, Brooks & Causey, 2003

Pojmanskia riosae Zamparo, Brooks & Causey, 2003 (Figures 1–4)

Description (based on 17 specimens). Body oval, 1.1–1.7 (1.4) mm long by 0.6–0.8 (0.7) mm wide; tegument with minute spines, difficult to observe in stained specimens. Oral sucker well developed, subterminal, rounded, 266–



Figures 1-4. *Pojmanskia riosae*. **1.** Entire worm, ventral view. Scale bar = 200 μ m. **2.** Enlarged view of ovarian complex. Scale bar = 50 μ m. **3.** Enlarged ventral view of terminal genitalia. Scale bar = 100 μ m. **4.** Egg. Scale bar = 25 μ m. **Abbreviations:** e – egg; esv – external seminal vesicle; gp – genital pore; k – knob; Lc – Laurer's canal; m – metraterm; Mg – Melhis gland; o – ovary; op – operculum; pc – prostatic cells; pp – pars prostatica; rs – seminal receptacle; u – uterus; vd – vas deferens; vs – vitelline reservoir.

358 (307) long by 328–397 (363) wide. Ventral sucker equatorial, well developed, similar in size to oral sucker, 309–386 (340) long by 309–418 (365) wide. Prepharynx absent; oesophagus very short; pharynx wider than longer, 95–111 (102) long by 128–167 (146) wide; caeca slender, long, extending to posterior testis. Genital pore median, subterminal, ventral, surrounded by gland cells free in the parenchyma, genital atrium shallow. Cirrus sac 44–48 long by 29 wide, containing a short cirrus, pars prostatica, and small internal seminal vesicle; external seminal vesicle large, tubular, situated transversely to the body axis, near to posterior testis, 189 long. Gonads in hindbody, intercaecal, rounded, arranged in triangle. Anterior testis located on the left side of the body 119–157 (144) long by 119–167 (145) wide; posterior testis in middle line, near the posterior end of the body, 129–148 (169) long by 119–164 (121) wide. Ovary dextral, intertesticular, lateral to mid-line of body, on opposite side of anterior testis, similar in size to the testes, 114–135 (128) long by 119–131 (127) wide. Laurer's canal present. Seminal receptacle present as distal dilation of Laurer's canal. Mehlis' gland immediately posterior to ovary. Vitellaria in two lateral fields extending from posterior region of oral sucker to ovarian region; follicles mainly extracaecal, some of them overlapping the caeca. Uterus, containing immature eggs, extends anteriorly along dextral side of body, reaches the oral sucker level and descend through the left side of body.

Later, containing mature eggs, runs to the right side in the post-acetabular region, and crosses ovarian-testicular space forming several extra caecal loops in the gonadal area. Metraterm short, 44 long, surrounded by gland cells. Mature eggs dark brown, thick shelled, asymmetrical, operculated, with small knob at the abopercular end, and with fully developed miracidium, 24–29 \times 14–21 (26 \times 18). Excretory vesicle Y-shaped, short and wide, bifurcating immediately posterior to the posterior testis; excretory pore dorso-subterminal.

Host: *Taraba major* (Vieillot) (Chororó, Great Antshrike) (Passeriformes, Thamnophilidae).

Locality: La Marcela farm (26°17'35" S; 59°08'38" W), Pirané, Formosa Province, Argentina.

Date of collection: June and September 2012.

Site of infection: cloaca.

Prevalence: 44 % (4 of 9).

Mean Intensity: 34 (5–118).

Specimens deposited: MLP-He 6731.

In Argentina, only four representatives of the Brachylaimoidea have been reported: *Tinamutrema canoae* Zamparo, Brooks & Causey, 2003 [as *Brachylaima centrodes* (Braun) Dollfus, 1935] (Brachylaimidae) in *Crypturellus tataupa* (Temminck) (Tinamidae) from La Plata Zoological Garden, Buenos Aires Province,

