David Magney Environmental Consulting

ATLAS OF NATIVE CALIFORNIA TERRESTRIAL SNAILS IN VENTURA COUNTY

Mission Statement

To provide quality environmental consulting services with integrity that protect and enhance the human and natural environment

March 2005

DMEC

Atlas of Native California Terrestrial Snails in Ventura County

Prepared for:

County of Ventura
Resource Management Agency
Planning Division
800 S. Victoria Avenue
Ventura, California 93009
Contact: Liz Chattin
805/648-

Prepared by:

David Magney Environmental Consulting
P.O. Box 1346
Ojai, CA 93024-1346
Contact: David L. Magney
805/646-6045

17 March 2005

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INTRODUCTION

BACKGROUND

Little is known about the distribution and commonness or rarity of the terrestrial snails and slugs of California, or Ventura County. The Ventura County Resource Management Agency, Planning Division is charged with gathering data and assessing the biological resources of Ventura County. The Planning Division has convened several workshops of local knowledgeable biologists to identify the biological resources present in the County, and which of those resources should be considered sensitive or at risk.

As part of the data gathering process, David Magney Environmental Consulting (DMEC) has gathered distribution and relative rarity data on the native terrestrial snails and slugs that are known to occur in Ventura County.

PURPOSE

The purpose of this document is to provide distribution information on the native terrestrial snails and slugs that are known to occur within Ventura County, primarily on the mainland portion of the County, and foster interest in this interesting group of invertebrates. DMEC hopes that these data will be useful in identifying which native terrestrial snails and slugs should be given sensitive status and make management and land use decisions appropriately.

METHODS

DMEC gathered taxonomic and distribution data from selected existing literature and information available on the Internet. The primary data source used to develop this atlas was Roth and Sadeghain (2003[1]) with additional data from Roth (pers. comm.[2]), Conchologists of America, Inc. website[3], and The Trail of Snails website[4]. Their annotated checklist provided county level distribution information for native and non-native terrestrial snails and slugs known to occur within California.

These distribution and taxonomic data were used to develop a geographic information system (GIS) database at the California county level for each terrestrial snail and slug species. Distribution data were first entered into a Microsoft Excel spreadsheet, which was then converted to a database file for compatibility with the GIS database. ArcView 3.3 software was used to develop the database based on California county distribution. This database was then queried to identify all taxa that occur in Ventura County.

The distribution maps are projected in State Plane Zone V, feet, with a North American Datum of 1983.

Distribution maps were then created for each taxon present in Ventura County, illustrating their known occurrences, by county, within California. Non-native snails and slugs were excluded from this atlas.

Nomenclature follows Roth and Sadeghain (2003). The scientific name without the author is used as the title for each distribution map. Below is the complete scientific name, including the subgenus (if appropriate), and the author. This is followed by any synonyms and basionym in brackets.

[1] Roth, Barry, and Patricia S. Sadeghain. 2003. Checklist of the Land Snails and Slugs of California. (*Santa Barbara Museum of Natural History Contributions in Science* No. 3.) Santa Barbara, California.
[2] Roth, Barry, letter report to David Magney Environmental Consulting dated 18 January 2005 titled "Ventura County Terrestrial Mollusks".
[3] http://www.conchologistsofamerica.org/home/
[4] http://members.tripod.com/arnobrosi/oreohelicidae.html

RESULTS

Roth and Sadeghain (2003) reported a total of 11 native terrestrial snails and slugs as occurring within Ventura County (excluding taxa occurring only on the islands), out of a total of approximately 279 species and 397 taxa statewide, including non-native taxa. Thirty-two species contain two to seven named subspecies, for a total of 112 subspecies. Of the 279 taxa, 37 are not native to California. Twenty (20) taxa are yet to be described, but included in the checklist as "species nova". Another six taxa are known only as late Quaternary fossils. Many more undescribed taxa are known to occur, but for which formal naming and descriptions are not currently planed. (Roth and Sadeghain 2003.)

The checklist and occurrence data on the California terrestrial snails and slugs are based on approximately 12,000 specimens (Roth and Sadeghain 2003). There are relatively few records for each taxon to support their occurrence in Ventura County, and California, many of which are highly restricted to specific habitats.

The native snail and slug species mapped here include:

