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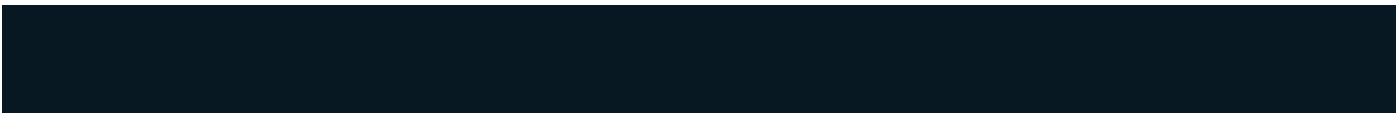
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**MOLLUSC FAUNA OF THE MUNICIPAL DISTRICT OF “CACHOEIRINHA”,
METROPOLITAN AREA OF PORTO ALEGRE, RS, SOUTHERNMOST BRAZIL:
PRELIMINARY RISING, ENVIRONMENTAL IMPORTANCE AND LOCAL
IMPACTS IN THE AGRICULTURAL ECONOMY AND THE PUBLIC HEALTH**

Aisur Ignacio Agudo-Padrón, Jaime Vargas de Oliveira &

Thais Fernanda Stella de Freitas

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Mollusc Fauna of the Municipal District of "Cachoeirinha", Metropolitan Area of Porto Alegre, RS, Southernmost Brazil: Preliminary Rising, Environmental Importance and Local Impacts in the Agricultural Economy and the Public Health

Aisur Ignacio Agudo-Padrón

Projeto Náíade (Naiad Project), Avulsos Malacológicos - AM, Caixa Postal (P.O Box) 010, 88010-970
Centro, Florianópolis, Santa Catarina, SC, Brasil.

E-mail: ignacioagudo@gmail.com

<http://www.malacologia.com.br>

&

**Jaime Vargas de Oliveira*

***Thais Fernanda Stella de Freitas*

Instituto Rio Grandense do Arroz – IRGA/EEA, Av. Bonifácio Carvalho Bernardes, 1494, Caixa Postal
(P.O. Box) 29, 94930-030, Cachoeirinha, Rio Grande do Sul, RS, Brasil.

E-mail: *jaime-oliveira@irga.rs.gov.br / **thais@redemeta.com.br

<http://www.irga.rs.gov.br>

Regional observations about the mollusc fauna that happens in urban places and adjacent agricultural fields and farmings of the Municipal District of "Cachoeirinha", headquarter of the city of the same name (aprox. 29° 56' S – 51° 05' W), portion of the southernmost Brazil located in the Metropolitan area of Porto Alegre (distant 17 Km of the capital), in the State of Rio Grande do Sul - RS, local domain of the Gravataí River Basin (see OLIVEIRA et al 1988; VEITENHEIMER-MENDES et al 1992; OLIVEIRA et al 2005; MENEGAT et al 2006: 132 and MACEDO et al 2007, for general information on geographical and ecological aspects of the area).

For its time, the Rio Grande do Sul - RS State he meets located between the brazilian State of Santa Catarina - SC to the north, and the country of Uruguay along its southern border; its western neighbour is Argentina, and along the entire eastern border lies the Atlantic Ocean (Fig. 1), with one principal and great independent river basin system defining borders and irrigate the lands: the Uruguay River Basin.

This is just a progress concerning our regional malacological work in field, it comes being developed systematically among the southern Spring of 2004 and the southern Summer of 2008 (Agudo-Padrón 2007; Agudo-Padrón & Oliveira 2008 a, b).

The advancing invasion of several limnic and terrestrial mollusks species - natives and exotics gastropods, mainly - and the damage that these animals can cause to the agricultural productions (Bruschi-Figueiró & Veitenheimer-Mendes 2002), besides immediate interest for veterinarian, medical and sanitation applications (recognized problems of public health, directly related to inadequate environmental sanity), makes it more and more important to focus on pest management. Delivering adequate information about aquatic and terrestrial snails, and improving knowledge about pest management is essential to control this growing threat, and the vast territory of Brazil is today a clear example of this situation (Agudo 2007).