Brachylaima migrans Dujardin, 1843 (Brachylaimidae) in *Didelphis albiventris* (Lund) and *Lutreolina crassicaudata* (Desmarest) (Didelphidae) from Chaco and Corrientes Provinces, and *Brachylaima yupanquii* Freitas, Kohn & Ibáñez, 1967 (Brachylaimidae) in *Cariama cristata* (L.) (Cariamidae) from Formosa Province, and *Urotocus fusiformis* McIntosh, 1935 (Leucochloridiidae) in *Pteroptochos tarnii* (King) (Rhinocryptidae) from Gutiérrez and Mascardi lakes, Río Negro Province (Boero and Boehringer 1967; Boero and Led 1968; Martínez 1986, 2003; Flores et al. 2003; Zamparo et al. 2003a; Lunaschi and Drago 2012). Zamparo et al. (2003b) erected the genus *Pojmanskia* to contain specimens found parasitizing several species of birds from Costa Rica. This genus was considered as leucochloridiid-like brachylaimoid by Zamparo et al. (2003b) and Zamparo and Brooks (2006, 2007), and included in Leucochloridiidae by Rodríguez-Ortiz et al. (2004) and Pojmańska et al. (2008). Zamparo et al. (2003b) characterized this genus by possessing the genital pore ventral and surrounded by gland cells, excretory pore dorsal, cirrus sac containing cirrus, pars prostatica, short internal seminal vesicle, testes tandem, ovary intertesticular, and seminal receptacle formed by an expansion of Laurer canal. Later, Zamparo and Brooks (2007) emended its diagnosis to include the presence of an external seminal vesicle. At present, *Pojmanskia* is represented only by the type species, *Pojmanskia riosae*, found parasitizing the small intestine, rectum and gall bladder of passeriform, cuculiform and trogoniform birds from Costa Rica. These specimens share with those here described the conformation of ovarian complex and the terminal genitalia, but differ by being longer (1.5–2.5 mm vs. 1.1–1.7 mm), by having a larger oral sucker (370–466 x 400–503 vs. 266–358 x 328–397), testes (anterior testis 122–323 x 141–266 vs. 119–157 x 119–167; posterior testis 114–323 x 118–366 vs. 129–148 x 119–164) and metraterm (95–114 vs. 44), and smaller eggs (18–24 x 13–17 vs. 24–29 x 14–21).

On the other hand, the specimens here described have some resemblance to those of *Leucochloridium parcum* Travassos, 1922 described by Travassos (1922, 1928) from Brazil, reported parasitizing passeriform birds, *Psarocolius decumanus* (Pallas) (as *Ostinops d.*) (Icteridae) and *Tachyphonus cristatus brunneus* (Spix) (Thraupidae). *Leucochloridium parcum* was transferred by Kagan (1952) to genus *Urogonimus* Monticelli, 1888 [as *U. parcum* (Travassos, 1922)], and by Pojmańska (1973) to genus *Michajlovia* Pojmańska, 1973 [as *M. parcum* (Travassos, 1922)] when considering the genital pore in ventral position. Finally, Brasil et al. (1991) analyzed the type material and specimens found in *Passer domesticus* (L.) (Passeridae) from Brazil, and established the dorsal position of the genital pore, therefore retained this species in the genus *Leucochloridium* Carus, 1835. This species is similar to *P. riosae* by possessing the gonads arranged in triangle, vitelline follicles extending between the pharynx and the posterior testis, and the uterus with extracaecal loops in forebody. Nevertheless, differs by having a dorsal genital pore, a Laurer's canal opening in the excretory vesicle without forming a seminal receptacle, a cirrus sac spherical, and by lacking an external seminal vesicle. The absence of these characters allow us to conclude that the

specimens found parasitizing *T. major* belong to *P. riosae*.

Pojmanskia riosae is a generalist parasite reported in a wide range of birds belonging to Cardinalidae, Cuculidae, Dendrocolaptidae, Polioptilidae, Sylviidae, Troglodytidae, Trogonidae and Tyrannidae. This finding allows us to increase the list of definitive host of this digenean, adding the family Thamnophilidae, and to enlarge the geographical distribution of genus *Pojmanskia* to Argentina.

Gorgoderoidea Looss, 1899

Dicrocoeliidae Looss, 1899

Leipertrematinae Yamaguti, 1958

Lubens Travassos, 1919

Lubens lubens (Braun, 1901) Shtrom, 1940 (Figure 5; Tables 1 and 2)

Description: (based on 2 specimens) Body oval to elongate oval; tegument with small papillae. Oral sucker subterminal, rounded. Ventral sucker well developed, slightly larger than the oral sucker, situated in anterior third of the body. Pharynx, globular. Oesophagus short. Caeca long and wide, reaching posterior end of body. Genital pore median, at level of posterior border of pharynx. Cirrus sac small. Testes intercaecal, rounded, approximately equal in size, symmetrical. Ovary dextral, rounded, located behind testes and separated from them by loops of uterus. Seminal receptacle and Laurer's canal present. Mehlis' gland diffuse. Vitelline bands composed of numerous follicles occupying caecal and extracaecal regions from posterior border of ventral sucker or anterior margin of testes. Uterus occupying all available space of hindbody; eggs operculated. Excretory vesicle not seen. Excretory pore terminal.