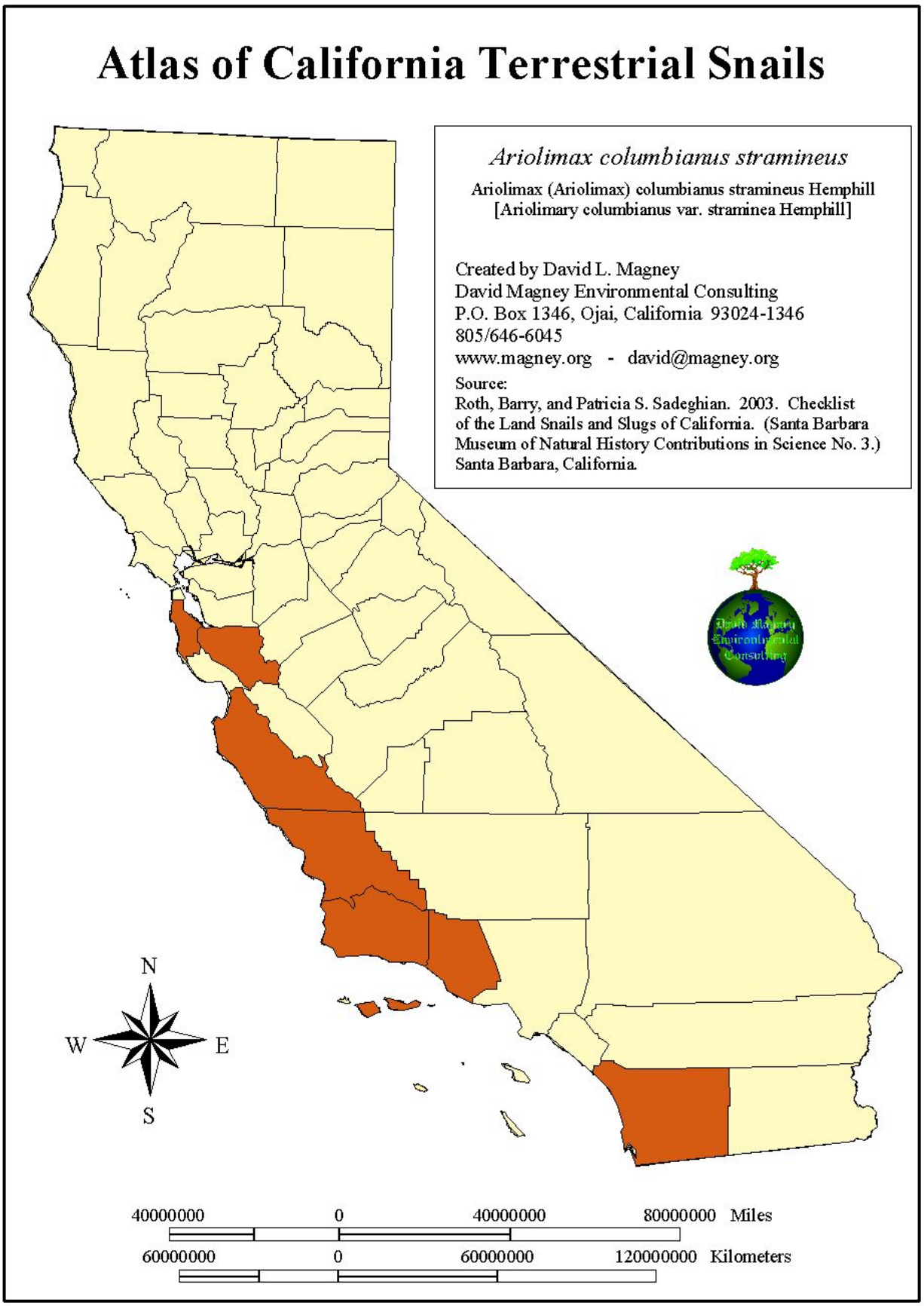
- *Ariolimax columbianus* ssp. *stramineus* Hemphill
- *Catinella vermeta* Say
- *Haplotrema caelatum* Mazýck
- *Helminthoglypta phlyctaena* Bartsch
- *Helminthoglypta salviae* ssp. *salviae* Roth
- *Helminthoglypta traskii* ssp. *traskii* Newcomb
- *Helminthoglypta tudiculata* ssp. *convicta* Pilsbry
- *Helminthoglypta venturensis* Bartsch
- *Helminthoglypta willetti* Berry
- *Striatura pugetensis* Dall
- *Zonitoides arboreus* Say

The distribution maps for each of these species follow, organized alphabetically by scientific name.

Note of caution: countywide distribution maps such as those that follow greatly overstate the actual distribution of each species. One record within a county will result in the entire county being designated as within the species' range, even though it may occur only in a small portion of the County. For example, *Helminthoglypta salviae* ssp. *salviae* is shown to occupy the entire county as presented in the associated distribution map; however, this taxon is only known from five collections in the county, two in Qatal Canyon and three in Apache Canyon, in the northwestern corner of the county. Habitat requirements are such that it is highly restricted geographically in distribution. At this time, *H. salviae* ssp. *salviae* is not known to occur in

adjacent counties, such as Santa Barbara, San Luis Obispo, or Kern Counties even though similar habitat is present.

Future editions of this atlas will provide point location data and distribution polygons based on habitats rather than simple presence-absence within a county.