Fig. 1: Geographical localization of the metropolitan area of "Porto Alegre" on the Rio Grande do Sul - RS State, Southernmost Brazil.

To present research focuses on the occurrence of general molluscs in two well defined areas of the Municipal District:

1. The urban neighborhood "Vila Regina" of the Cachoeirinha city, in the Municipal district of the same name, developed in public areas, back yards and private gardens existent in the street "Edgar Bins" and immediate adjacent sections of the mentioned neighborhood (Fig. 2), between the months of November 2004 and November 2007 (southern Spring) (Agudo-Padrón 2007);

2. The neighboring field systems / farmings of irrigate rice (*Oryza sativa* L.), developed in the headquarter of the "Rice Experimental Station" of the State agricultural institution IRGA (Instituto Rio Grandense do Arroz) (Fig. 3), between the months of October 2007 (southern Spring) and January 2008 (southern Summer), with preliminary analyses of 1.780 specimens for the State (Agudo-Padrón & Oliveira 2008 a, b).



Fig. 2: Urban neighborhood "Vila Regina" of Cachoeirinha city (top), and aspect of the severe regional plague of exotic snails *Helix (Cornu) aspersa* (bottom).

To proceed it is presented, in progress, the preliminary general results like this obtained:

Class GASTROPODA

Subclass PROSOBRANCHIA

Family AMPULLARIIDAE

Asolene platae (Maton, 1809)

Native freshwater snail species observed in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b). Naturally depredated in the local environment by the birds *Aramus guarauna* (Linnaeus, 1766) (Limptin) and *Rostrhamus sociabilis* (Vieillot, 1817) (Snail kite).

Pomacea canaliculata (Lamarck, 1804)

Native freshwater snail species comes in the condition of "principal and serious emergent agricultural malacological plague" in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b), the Municipal District and State in general (Petrini et al 1997; Richinitti et al 1997; Ferreira 1998; Oliveira et al 1999 a, b, c; Richinitti & Petrini 1999; Arroz Irrigado 2005) (Fig. 1), generating great damages. Surprisingly, this same species in the 1980's, consequence of intentional hu-

man introduction as alimentary resource, it invades the territories of the Asian southeast, if turning soon in a serious "exotic plague" and he threatens for the production of rice – in the taro and rice fields – and the environment, devastating this principal local food production of the local population (Damborenea & Darrigran 2001/2002; Ghesquiere 2005; Joshi et al 2008). Naturally depredated in the local environment by the birds *Aramus guarauna* (Linnaeus, 1766) (Limpkin) and *Rostrhamus sociabilis* (Vieillot, 1817) (Snail kite).

Order GYMNOMORPHA

Suborder SOLEOLIFERA

Family VERONICELLIDAE

Belocaulis angustipes (Heynemann, 1885)

Native terrestrial slug species observed in the urban neighborhood "Vila Regina", Cachoeirinha city (Agudo-Padrón 2007). Confirmed intermediate host of "Abdominal Angiostrongylia-sis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).



Fig. 3: Headquarter of the "Rice Experimental Station", IRGA (top), and aspect of the research in process (native freshwater snails *Pomacea canaliculata*) (bottom).

Phyllocaulis soleiformis (d'Orbigny, 1835)

Phyllocaulis variegatus (Semper, 1885)

Native terrestrial slug species observed in the urban neighborhood "Vila Regina", Cachoeirinha city (Agudo-Padrón 2007). Confirmed intermediate host of "Abdominal Angiostrongylia-sis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).

Subclass PULMONATA

Family PLANORBIDAE

Biomphalaria tenagophila tenagophila

(d'Orbigny, 1835)

Native freshwater snail species observed in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b). Confirmed intermediate host of "Schistosomiasis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).

Drepanotrema depressissimum

(Moricand, 1839)

Native very little freshwater snail species observed in abundance (January 2008) in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b).

