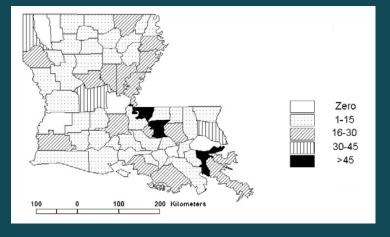
# A Systematic Checklist of the Land Snails of Louisiana Russell L. Minton<sup>1</sup> and Kathryn E. Perez<sup>2</sup>

<sup>1</sup>Museum of Natural History, University of Louisiana at Monroe, 700 University Avenue, Monroe, LA 71209 <sup>2</sup>Department of Biological Sciences, University of Alabama, Box 870345, Tuscaloosa, AL 35487

## INTRODUCTION

The land snails of Louisiana remain an understudied and underappreciated fauna in North America. Few efforts to catalog the native land snail diversity of the state exist, though some attention has been paid to the state's nonindigenous species, especially given the importance of New Orleans as an international commerce port. Dundee & Watt (1961) provided a preliminary checklist of Louisiana land snails comprising records of 73 nominal taxa from literature sources, including those given in Pilsbry (1939, 1941), while Hubricht (1985) listed 102 species. Natureserve Explorer, an on-line biodiversity database, lists only six species in Louisiana. In order to gain a more accurate and complete understanding of Louisiana's terrestrial mollusk diversity, parish (= county) records from a variety of museum and literature sources were examined to produce a list of the state's land snails.





Above: *Hawaiia minuscula* and *Euglandina* rosea.

Left: Land snail species diversity by parish.

Right: Systematic list of land snails recorded in Louisiana. Values in parentheses reflect the numbers of families and species in each order. Invasive species are marked with (\*).

#### **METHODS**

Occurrence records were taken from the literature (e.g. Harry 1942; Dundee & Watt 1961; Hubricht 1985) and collection records were examined from the following museums: Academy of Natural Sciences, Philadelphia; Field Museum of Natural History, Chicago; Florida Museum of Natural History; Gainesville; and Carnegie Museum of Natural History, Pittsburgh. The Academy and Field Museum cover the majority of collections made by Pilsbry and Hubricht respectively. Only records with data down to parish level were used for parish counts. Invasive species (Burch 1962; Robinson 1999) were included, though intercepted alien species (Dundee 1974) not established were not. Taxonomy and nomenclature generally follow Turgeon et al. (1998).

#### **RESULTS**

Museum collections and literature sources recorded the presence of 141 species of land snail in Louisiana, comprising 22 families in four orders. Stylommatophora was the most represented order, with 19 families and Polygyridae was the most represented family with 33 species. Mean diversity was approximately 14 species per parish. *Zonitoides arboreus* (Say, 1816) was the most widespread species, with records in 40 parishes. Fortynine (35%) of the species were either recorded in a single parish, or presumed to occur in the state with no specific parish record. Seventeen alien species (12%) were recorded, mostly from Orleans Parish.

### DISCUSSION

The land snail fauna of Louisiana represents a poorly understood group of taxa. The recorded diversity of land snails in the state is lower than that of nearby states like Texas (195 sp.) and Alabama (194 sp.). This study increased the number of recorded species by 38% from Hubricht's (1985) study and by 93% from that of Dundee & Watt (1961). The lack of records for four parishes and the overall disparity in records highlights the need for increased surveying statewide. The parishes with the highest recorded diversity are those containing or adjacent to Louisiana's largest cities, such as East Baton Rouge (contains Baton Rouge), a common trend in museum collections. Consistent, rigorous sampling of the state's malacofauna would help reverse this trend.



#### LITERATURE CITE

Burch, J. B. 1962. How to know the eastern land snails. W. C. Brown Company Publishers, Dubuque. 214 pp. Dundee, D. S. 1974. Catalog of introduced molluscs of eastern North America (north of Mexico). Sterkiana, 55:1-37. Dundee, D. S. R. P. Watt. 1961. Louisana land snails with new records. Nauflus, 75(2):798.

Harry, H. W. 1942. List of Mollusca of Grand Isle.

Harry, H. W. 1942. List of Mollusca of Grand Isle, Louisiana, recorded from the Louisiana State University Marine Laboratory, Occas. Pap. Mar. Lab., Louisiana State Univ., 1:113. Hubricht, L. 1985. The distribution of the native land mollusks of the Eastern United States. Fieldiana (Zool.), New Series

mblinsks ut int Edward Silled Vision (1984). 24:1-1911, 523 maps. Pilsbry, H. A. 1939-1948. Land Mollusca of North America (north of Mexico). Monogr. Acad. Nat. Sci. Phila., monograph 3, two volumes: 1-994, 1-1113. Polybrop D. G. 1990. Alien inspections: the offects of

monograph 3, two volumes: 1-994, 1-1113.
Robinson, D. G. 1999. Alien invasions: the effects of the global economy on non-marine gastropod introductions into the United States. Malacologia, 41(2):413-438.

urgeon, D. D., J. F. Quinn, A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Schletema, F. G. Thompson, M. Vecchione & J. D. Williams. 1998. Common and scientific names of aquatic inventerbates from the United States and Canada: Mollusks (second edition). American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.