Atlas of California Terrestrial Snails
Ariolimax columbianus stramineus
Ariolimax (Ariolimax) columbianus stramineus Hemphill
[Ariolimary columbianus var. straminea Hemphill]
Created by David L. Magney
David Magney Environmental Consulting
P.O. Box 1346, Ojai, California 93024-1346
805/646-6045
www.magney.org - david@magney.org
Source:
Roth, Barry, and Patricia S. Sadeghian. 2003. Checklist of the Land Snails and Slugs of California. (Santa Barbara Museum of Natural History Contributions in Science No. 3.) Santa Barbara, California.
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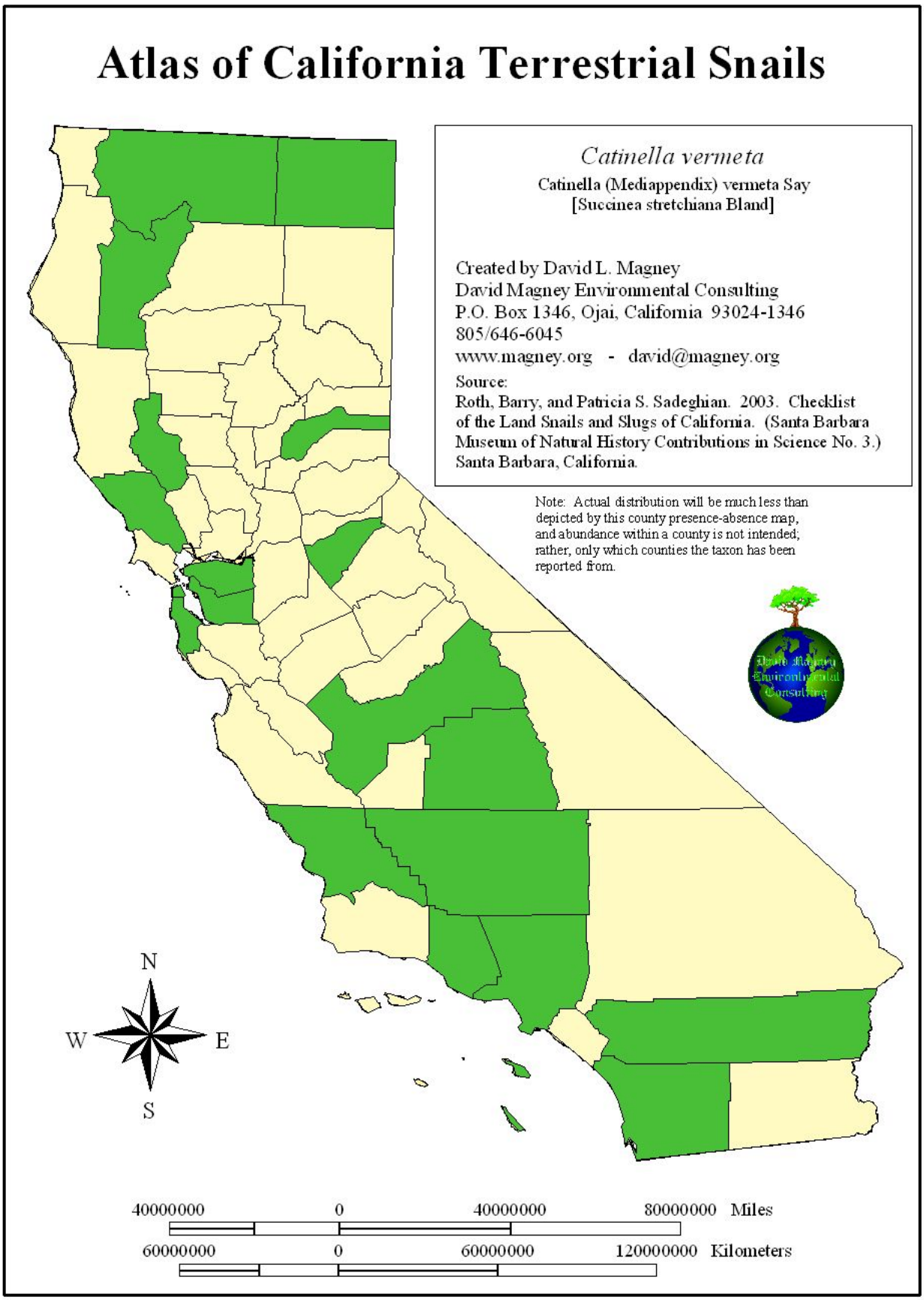