Family PHYSIDAE

Aplexa (Stenophysa) marmorata

(Guilding, 1828)

Native freshwater snail species particularly observed in great abundance/proliferation and in full reproductive activity (January 2008) in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 b).

Family LIMACIDAE

Limacus flavus (Linnaeus, 1758)

Limax maximus Linnaeus, 1758

Exotic terrestrial slugs species observed in the urban neighborhood "Vila Regina", Cachoeirinha city (Agudo-Padrón 2007) (Fig. 4). Confirmed intermediate hosts of "Abdominal Angiostrongylia-sis", serious tropical zoonose

of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).



Fig. 4: Exotic "leopard slug" *Limax maximus* Linnaeus, 1758 specimens of the urban neighborhood "Vila Regina" of Cachoeirinha city.

Family AGRIOLIMACIDAE

Deroceras laeve (Müller, 1774)

Exotic terrestrial slug species observed in the urban neighborhood "Vila Regina", Cachoeirinha city (Agudo-Padrón 2007), recognized as agricultural plague of vegetables in some places of Rio Grande do Sul (Bruschi-Figueiró, G. & Veitenheimer-Mendes 2002). Confirmed intermediate hosts of "Abdominal Angiostrongylosis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).

Family BULIMULIDAE

Bulimulus angustus Weyrauch, 1966

Native terrestrial snail species observed in the irrigated rice fields of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b), recognized as agricultural plague of vegetables in some places of Rio Grande do Sul (Bruschi-Figueiró & Veitenheimer-Mendes 2002).

Family HELICIDAE

Helix (Cornu) aspersa Müller, 1774

Exotic terrestrial snail species (the famous French eatable escargot), very abundant, observed comes in the condition of "principal and severe malacological plague" (Fig. 5) in ornamental gardens, stonemasons and homemade vegetable gardens of green vegetables in the urban neighborhood "Vila Regina", Cachoeirinha city, and the metropolitan area of "Porto Alegre" in general (Agudo-Padrón 2007). Confirmed intermediate hosts of "Abdominal Angiostrongylosis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).

Family BRADYBAENIDAE

Bradybaena similaris (Férussac, 1821)

Exotic terrestrial snail species observed in the urban neighborhood "Vila Regina", Cachoeirinha city (Agudo-Padrón 2007), recognized as agricultural plague of vegetables in some places of Rio Grande do Sul (Bruschi-Figueiró, G. & Veitenheimer-Mendes 2002). Confirmed intermediate hosts of "Abdominal Angiostrongylosis", serious tropical zoonose of parasitic nature with immediate interest for medical and sanitation applications (Agudo 2006).



Fig. 5: Aspects of the exotic snail *Helix (Cornu) aspersa* in the urban neighborhood "Vila Regina" of Cachoeirinha city.

Additional bibliographical information (Arruda 2007:8, 17, 42, 43-Fig. 1) still report the regional occurrence to the amphibian slug *Omalonix convexa* (Martens, 1868), representative gastropod of family SUCCINEIDAE, in the region of "Cachoeirinha" and the basin of the Gravataí River (Agudo-Padrón et al 2008).

Class PELECYPODA = BIVALVIA

Order UNIONOIDA

Family MYCETOPODIDAE

Anodontites sp.

Native limnic naiad species present in the artificial dams places of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b). Naturally depredated in the local environment by the bird *Aramus guarauna* (Linnaeus, 1766) (Limpkin).

Family HIRIIDAE

Rhipidodonta charruana (d'Orbigny, 1835)

Native limnic naiad species present in the artificial dams places and irrigation channels of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b).

Order VENEROIDA

Family CORBICULIDAE

Corbicula fluminea (Müller, 1774)

Exotic freshwater asian clam species present in the irrigation channels of the "IRGA Experimental Station" (Agudo-Padrón & Oliveira 2008 a, b). Similar situation previously detected by us in agricultural aqueducts at the Third Plateau of the Paraná State - PR (Agudo 2008: 12-Fig. 5).

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