



<http://dx.doi.org/10.11646/zootaxa.3785.2.8>

<http://zoobank.org/urn:lsid:zoobank.org:pub:524C0ED8-F57C-4163-BE70-CED1D7E86F71>

Digenean fauna in raptors from northeastern Argentina, with the description of a new species of *Strigea* (Digenea: Strigeidae)

FABIANA B. DRAGO, LÍA I. LUNASCHI & REGINA DRAGHI

Laboratorio de Helminología, División Zoología Invertebrados, Museo de La Plata, Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata. Paseo del Bosque S/Nº, 1900 La Plata, Buenos Aires, Argentina.

E-mail: fdrago@fcnym.unlp.edu.ar; lunaschi@fcnym.unlp.edu.ar; rdraghi@fcnym.unlp.edu.ar

Abstract

The digenean fauna of six species of falconiform birds from northeastern Argentina is reported and a new species and several new hosts and geographical records are presented. *Strigea proteolytica* n. sp. (Strigeidae) is described from *Buteogallus urubitinga* and distinguished from their congeners by the combination of the following characters: plump body, conspicuous proteolytic gland, forebody with scarce vitelline glands, copulatory bursa with a well developed muscular ring (*Ringnapf*), and absence of true neck region in hindbody. Six previously known species are briefly described: *Strigea falconis brasiliensis* Szidat, 1929 (Strigeidae) from *Milvago chimachima* and *Caracara plancus*; *Neodiplostomum travassosi* Dubois, 1937 from *Buteogallus meridionalis*; *Tylodelphys brevis* Drago & Lunaschi, 2008 and *Posthodiplostomum macrocotyle* Dubois, 1937 (Diplostomidae) from *Busarellus nigricollis*; *Spaniometra variolaris* (Fuhrmann, 1904) (Cyclocoelidae) and *Megalophallus deblocki* Kostadinova, Vaucher & Gibson, 2006 (Microphallidae) from *Rostrhamus sociabilis*. Literature records and information on distribution and host-parasite relationships is presented.

Key words: Accipitridae, Falconidae, *Strigea proteolytica* n. sp., Diplostomidae, Cyclocoelidae, Microphallidae

Introduction

Although 55 species of falconiform birds (39 Accipitridae, 15 Falconidae and 1 Pandionidae) inhabit Argentina, the information about their digeneans fauna is scarce. At present, 5 accipitrid species (the savanna hawk, *Buteogallus meridionalis* [Latham]; the great black-hawk, *Buteogallus urubitinga* [Gmelin]; the black-collared hawk, *Busarellus nigricollis* [Latham]; the snail kite, *Rostrhamus sociabilis* [Vieillot] and the roadside hawk, *Rupornis magnirostris* [Gmelin]) and three falconid species (the southern caracara, *Caracara plancus* [Miller]; the yellow-headed caracara, *Milvago chimachima* [Vieillot] and the chimango, *Milvago chimango* [Vieillot]) have been reported as hosts of digeneans. In these hosts primarily have been reported strigeids: *Strigea elliptica* (Brandes) Szidat, 1928, *Strigea falconis brasiliensis* Szidat, 1929, *Strigea magniova* Dubois, 1988, *Strigea meridionalis* Lunaschi & Drago, 2009, *Strigea microbursa* Pearson & Dubois, 1985, *Ophiosoma microcephalum* Szidat, 1928 and *Parastrigea macrobursa* Drago & Lunaschi, 2011. Also, one species of Diplostomidae (*Neodiplostomum travassosi* Dubois, 1937), one of Dicrocoeliidae (*Athesmia heterolecithodes* [Braun, 1899]) and one of Stomylotrematidae (*Stomylotrema vicarium* Braun, 1901) have been recovered (Lunaschi *et al.* 2007; Lunaschi & Drago 2009a, b; Drago & Lunaschi 2011a).

The aim of this paper is to increase the knowledge of the diversity of digenean parasites from falconiform birds from northeastern Argentina.