Atlas of California Terrestrial Snails
Catinella vermeta
Catinella (Mediappendix) vermeta Say
[Succinea stretchiana Bland]
Created by David L. Magney
David Magney Environmental Consulting
P.O. Box 1346, Ojai, California 93024-1346
805/646-6045
www.magney.org - david@magney.org
Source:
Roth, Barry, and Patricia S. Sadeghian. 2003. Checklist of the Land Snails and Slugs of California. (Santa Barbara Museum of Natural History Contributions in Science No. 3.) Santa Barbara, California.
Note: Actual distribution will be much less than depicted by this county presence-absence map, and abundance within a county is not intended; rather, only which counties the taxon has been reported from.
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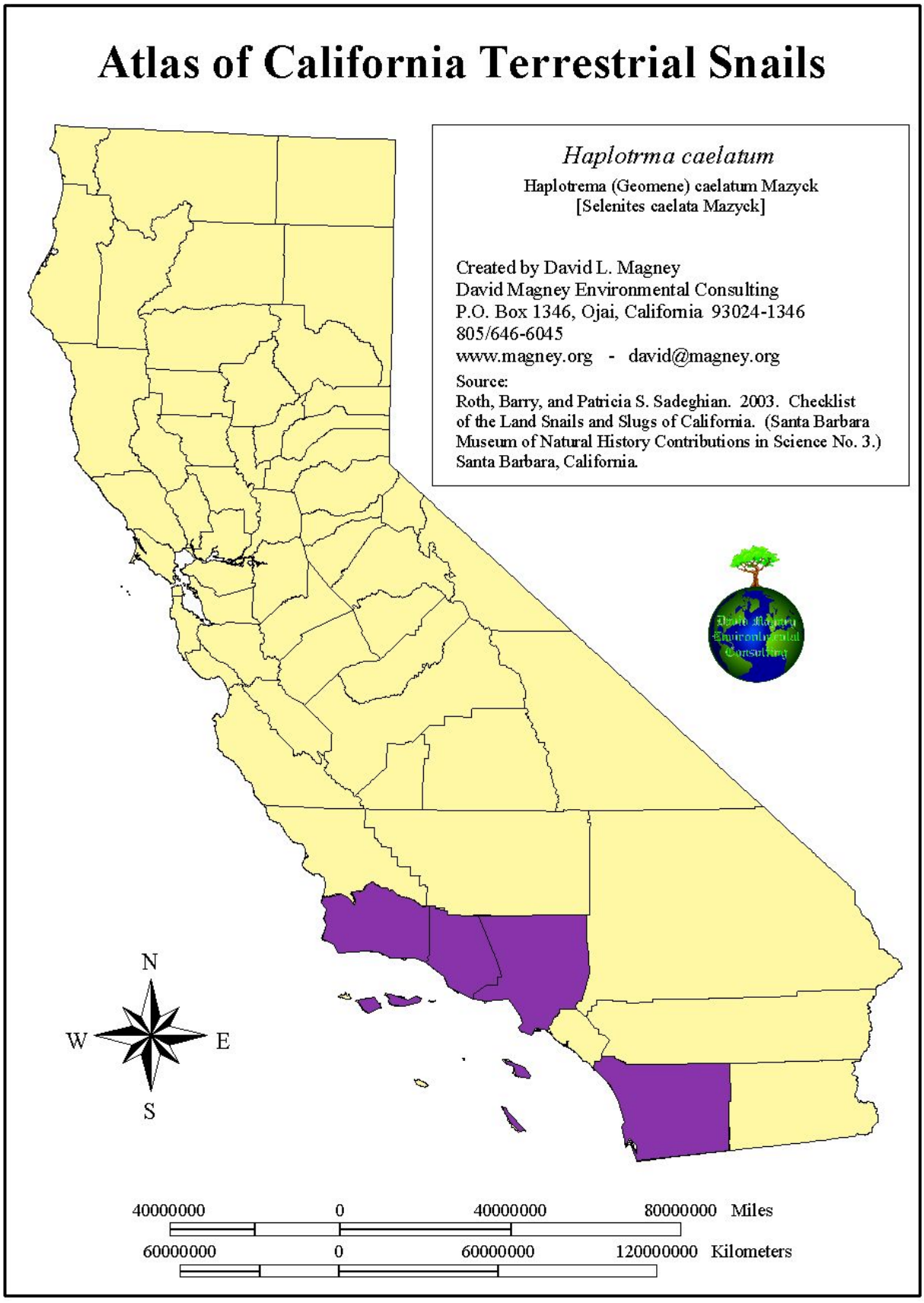
Atlas of California Terrestrial Snails
Haplotrma caelatum
Haplotrema (Geomene) caelatum Mazyck
[Selenites caelata Mazyck]
Created by David L. Magney
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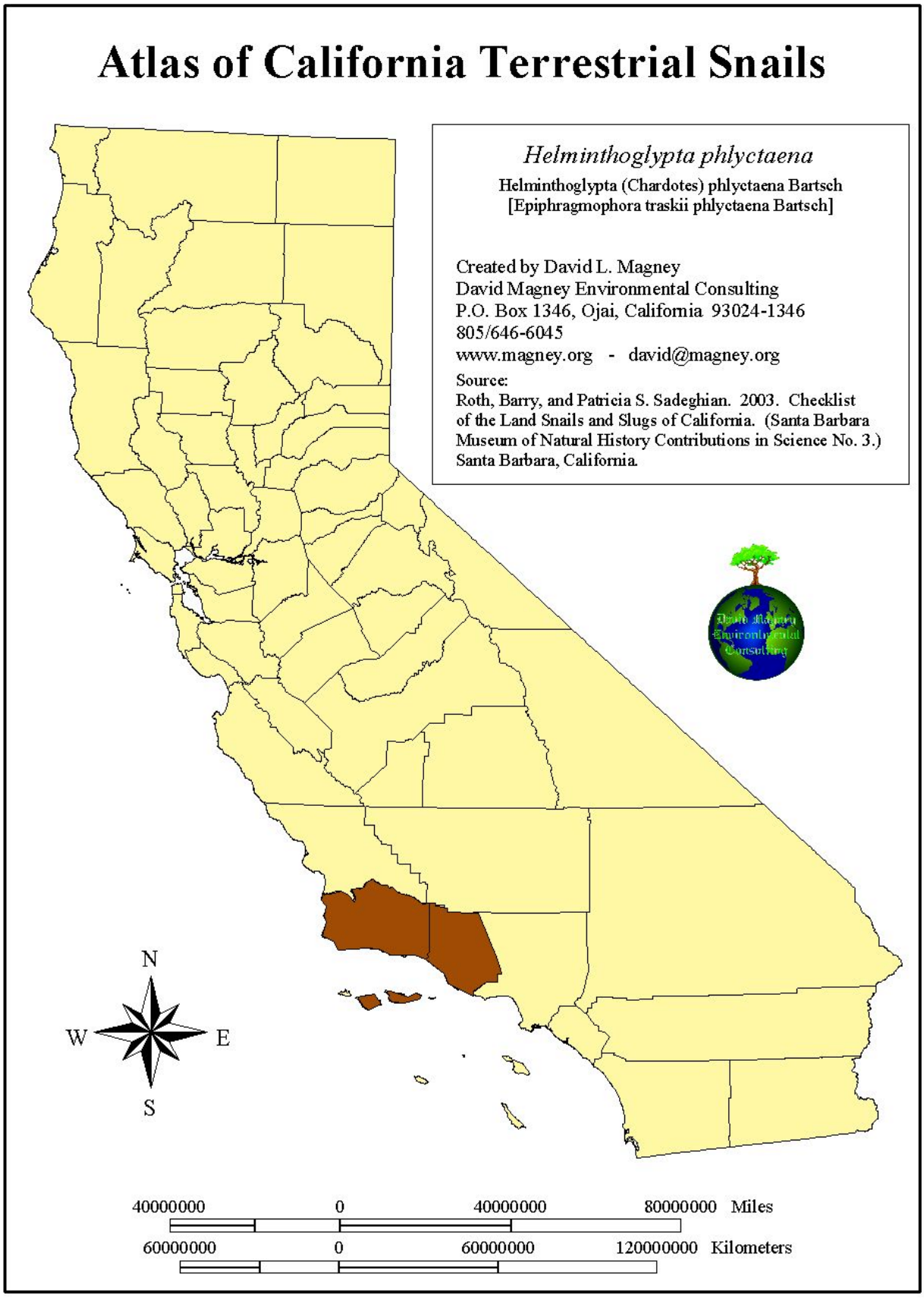
Atlas of California Terrestrial Snails
Helminthoglypta phlyctaena
Helminthoglypta (Chardotes) phlyctaena Bartsch
[Epiphragmophora traskii phlyctaena Bartsch]
