FOLIA MALACOLOGICA
Folia Malacol. 26(4): 263–266
ISSN 1506-7629 (print) • ISSN 2300-7125 (on-line)
The Association of Polish Malacologists
Faculty of Biology, Adam Mickiewicz University
Bogucki Wydawnictwo Naukowe
Poznań, December 2018
https://doi.org/10.12657/folmal.026.022

SHORT COMMUNICATION

# A NEW RECORD EXPANDING THE RANGE OF *AMPHIDROMUS SINENSIS* (BENSON, 1851) (GASTROPODA: CAMAENIDAE)

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ABSTRACT: We present a new record of a little known tree snail *Amphidromus sinensis* (Benson) from the Similipal Biosphere Reserve in Odisha. It is the first record from the peninsular region of India and is remote from the previously known range. The distribution suggests either dispersal of the species through the Malayan region to northeast India, through Assam hills to Chotta-Nagpur plateau, to further Eastern Ghats, or a spread which took place during the Pleistocene, with the isolated population remaining in the region.

KEY WORDS: land snails, Camaeninae, range-extension, biogeography, dispersal, India

The genus *Amphidromus* Albers, 1850 includes tree-dwelling snails. Its distribution range extends from Assam in India to Indochina and to Sundaland, south to the Philippines, Wallacea, with one species in Australia (PILSBRY 1900, LAIDLAW & SOLEM 1961, SOLEM 1983, MITRA et al. 2004, SUTCHARIT & PANHA 2006, RAMAKRISHNA et al. 2010, SUTCHARIT et al. 2015, INKHAVILAY et al. 2017). *A. sinensis* (Benson, 1851) was reported e.g. from the Khasi Hills, Assam, India; Chittagong, Bangladesh; Pegu and Shwegyeen, Myanmar, with one variety occurring in Laos (GUDE 1914).

The *Amphidromus* specimen found during the 2005 field survey of the Similipal Biosphere Reserve, Odisha (SETHY et al. 2007) and the specimens from the National Zoological Collection at Zoological Survey of India (ZSI) provided the basis for this note. The specimens were identified using keys and guides by GUDE (1914), MITRA et al. (2004), BANK (2017) and BOUCHET et al. (2017). The forest type determination was based on the WWF-Global Ecoregion dataset (OLSON et al. 2001).

*A. sinensis* (Benson, 1851) (Fig. 1) is now recorded from the Similipal Biosphere Reserve in Odisha (21°38'24.8"N, 86°17'59.4"E, 870 m a.s.l.); this is the first record from the peninsular region of India (Fig. 2). Although basically a rainforest species, in the new locality it was found (one specimen) in a dry deciduous forest. The new record is remote from the previously known range. All the records of *A. sinensis* come from tropical and subtropical moist broadleaf forests (Fig. 2). An earlier study on the genus *Amphidromus* indicates temperature as an important factor; temperature changes may affect the future distribution of the genus (KLORVUTTIMONTARA et al. 2017). Our observation suggests that *A. sinensis* is very sensitive to climate. Land snails disperse over long distance only through passive dispersal. Besides, species of *Amphidromus* are known to disperse through tree canopies and linked branches (KLORVUTTIMONTARA

Ministry of Science and Higher Education
Republic of Poland

Folia Malacologica is funded by the Ministry of Science and Higher Education, Republic of Poland, under agreement no 534/P-DUN/2018 of April 4th, 2018 allocated to the activities for disseminating science:
Task 1: Preparation of English versions of publications (sum funded by DUN 12,000 PLN) and
Task 2: Digitalisation of publications and scientific monographs to enable their open access in the Internet (sum funded by DUN 11,070 PLN).

Fig. 1. Shell of *Amphidromus sinensis* from the Similipal Biosphere Reserve of Odisha, India (scale bar 5 mm)

et al. 2017). Apart from these dispersal methods, climate specificity may also be a reason for the occurrence of the genus in some localities (SUTCHARIT & PANHA 2006), in this case the Similipal Biosphere Reserve in Odisha.

The distribution of the wet zone fauna (mammals, birds, fishes, reptiles, amphibians and annelids) from the Malayan region to the Indian Peninsula is discontinuous (ABDULALI 1949, HORA 1949, ROONWAL & NATH 1949, MANI 1974, KARANTH 2003). The occurrence of *A. sinensis* in the Indian Peninsula may be associated with its preferences to climate which are more or less similar in all the sites. It can be conjectured that either its dispersal route was through the Malayan region to northeast India, through the Assam Hills to the Chotta-Nagpur plateau, to further Eastern Ghats, supporting Satpura Hypothesis (HORA 1949), or it took place during the Pleistocene, with the isolated population now still surviving in the region. Further studies are necessary to specify the dispersal routes of *A. sinensis*.