Material and methods

Twenty-five birds were collected with a shotgun between 2003 and 2012 at La Marcela farm, Pirané, Formosa Province, Argentina (26°17'35"S; 59°06'38"W), with authorization of Ministerio de la Producción, Dirección de

Acknowledgments

The authors express their gratitude to Dr. Carlos Montoya during our stay in Formosa Province, to Luis Pagano and Ignacio Roesler for assistance in collecting the hosts, to Norman Dronen for his constructive comments on the manuscript. The authors, Lía Lunaschi and Regina Draghi are members of the Comisión de Investigaciones Científicas de la Provincia de Buenos Aires (CIC) and Fabiana Drago is member of Universidad Nacional de La Plata (UNLP). The present study was funded by CIC (Res. N° 2410/12) and UNLP (11/N603).

References

- Abildgaard, P.C. (1790) Almindelige Betragtninger over Indvolde-Orme, Bemærkninger ved Hundsteilens Bændelorm, og Beskrivelse med Figurer af nogle nye Bændelorme. *Skrivter af Naturhistorie-Selskabet*, 1, 26–64.
- Brandão, M., Luque, J.L., Scholz, T. & Kostadinova, A. (2013) New records and descriptions of digeneans from the Magellanic penguin *Spheniscus magellanicus* (Forster) (Aves: Sphenisciformes) on the coast of Brazil. *Systematic Parasitology*, 85, 79–98.
<http://dx.doi.org/10.1007/s11230-013-9410-2>
- Braun, M. (1899) Ein neues *Distomum* aus *Porphyrio*. *Zoologischer Anzeiger*, 22, 1–4.
- Braun, M. (1901) Zur Revision der Trematoden der Vögel II. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abteilung I*, 29, 895–897.
- Bray, R., Gibson, D. & Jones, A. (2008) *Keys to the Trematoda. Vol. 3*. CAB International, London, 824 pp.
- Cole, R.A., Thomas, N.J. & Roderick, C.L. (1995) *Bothriogaster variolaris* (Trematoda: Cyclocoelidae) Infection in two Florida Snail Kites (*Rostrhamus sociabilis plumbeus*). *Journal of Wildlife Diseases*, 31, 576–578.
<http://dx.doi.org/10.7589/0090-3558-31.4.576>
- Díaz, M., Bashirullah, B. & Gómez Martínez, É. (2012) Desarrollo desde metacercaria a adulto de *Megalophallus deblocki* Kostadinova, Vaucher y Gibson, 2006 (Trematoda: Microphallidae) en Venezuela. *Saber*, 24, 44–48.
- Di Giacomo, A.G. (2005) Birds of El Bagual Reserve. In: Di Giacomo, A.G. & Krapovickas, S.F. (Eds.), *Historia natural y paisaje de la Reserva El Bagual, Provincia de Formosa, Argentina: inventario de la fauna de vertebrados y de la flora vascular de un área protegida del Chaco Húmedo*. Aves Argentinas. Asociación del Plata, Buenos Aires, pp. 202–465.