Figure 5. *Lubens lubens*. Entire worm, ventral view. Scale bar = 1 mm.

TABLE 1. Comparative morphometric data for *Lubens lubens* from Neotropical birds.

<i>Lubens lubens</i>									
Source	Present study	Braun (1901)	Travassos (1944) *	Denton and Byrd (1951)	Tallman and Tallman (1994)	Heyneman et al. (1960) **	Travassos (1944) ^φ	Travassos (1944) ^δ	Lamothe-Argumedo (1979)
Host group	Passeriformes					Falconiformes	Gruiformes	Galliformes	
Country	Argentina	Brazil	Brazil	USA	Ecuador	Venezuela	Brazil	Brazil	México
Bl (mm)	4.1-5.4	6	2.2-9	2.5-5.6	2.5-5.8	12	7.6-8.3	4.2	6.2-6.8
Bw (mm)	1.5-1.6	2	1.6-4.2	2.3-2.6	1.3-2.5	5.3	3.9-4.3	2.7-2.9	3.0-3.7
Osl	348-358	360	280-580	420-470	280-600	756	780	580-630	676-756
Osw	406-464		300-590					490-530	660-756
Vsl	435-445	470	330-660	420-500	300-590	519	830	780-830	805-901
Vsw	561-571		370-700					580-740	885-933
Phl	135-145	100	100-200	160	80-190	250	200-240	160-190	171-257
Phw	174-184		120-220	190-210				275	240-280
Oel	174-242	-	80-390	-	-	-	160	120-160	161-241
Csl	193-242	-	200-370	380	-	-	280-330	240-370	193-243
Csw	121-130	-	80-200	110	-	-	120	110-160	80-131
Rtl	276-280	-	-	-	-	399	-	-	338-483
Rtw	280-300	-	190-580	-	-	412	240-280	240-330	322-450
Ltl	280-319	-	x 190-660	300-500	-	344	x 280-410	x 300-370	322-402
Ltw	242-309	-	-	-	-	509	-	-	305-483
OI	42-309	-	120-660	280-430	200-310	481	280-370	330-410	289-322
Ow	242-329	-	160-580		120-480	440	280-410	300-410	370-547
Vg (mm)	1.9-2	2	0.8-4.7	-	-	-	3.6-4.3	1.8-2.8	-
Dvg-Ep (mm)	1.0-2.5	-	0.4-3.1	-	1.1-3.1	4.2	2.9-2.9	0.8-1.8	2-2.2
E	29-43 × 19-27	32 × 22	28-35 × 20-25	26-31 × 17-23	14-35 × 14-21	31-32 × 14-15	30-35 × 22-25	28-32 × 20	33-37 × 18-26
Ratios									
Vs/Os	0.7-0.8	1.3	0.5-1.1 [∇]	0.9-1 [∇]	0.9-1 [∇]	1.2 [∇]	1-1.1	0.7-1 [∇]	0.7-0.8 [∇]
Ph/Os	2.4-2.6	3.6 [∇]	1.5-3.8 [∇]	2.6-3 [∇]	3.2-3.5 [∇]	3 [∇]	1.3-1.5 [∇]	2.8-3.6 [∇]	2.9-4 [∇]

* Range of measurements obtained from itemized morphometric data for each host species in the tables provided on pages 74-77.

** Originally described as *Lubens phelpsi* Heyneman, Brenes & Díaz Ungría, 1960

^φ Measurements provided in the specific diagnosis, correspond to specimens from *H. diodon*.

^δ Range of measurements obtained from itemized morphometric data for *Laterallus melanophaius* (Vieillot) in the table provided on page 75.

[∇] Calculated from original descriptions

Host: *Taraba major* (Vieillot) (Passeriformes, Thamnophilidae).

Locality: La Marcela farm (26°17'35" S; 59°08'38" W), Pirané, Formosa Province, Argentina.

Date of collection: 28 September 2013.

Site of infection: intestine.

Prevalence: 11 % (1 of 9).

Intensity of infection: 2

Specimens deposited: MLP-He 6730 (2 specimens).