## ACKNOWLEDGEMENTS

We are grateful to the Director, Zoological Survey of India, Kolkata for providing the necessary facilities and encouragement. Our thanks go to The Principal Chief Conservator of Forests (Wildlife), Government of Odisha and Field Director, Similipal Tiger Reserve, for providing the survey permit and logistic support. The research fellowship supported by National Mission on Himalayan Study, Grant no. NMHS-LG-2016/0011/8509-8, dated 31.03.2016 funded by MoEF&CC, Government of India to the SS and PC. We thank the editors, ANDRZEJ LESICKI and JAROSŁAW BOGUCKI, and anonymous reviewer for their valuable suggestions towards improving the manuscript.

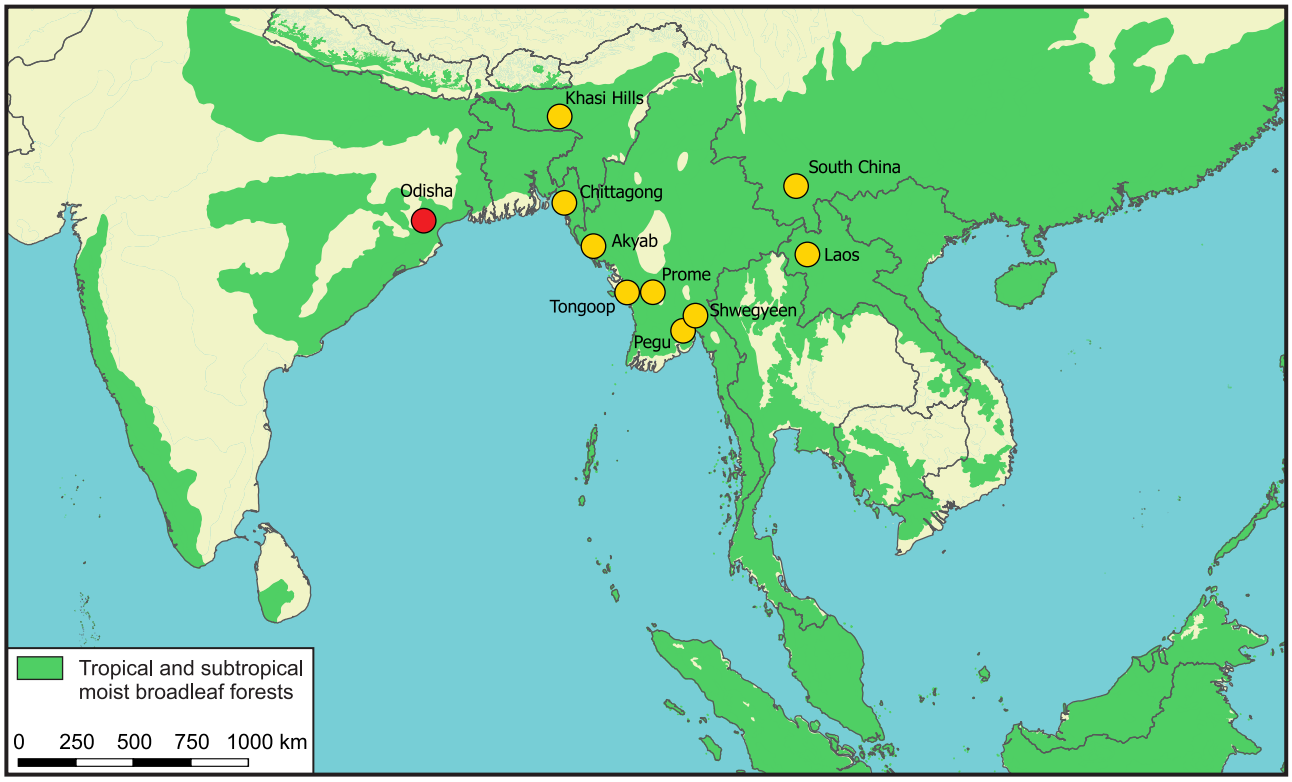


Fig. 2. Present (red dot) and past according to GUDE (1914) (yellow dots) localities of *Amphidromus sinensis* (Benson, 1851) in south and south-east Asia

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*Received: October 20th, 2018*
*Revised: November 5th, 2018*
*Accepted: November 6th, 2018*
*Published on-line: December 11th, 2018*