- Dollfus, R.P. (1948) Sur deux monostomes (Cyclocoelidae) pourvus d'une ventouse ventrale. Observations sur la classification des Cyclocoeloidae Albert Henry, 1923, liste de leur hôtes, répartition géographique. *Annales de Parasitologie Humaine et Comparée*, 23, 129–199.
- Drago, F.B. & Lunaschi, L.I. (2008) Description of a new species of *Tylodelphys* (Digenea, Diplostomidae) in the wood stork, *Mycteria americana* (Aves, Ciconiidae) from Argentina. *Acta Parasitologica*, 53, 263–267.
<http://dx.doi.org/10.2478/S11686-008-0038-3>
- Drago, F.B. & Lunaschi, L.I. (2011a) A new species of *Parastrigea* (Digenea, Strigeidae) endoparasite of *Buteogallus urubitinga* (Aves, Accipitridae) from Argentina. *Helminthologia*, 48, 256–261.
<http://dx.doi.org/10.2478/s11687-011-0036-0>
- Drago, F.B. & Lunaschi, L.I. (2011b) Digenean parasites of Ciconiiform birds from Argentina. *Revista Mexicana de Biodiversidad*, 82, 77–83.
- Drago, F.B., Lunaschi, L.I. & Schenone, M. (2011) Digenean parasites of *Phalacrocorax brasilianus* from Argentina. *Check List*, 7, 871–875.
- Dubois, G. (1937) Sur quelques Strigéidés (Notes préliminaires). *Revue Suisse de Zoologie*, 44, 391–396.
- Dubois, G. (1966) Du Statut de quelques Strigeata La Rue, 1926 (Trematoda). II. *Bulletin de la Société Neuchâteloise des Sciences Naturelles*, 89, 19–56.
- Dubois, G. (1968) Synopsis des Strigeidae et des Diplostomatidae (Trematoda). *Mémoires de la Société Neuchâteloise des Sciences Naturelles*, 10, 1–258.
- Dubois, G. (1970) Synopsis des Strigeidae et des Diplostomatidae (Trematoda). *Mémoires de la Société Neuchâteloise des Sciences Naturelles*, 10, 259–727.
- Dubois, G. (1978) Notes Helminthologiques. IV. Strigeidae Railliet, Diplostomidae Poirier, Proterodiplostomidae Dubois et Cyathocotylidae Poche (Trematoda). *Revue Suisse de Zoologie*, 85, 607–615.
- Dubois, G. (1982) Répertoire des synonymes récents de genres et d'espèces de la superfamille des Strigeoidea Railliet, 1919 (Trematoda). *Bulletin de la Société Neuchâteloise des Sciences Naturelles*, 105, 163–183.
- Dubois, G. (1988) Quelques Strigeoidea (Trematoda) récoltés au Paraguay par les expéditions du Muséum d'Histoire naturelle de Genève, au cours des années 1979, 1982 et 1985. *Revue Suisse de Zoologie*, 95, 521–532.
- Dubois, G. & Beverley-Burton, M. (1971) Quelques *Strigeata* (Trematoda) d'oiseaux de Rhodesie et de Zambie. *Bulletin de la Société Neuchâteloise des Sciences Naturelles*, 94, 5–19.
- Dubois, G. & Macko, J. (1972) Contribution à l'étude des Strigeata La Rue, 1926 (Trematoda: Strigeida) de Cuba. *Annales de Parasitologie Humaine et Comparée*, 47, 51–75.