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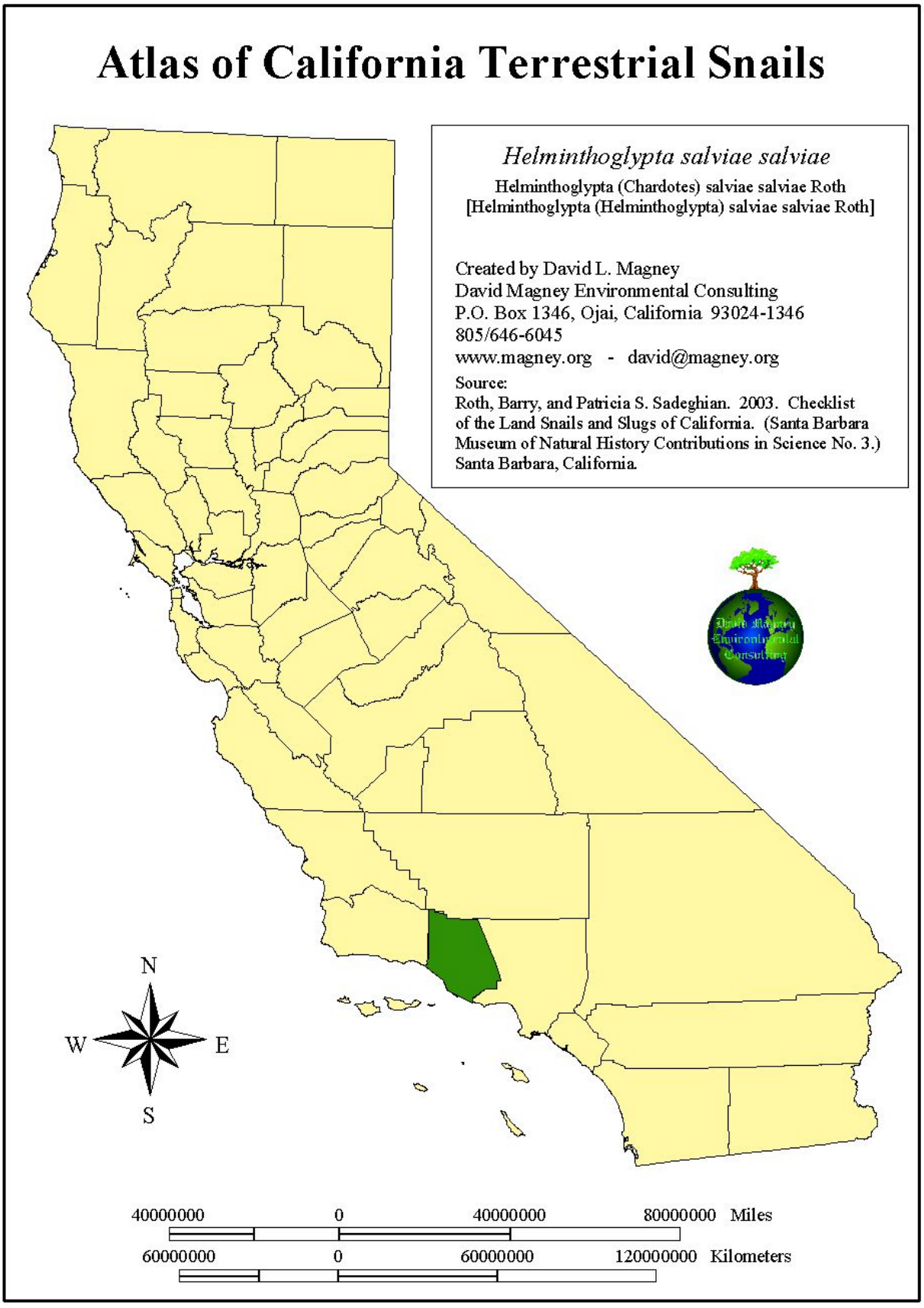
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Helminthoglypta salviae salviae
Helminthoglypta (Chardotes) salviae salviae Roth
[Helminthoglypta (Helminthoglypta) salviae salviae Roth]
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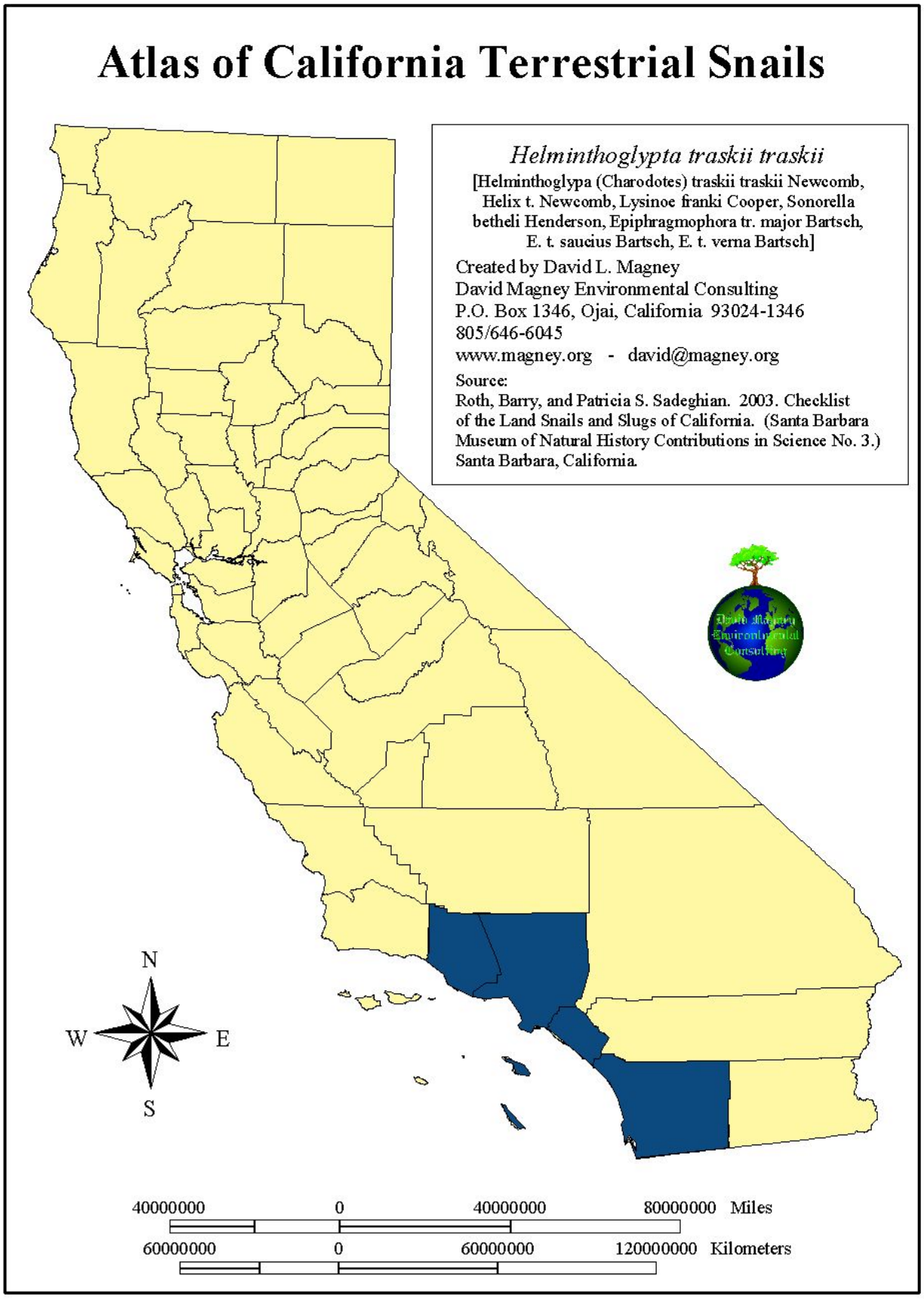
Atlas of California Terrestrial Snails
Helminthoglypta traskii traskii
[Helminthoglypa (Charodotes) traskii traskii Newcomb, Helix t. Newcomb, Lysinoe franki Cooper, Sonorella betheli Henderson, Epiphragmophora tr. major Bartsch, E. t. saucius Bartsch, E. t. verna Bartsch]