Considering the key provided by Pojmańska (2008), the specimens collected from the Great Antshrike are members of the genus *Lubens* by possessing a well developed ventral sucker, long caeca, testes located posterolateral to ventral sucker, ovary posterior to testes, vitellarium forming narrow bands, which usually begin at level of ventral sucker. The genus *Lubens* was considered as a subgenus of *Eurytrema* Looss, 1907 by Travassos (1919, 1944, 1945) and Bhalerao (1936). Shtrom (1940) raised it to full generic status, and afterwards was treated in this way by Denton and Byrd (1951), Skrjabin and Evranova (1952), Heyneman et al. (1960), Travassos et al. (1969), Yamaguti (1971) and Pojmańska (2008).

Lubens lubens was described by Braun (1901) as *Dicrocoelium lubens* Braun, 1901 parasitizing *Rupicola rupicola* (L.) (as *Pipra r.*) (Passeriformes, Cotingidae) from Brazil. Travassos (1944) revised the original material of this species, and all *Eurytrema* spp. described by himself (*Eurytrema robustum* Travassos, 1919, *Eurytrema polymorphum* Travassos, 1919, *Eurytrema*

intermedium Travassos, 1919 and *Eurytrema cuyabai* Travassos, 1922), and concluded that all of these species were synonymous of *Eurytrema (Lubens) lubens* (Braun, 1901), actually considered a synonym of *Lubens lubens*. Travassos (1944) considered that this species parasitizes a wide range of bird hosts and possess a high intraspecific variability; in the specific diagnosis provides a narrow range of measurements, corresponding to specimens from Falconiformes, but this range is wider when specimens of *L. lubens* from Passeriformes and Gruiformes are included (see Table 1).

The specimens found parasitizing *T. major* are morphometrically similar to those described by Travassos (1944) for passeriform and gruiform birds, but are smaller than those reported in *Harpagus diodon* (Temm) (Falconiformes), and the specimens studied in Mexico by Lamothe-Argumedo (1979) from *Ortalis poliocephala* (Wagler) (as *O. vetula p.*) (Table 1).

Heyneman et al. (1960) described a new species, *Lubens phelpsi* Heyneman, Brenes & Díaz Ungría, 1960, based on one specimen found parasitizing the Amazonian Umbrellabird, *Cephalopterus ornatus* Geof. (Cotingidae) from Venezuela. These authors considered valid all species synonymized with *L. lubens* by Travassos (1944), and characterized *L. phelpsi* by having the oral sucker slightly larger than the ventral sucker, a larger body, by parasitize other host species, and by possessing a different geographical distribution. However, the ventral sucker larger than the oral sucker also occurs in the type specimen of *L. lubens* from *R. rupicola* described by Braun (1901),

TABLE 2. List of definitive host species and countries of *Lubens lubens* in the American continent.