- Dubois G. & Rausch, R. (1950) Troisième contribution a l'étude des Strigeides (Trematoda) Nord-Américains. *Bulletin de la Société Neuchâteloise des Sciences Naturelles*, 73, 19–50.
- Fuhrmann, O. (1904) Neue trematoden. *Zentralblatt für Bakteriologie und Parasitenkunde Abteilung. I*, 37, 58–64.
- Gibson, D., Jones, A. & Bray, R. (2002) *Keys to the Trematoda. Vol. 1*. CAB International, London, 521 pp.
- Gupta, N.K. & Mishra P.N. (1976) On some new and already known trematodes of the genus *Strigea* Abildgaard, 1970 from birds in India and a key to the genus. *Revista Ibérica de Parasitología*, 36, 1–34.
- Kossack, W. (1911) Über monostomiden. *Zoologische Jahrbücher. Abteilung für Systematik, Ökologie und Geographie der Tiere*, 31, 491–590.
- Kostadinova, A., Vaucher, C. & Gibson, D.I. (2006) *Megalophallus deblocki* n. sp. (Digenea: Microphallidae) from *Rostrhamus sociabilis* (Vieillot) (Aves: Accipitridae) in Paraguay. *Systematic Parasitology*, 63, 119–126.
<http://dx.doi.org/10.1007/s11230-005-9005-7>
- Lunaschi, L.I., Cremonte, F. & Drago, F.B. (2007) Checklist of digenean parasites of birds from Argentina. *Zootaxa*, 1403, 1–36.
- Lunaschi, L.I. & Drago, F.B. (2005) Primer registro de *Neodiplostomum travassosi* (Digenea: Diplostomidae) en Argentina. *Revista Mexicana de Biodiversidad*, 76, 97–100.
- Lunaschi, L.I. & Drago, F.B. (2006) Strigeid parasites of *Buteo magnirostris* (Aves: Falconiformes) from Argentina. *Zootaxa*, 1106, 25–33.
- Lunaschi, L.I. & Drago, F.B. (2009a) Species of *Strigea* (Digenea: Strigeidae), parasites of the savanna hawk *Buteogallus meridionalis* (Aves: Accipitridae) from Argentina, with the description of a new species. *Folia Parasitologica*, 56 (4), 268–274.
<http://dx.doi.org/10.14411/fp.2009.031>
- Lunaschi, L.I. & Drago, F.B. (2009b) Digenean parasites of six species of birds from Formosa province, Argentina. *Revista Mexicana de Biodiversidad*, 80, 39–46.
- Lunaschi, L.I. & Drago, F.B. (2012) Digenean parasites of *Cariama cristata* (Aves: Gruiformes) from Formosa Province, Argentina, with the description of a new species of the genus *Strigea*. *Acta Parasitologica*, 57, 26–33.
<http://dx.doi.org/10.2478/S11686-012-0004>
- Lunaschi, L.I. & Drago, F.B. (2013) Digenean parasites of the great antshrike, *Taraba major* (Aves: Thamnophilidae), from Argentina, with a description of a new species of the genus *Strigea* (Strigeidae). *Folia Parasitologica*, 60, 331–338.
- Masi Pallarés, R. & Benitez Usher, C. (1972) Algunos helmintos en aves en Paraguay. *Revista Paraguaya de Microbiología*, 7, 33–63.
- Niewiadomska, A. (2002) Superfamilia Diplostomoidea Poirrier, 1886. In: Gibson, D., Jones, A. & Bray, R. (Eds.), *Keys to the Trematoda. Vol I*. CABI Publishing, London, pp. 159–166.
- Pearson, J.C. & Dubois, G. (1985) Strigeida d'Indonésie et de Malaisie, et quelques-uns d'Australie et de Tasmanie. I. Strigeoidea. *Bulletin de la Société Neuchâteloise des Sciences Naturelles*, 108, 5–21.
- Pérez Viguera, I. (1940) Notas sobre algunas especies nuevas de trematodos y sobre otras poco conocidas. *Revista Universidad de La Habana*, 5, 1–28.
- Pérez Viguera, I. (1955) Contribución al conocimiento de la fauna helmintológica cubana. *Memorias de la Sociedad Cubana de Historia Natural*, 22, 21–71.
- Szidat, L. (1928) Zur Revision der Trematodengattung *Strigea* Abildgaard. *Centralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten. Abteilung Originale*, 1, 105, 204–215.
- Szidat, L. (1929) Beiträge zur Kenntnis der Gattung *Strigea* (Abildg.). I Allgemeiner Teil: Untersuchungen über die Morphologie, Physiologie und Entwicklungsgeschichte der Holostomiden Nebst Bemerkungen über Die Metamorphose Der Trematoden und Die Phylogenie Derselben. *Zeitschrift für Parasitenkunde*, 1, 612–764.
<http://dx.doi.org/10.1007/bf02284601>
- Szidat, L. (1969) Structure, development, and behaviour of new strigeatoid metacercariae South America. *Journal of the Fisheries Research Board of Canada*, 26, 753–786.
<http://dx.doi.org/10.1139/f69-074>
- Thiollay, J.M. (1994) Family Accipitridae. In: Del Hoyo, J., Elliott, A. & Sargatal, J. (Eds.), *Handbook of the Birds of the World. Vol. 2*. Lynx Edicions, Barcelona, pp. 52–205.
- Travassos, L. (1922) Informações sobre a fauna helminthologica de Matto Grosso. *Folha Medica*, 3, 187–190.
- Vidyarthi, R.D. (1937) New avian trematodes of the sub-subfam Cotylurini Dubois, 1936 (Family Strigeidae Railliet, 1919). *Proceedings of the Indian Academy of Science, Section B*, 5, 315–323.