THE UNIVERSITY OF ALABAMA
The University of Louisiana at Monroe

Order Basommatophota (1, 3)
Family Carychildae
Carychilm exigurum (Say 1822)
Carychilm exide Lea 1842
Carychilm exide Lea 1842
Carychilm maxicanum Pflabry 1891
Order Narropolim (1, 1)
Family Helichildae
(2)
Gyma othiculase Say 1818

"Bradybaena aimilaris (Ferrusac 18: Family Bulimulidae Rabdotus diselbatus (Say 1830) Family Cerionidae Cerion inclanum (Binney 1851) Family Discidies

Anguagea acongyletau (Haiser 1004)
Discus patistic (Deshippia 1500)
Family Hapfortermatidia
Haiploteana concavum (Say 1821)
Family Haiscarionidae
\*Dysylethole dauca Thompson and Lee 1981
Euconsulas charainus (Say 1821)
Euconsulas charainus (Say 1821)

Family Helicidae

"Comu aspersum (Müller 1774)

"Comu aspersum (Müller 1774)

"Comu aspers (Bom 1778)

"Enbania vermiculasa (Müller 1774)

"Osala lacnas (Müller 1774)

Helicodiscus inemis Baker 1929 Helicodiscus notius Hubricht 1982 Helicodiscus peralellus (Say 1817) Helicodiscus aingleyanus (Pisbry 1889) Family Limecidae

\*Limax marginatus Müller 1774 Family Philomycidae Magapatifikas musabilis (Hubricht 1951) Patifikas marmonae Pitabry 1948 Philomycus carolinianus (Bosc 1802)

Dusidebtchia auriculais (Bay 1815)
Dusidebtchia auriculais (Bay 1816)
Dusidebtchia variorium (Bland 1807)
Dusidebtchia possalinai (Bland 1807)
Dusidebtchia possalinai (Bland 1807)
Dusidebtchia possalinai (Bland 1807)
Elicheroteria iai (Brind 1807)
Linia assalinai (Bland 1807)
Massaloni assalinai (Bland 1807)

Mochalie allers (European 1885)
Mochalie (Workel) (Caulat 1845)
Patera appressas (Say 1821)
Patera appressas (Say 1821)
Patera appressas (Say 1821)
Patera (Patera) (Patera)
Patera (Patera) (Patera)
Polygyna cerendos (Muhitela 1816)
Polygyna sapatemostos (Say 1818
Satentosema salnostowna (Pfelifier 1842)

Triodepsia hopperversiais (Shutfeworth: Triodepsia vultucas (Gould 1845) Xoloremia carolinieras (Lea 1834) Xoloremia fosseri (Baker 1921) Xoloremia fosseri (Baker 1921) Xoloremia fosseri (Sey 1821)

Family Punctidae
Punctum minutissimum (Lea 1841)
Punctum vireum (Baker 1930)
Family Pupilidae

Family Pupilidae
Gastrocopia antiferia (Say 1621)
Gastrocopia antiferia (Say 1621)
Gastrocopia antiferia (Say 1621)
Gastrocopia contracta (Say 1622)
Gastrocopia contracta (Say 1616)
Gastrocopia contracta (Say 1616)
Gastrocopia politucida (Pfeelfer 1624)
Gastrocopia politucida (Pfeelfer 1622)
Gastrocopia politucida (Gastrocopia politucida (Feelfer 1622)
Gastrocopia politucida (Gould 1640)

Glastrocopa rupscole (Sia) 1821 (Sastrocopa Castrocopa separaisma (Adams 18 "Pupissoma dioscoricola (Adams 18 - Pupissoma macenalii (Clapp 1918) Pupoinida atbilabris (Adams 1841) Pupoinida atbilabris (Adams 1841) Pupoinida modicus (Could 1948) Verrigo gouldi (Birnay 1843) Verrigo gouldi (Birnay 1843) Verrigo maism (Gould 1840) Verrigo maism (Gould 1840)

Verigo ovasa say 1622 Verigo ngoskayae Hubricht 1961 Verigo seskayae Hubricht 1961 Verigo redevasae Well 1870 Family Sprixedae Euglandina rosee (Ferussac 181

"Hustonalile bicolor (Huston 1834)
Family Strobilopaidae
Strobilopa aenaus Pilsbry 1928
Strobilopa labyrinthicus (Say 1817)
Strobilopa labyrinthicus (Say 1817)
Strobilopa sexuasianus Pilsbry and Ferri
Family Subulinidae

Family Subulinidae

Lamellaxis maunismus Pleiffer 1852

\*Cheas pumikum (Pfeiffer 1862

\*Opeas pumikum (Pfeiffer 1840)

\*Opeas pumikum (Pfeiffer 1840)

\*Opeas pumikum (Pfeiffer 1840)

\*Rumina decollase (Linnaeus 1758)

amily Succinsidae
Catinalia okalinomanum (Webb 195
Catinalia saxane Habricht 1961
Catinalia saxane Habricht 1961
Catinalia saxane Habricht 1961
Catinalia vermas (Bay 1817)
Orystma salaniamum (Pelaffel)
Succina campastin Bay 1817
Succinas Campastin Bay 1817
Succinas Geralysi Las 1864
Succinas operant Typon 1866
Succinas operant Typon 1866
Succinas utroita Gerald 1848
Succinas utroita Typon 1866

Sociones distributed (see 1 feet of the control country feet of the country feet o

Zonitoidea nikidus (Müller 1774) Order Systellommatophora (1, 2) Family Veronicellidae "Angustipes ameghini (Gambetta 1

Clockwise from top: Gastrocopta pentodon, Succinea campestris, Strobilops aeneus, Xolotrema fosteri, and Anguispira alternata