ORDER	FAMILY	HOST SPECIES	COUNTRY	AUTHORS	
Cuculiformes	Cuculidae	<i>Crotophaga ani</i> L.	Brazil	Travassos et al. (1969)	
Falconiformes	Accipitridae	<i>Harpagus diodon</i>	Brazil	Travassos et al. (1969)	
		<i>Rupornis magnirostris</i> (Gmelin)	Brazil	Travassos et al. (1969)	
	Falconidae	<i>Micrastur ruficollis</i> (Vieillot)	Brazil	Travassos et al. (1969)	
		<i>Falco rufigularis</i> Daudin	Brazil	Travassos et al. (1969)	
		<i>Milvago chimachima chimachima</i> (Vieillot)	Brazil	Travassos et al. (1969)	
Galliformes	Cracidae	<i>Ortalis poliocephala</i>	Mexico	Lamothe-Argumedo (1979)	
Gruiformes	Rallidae	<i>Gallinula chloropus</i> (L.)	USA	Lumsden and Zischke (1963)	
		<i>Laterallus melanophaius</i>	Brazil	Travassos (1919, 1944); Travassos et al. (1969)	
		<i>Pardirallus nigricans</i> (Vieillot)	Brazil	Travassos et al. (1964, 1969)	
		<i>Porzana albicollis</i> (Vieillot)	Brazil	Travassos et al. (1969)	
		<i>Porzana carolina</i> (L.)	USA	Lumsden and Zischke (1963)	
Passeriformes	Cardinalidae	<i>Piranga olivacea</i> (Gmelin)	USA	Denton and Byrd (1951)	
	Corvidae	<i>Calocitta formosa</i> (Swainson)	Costa Rica	Brenes et al. (1966); Lamothe-Argumedo (1979)	
		<i>Cyanocorax chrysops chrysops</i> (Vieillot)	Brazil	Travassos et al. (1969)	
		<i>Cyanocorax cyanomelas</i> (Vieillot)	Brazil	Travassos (1919, 1944); Travassos et al. (1969)	
	Cotingidae	<i>Cephalopterus ornatus</i>	Venezuela	Heyneman et al. (1960)	
		<i>Rupicola rupicola</i>	Brazil	Braun (1901, 1902); Viana (1924); Travassos (1944)	
	Emberizidae	<i>Volatinia jacarina jacarina</i> (L.)	Brazil	Travassos et al. (1969)	
		<i>Zonotrichia capensis</i> Müller	Brazil	Travassos et al. (1969)	
	Hirundinidae	<i>Progne chalybea</i>	Brazil	Travassos (1919, 1944); Travassos et al. (1969)	
Icteridae		<i>Cacicus haemorrhous haemorrhous</i> (L.)	Brazil	Travassos et al. (1969)	
		<i>Icterus croconotus</i> (Wagler)	Brazil	Travassos (1922, 1944)	
		<i>Icterus pyrrhopterus</i> (Vieillot)	Brazil	Travassos et al. (1969)	
		<i>Psarocolius decumanus</i> (Pallas)	Brazil	Travassos et al. (1969)	
			<i>Quiscalus mexicanus prosopidicola</i> (Lowery)	USA	Denton and Byrd (1951)
	Thamnophilidae		<i>Gymnophis bicolor</i> (Lawrence)	Ecuador	Tallman and Tallman (1994)
			<i>Hylophylax</i> sp.	Ecuador	Tallman and Tallman (1994)
			<i>Phlegopsis erythroptera</i> (Gould)	Ecuador	Tallman and Tallman (1994)
			<i>Pygoptila stellaris</i> (Spix)	Ecuador	Tallman and Tallman (1994)
			<i>Taraba major</i>	Argentina	Present study
		<i>Thamnomanes ardesiacus</i> (Sclater & Salvin)	Ecuador	Tallman and Tallman (1994)	
		<i>Willisornis poecilinotus</i> (Cabanis)	Ecuador	Tallman and Tallman (1994)	
	Thraupidae	<i>Conirostrum bicolor bicolor</i> (Vieillot)	Brazil	Travassos, (1944); Travassos et al. (1969)	
		<i>Ramphocelus carbo carbo</i> (Pallas)	Brazil	Travassos et al. (1969)	
	Troglodytidae	<i>Troglodytes musculus musculus</i> Naumann	Brazil	Travassos et al. (1969)	
	Tyrannidae	<i>Myiozetetes similis</i>	Brazil	Travassos (1919, 1944); Travassos et al. (1969)	
Piciformes	Bucconidae	<i>Nystalus maculatus pallidigula</i> Cherrie & Reich.	Brazil	Travassos et al. (1969)	
		<i>Nystalus chacuru</i> (Vieillot)	Brazil	Travassos(1944), Travassos et al. (1969)	
	Picidae	<i>Campephilus robustus</i> (Lichtenstein)	Brazil	Travassos (1945)	
<i>Celeus flavescens</i> (Gmelin)		Brazil	Travassos et al. (1964)		
Strigiformes	Strigidae	<i>Glaucidium brasilianum brasilianum</i> (Gmelin)	Brazil	Travassos et al. (1969)	
Trogoniformes	Trogonidae	<i>Trogon curucui curucui</i> L.	Brazil	Travassos et al. (1969)	
		<i>Trogon viridis viridis</i> L.	Brazil	Travassos (1945)	

and in the specimens from *Progne chalybea* (Gmelin), *H. diodon* and *Myiozetetes similis* (Spix). The morphometric differences could be given by effect of the compression during fixation. This analysis allows us to conclude that *L. phelpsi* should be consider as a synonymous of *L. lubens*, because the morphometric characters proposed by the authors for its creation, are not sufficient to distinguish significantly both species. Moreover, *L. lubens* is a generalist parasite with a wide geographical distribution (see Table 2).

The finding of *L. lubens* in *T. major* increases the list of definitive host of this digenean and enlarges the geographical distribution of genus *Lubens* to Argentina.

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