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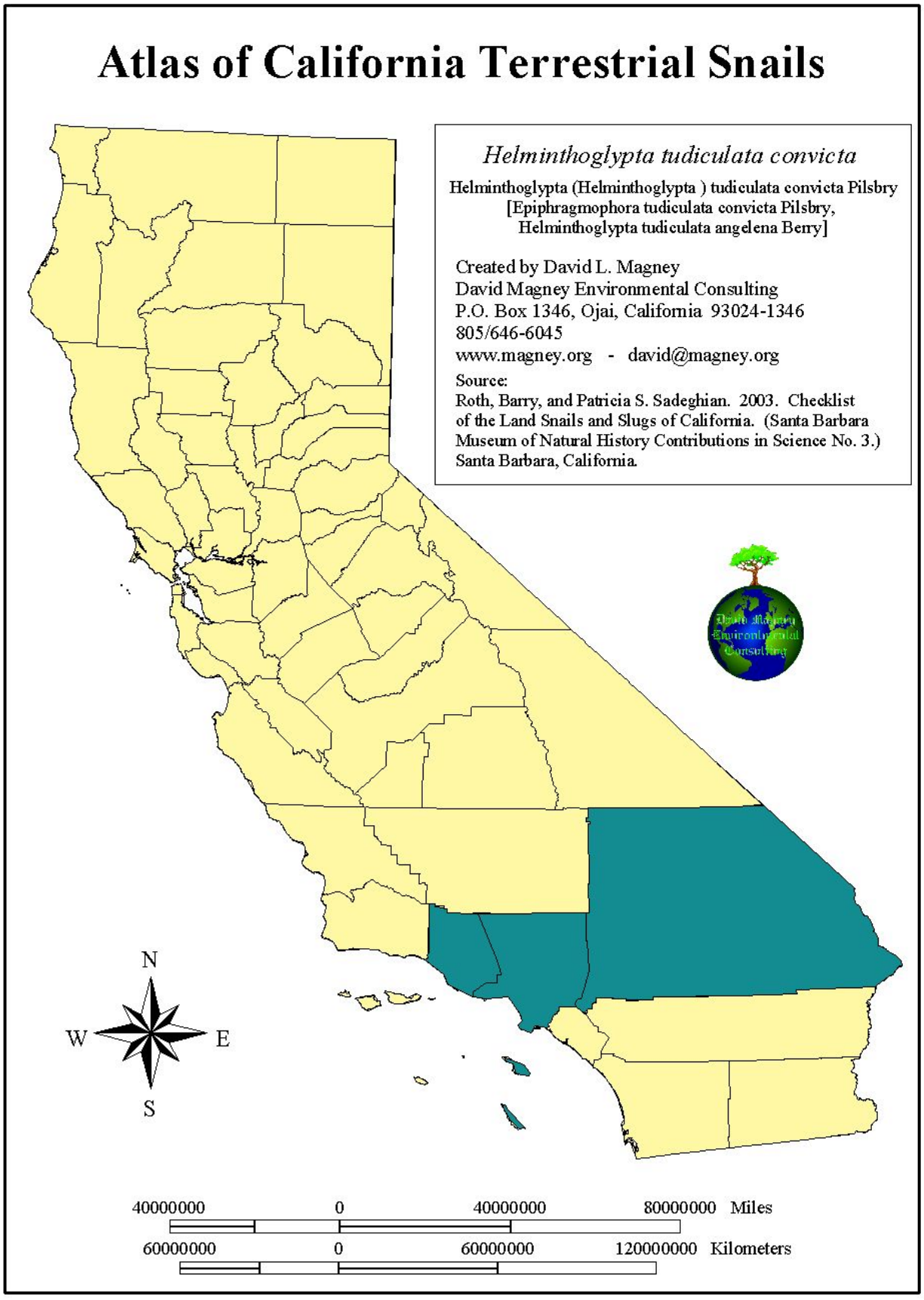
Atlas of California Terrestrial Snails
Helminthoglypta tudiculata convicta
Helminthoglypta (Helminthoglypta) tudiculata convicta Pilsbry
[Epiphragmophora tudiculata convicta Pilsbry,
Helminthoglypta tudiculata angelena Berry]
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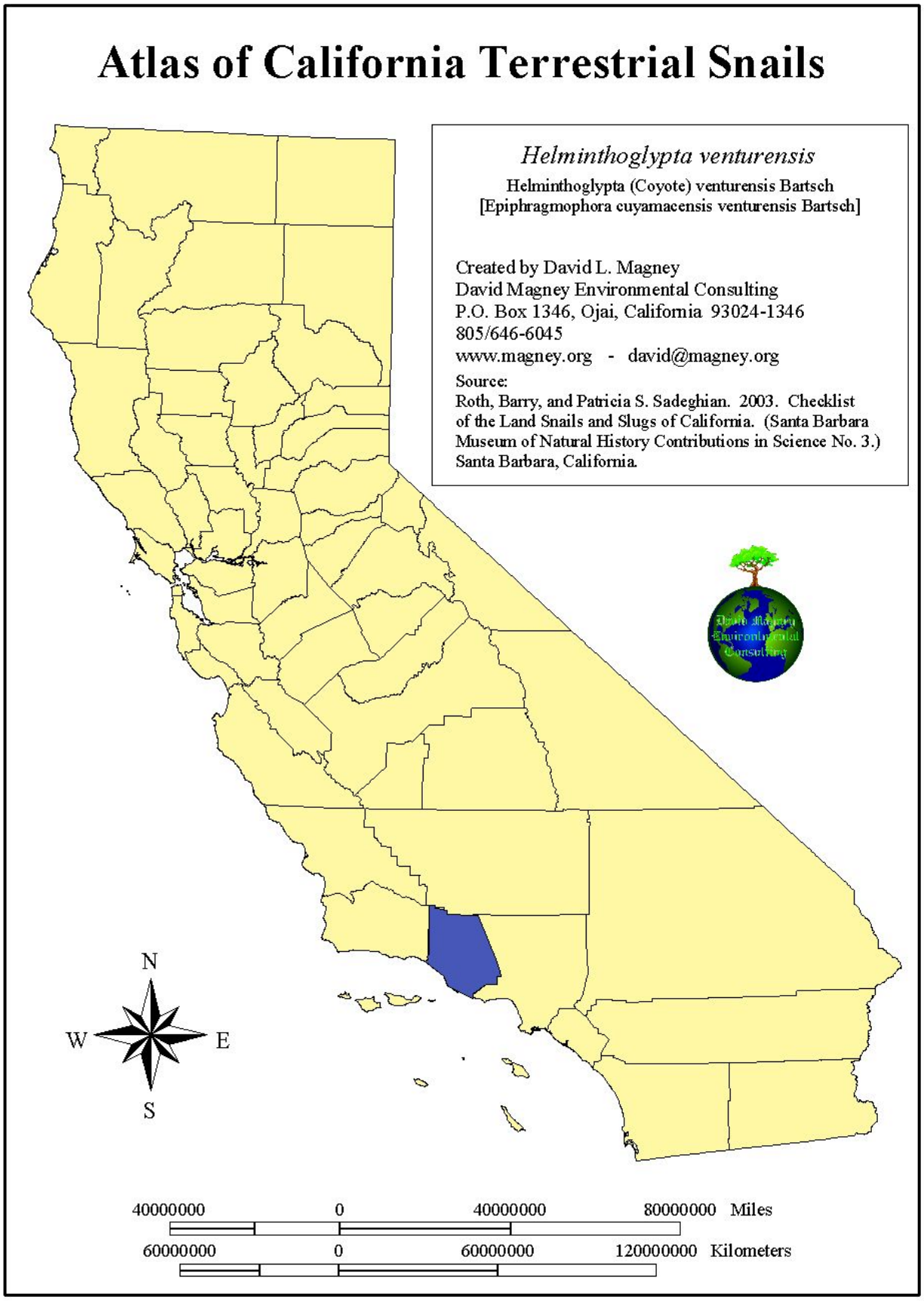
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Helminthoglypta venturensis
Helminthoglypta (Coyote) venturensis Bartsch
[Epiphragmophora cuyamacensis venturensis Bartsch]
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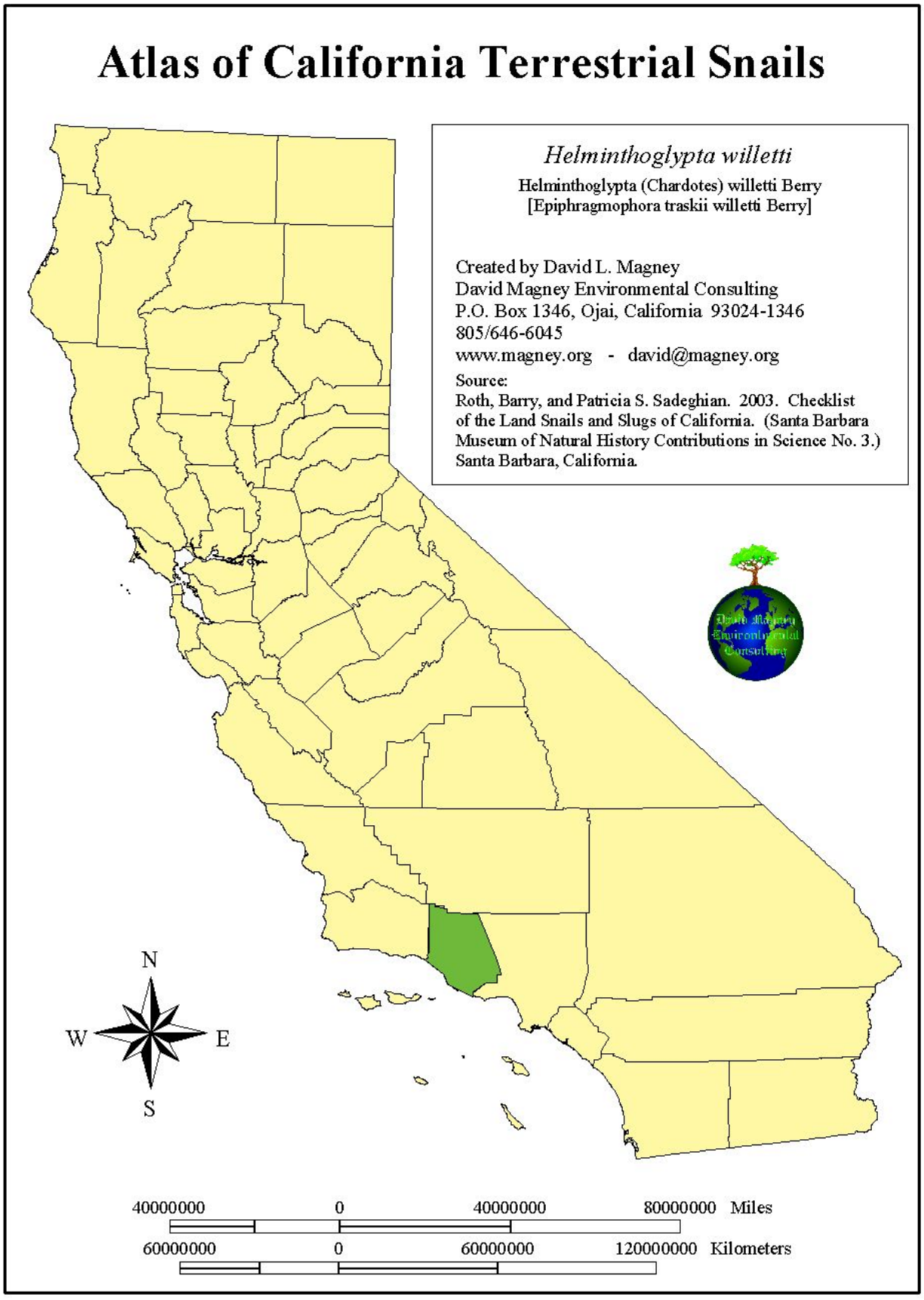
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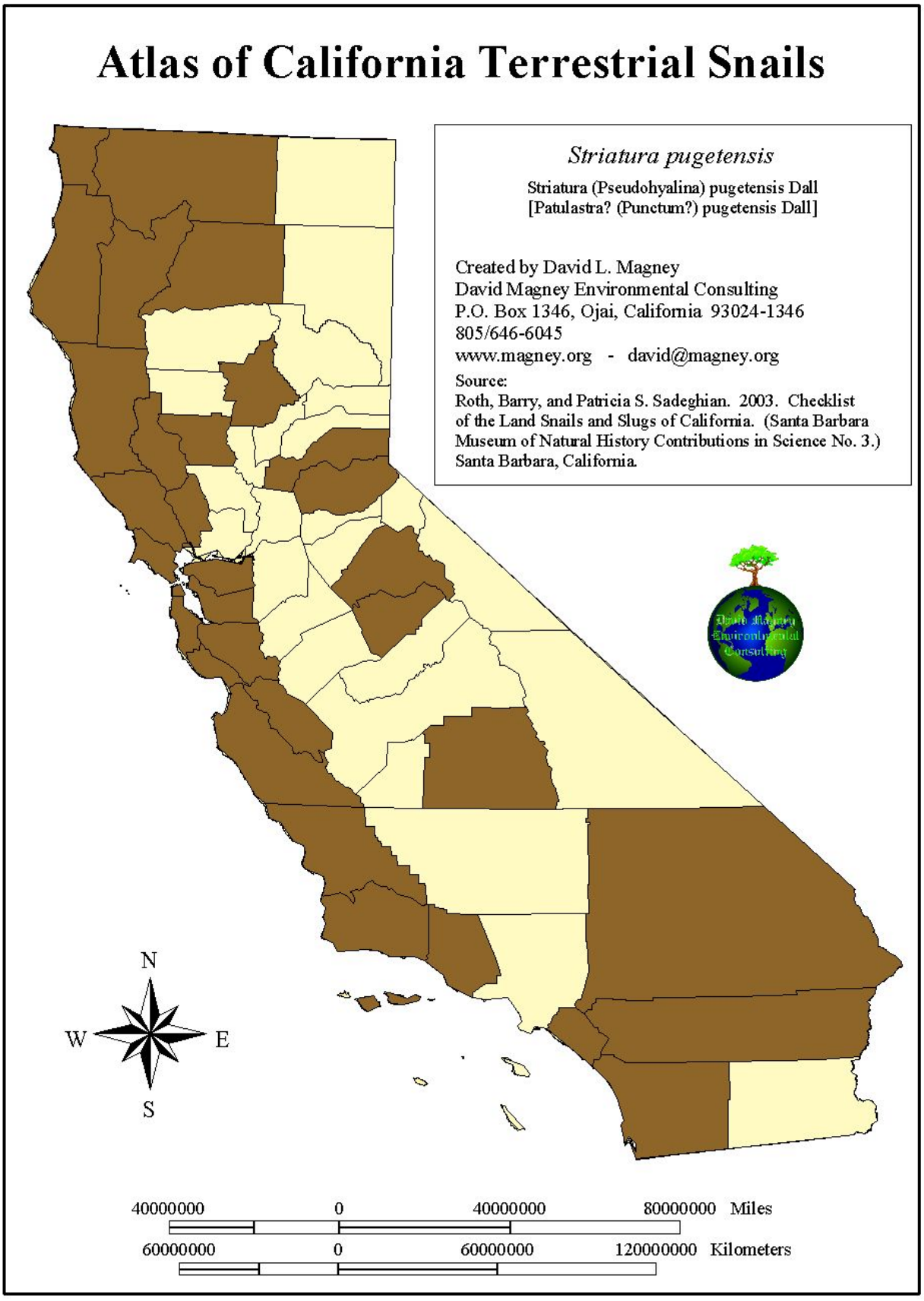
Atlas of California Terrestrial Snails
Striatura pugetensis
Striatura (Pseudohyalina) pugetensis Dall
[Patulastra? (Punctum?) pugetensis Dall]
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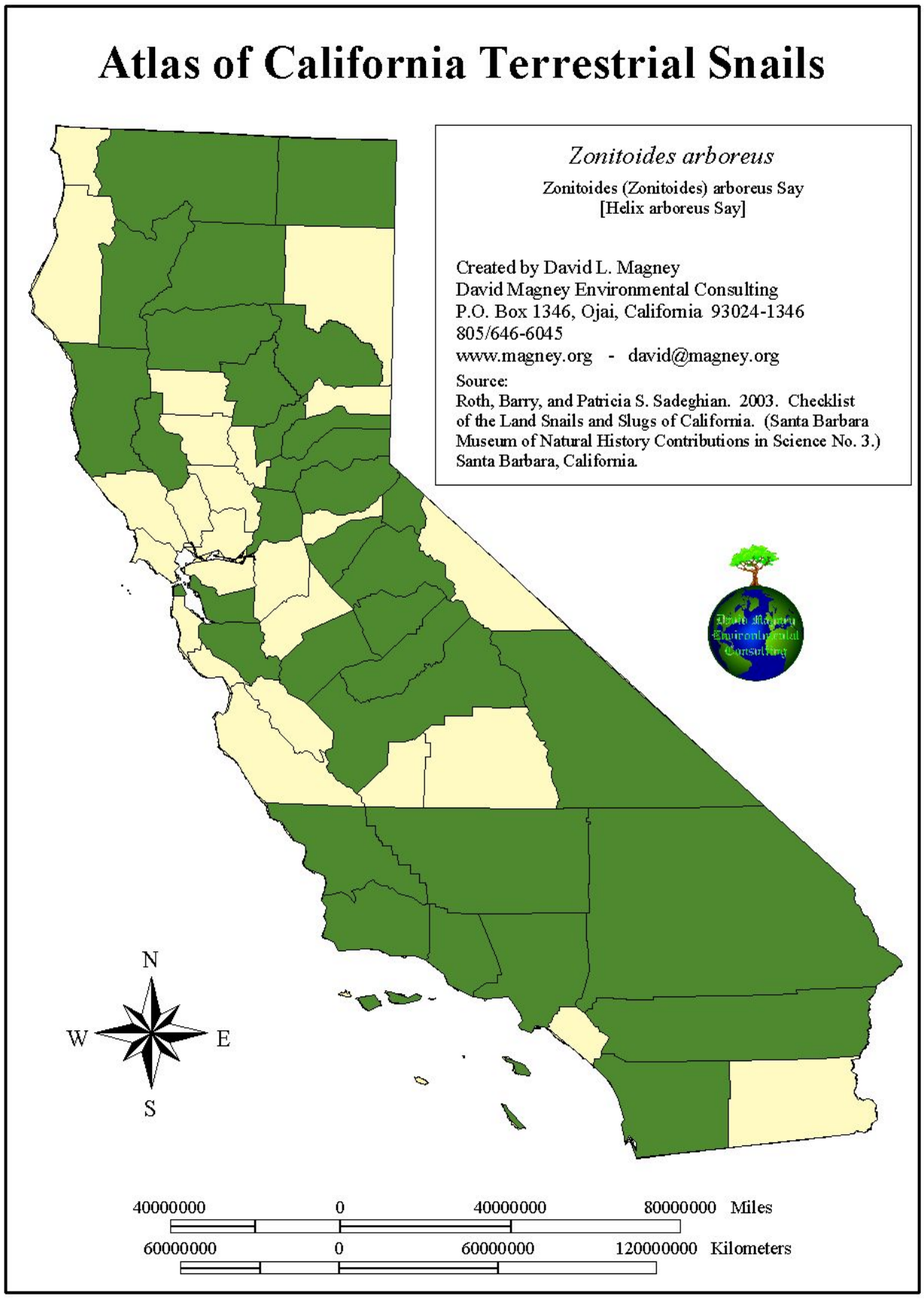
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Zonitoides arboreus
Zonitoides (Zonitoides) arboreus Say
[Helix arboreus Say]
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