

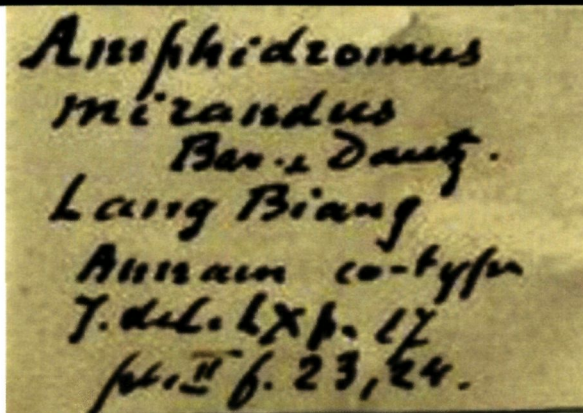
**Lectotype designation and rediscovery of the tree snail
Amphidromus (Amphidromus) mirandus Bavay & Dautzenberg, 1912
(Gastropoda: Camaenidae) after more than 100 years**

Luc SEGERS

Jan-de-Knuytstraat, Ravels, Belgium
luc_segers@skynet.be

Keywords: GASTROPODA, HELICOIDEA, CAMAENIDAE, *Amphidromus*, rediscovery, Vietnam.

Abstract: The aim of this paper is to report the rediscovery of *Amphidromus (Amphidromus) mirandus* Bavay & Dautzenberg, 1912 in the high mountain forest of Lam-Dong-Lam (Vien area), Vietnam. To my knowledge, two syntypes are known, of which I designate the one in RBINS (reg: IG. 10591, n°. 603458) measuring 40.46 x 19.2 mm as lectotype and the second one in MNHN (reg: IM-2000-20465) as paralectotype.



Lectotype RBINS IG. 10591, nr. 603458

Abbreviations:

CLS: Collection Luc Segers

RBINS: Royal Belgian Institute of Natural Sciences Brussels, Belgium.

MNHN: Muséum national d'Histoire naturelle Paris, France.

Systematics:

Class **Gastropoda** Cuvier, 1797

Superfamily **Helicoidea** Rafinesque, 1815

Family **Camaenidae** Pilsbry, 1895

Genus ***Amphidromus*** Albers, 1850

Subgenus ***Amphidromus (Amphidromus)***

Type species *Helix perversus* Linnaeus, 1758
(subsequent designation by von Martens, 1860)

Discussion: In the revision of the *Amphidromus*-complex by Laidlaw and Solem (1961), 75 species were recognised. Later on, 16 species were described [See Solem, 1983; Dharma, 1993, 2007; Panha, 1996; Lehmann & Maassen, 2004; Severns, 2006; Sutcharit & Panha, 2006, 2011; Chan & Tan, 2010 and Cilia, 2013]. After 2014 the hunt for *Amphidromus* species became spectacular; resulting in the description of more than 100 species by the authors like Thach, Abbas, Parsons, Huber, Inkhavilay & Panha, etc. All of the species were collected in Vietnam, Cambodia, Thailand, Indonesia and Laos. Giving a complete list of new species is currently impossible because there are new discoveries every month.

Personally, I have been collecting *Amphidromus* species for more than 25 years and have regularly visited Vietnam during the past 5 years. During my visits I have come into contact with several Vietnamese collectors, such as Anh Pham, Liem Vo and Khoa Nguyen (Kris) and his team. During several discussions with them I was wondering and asked them why they only found new *Amphidromus* species during the past years and not the older, described ones such as *Amphidromus (Amphi-*

dromus) *rhodostylus* (Möllendorff, 1901) and *A. (A.) mirandus* Bavay & Dautzenberg, 1912.

Concerning the latter, which was found in the first decade of 1900, after some Frenchmen had made an establishment in the mountains of the highland, which is nowadays known as Lam-Dong-Lam (Vien area), in 1893, thus during the occupation and war. The French loved this place because it was relatively cool in summer and nice to spend their holidays there. This also resulted in some scientists coming up to do research on plants and animals. They also collected some *Amphidromus* of which one was described as *Amphidromus mirandus* by Bavay & Dautzenberg, 1912 and published in Journ. de Conch. LX p.27, pl. II, f 23, 24.

Stimulated by my question and studying the literature and pictures of the co-type N° 603458 stored in the RBINS (hereby designated the Lectotype) and the syntype in MNHN, IM-2000-20465 (hereby designated Paralectotype), Khoa Nguyen (Kris) and his team -with help of a local ethnic minority in Lac Duong- made several trips up to the high mountain forests to find *A. (A.) mirandus* in 2017. During this trip only broken pieces were collected. At that time Kris believed that they were fragments of *A. (A.) mirandus* or *Amphidromus (A.) asper* Haas, 1934, which also occurs in the same habitat.

Full of energy they made 3 extra expeditions that year, but returned home without results. In the rain season of 2018, Kris went back to the area where the fragments had been collected and finally found a living *A. (A.) mirandus* in a tree. Kris spent a lot of time to climb into the tree to take the snail from his habitat. That season he went back two times, but except for one dead specimen no other records for *A. (A.) mirandus* were made. However, he also found the rare *A. (A.) rhodostylus* (von Möllendorff, 1901) and *A. (A.) thachi krisi* Thach, 2018, which was named after him.

Acknowledgments: I am indebted for the assistance given by Verbinnen Gilbert for practical help in preparing the plates and for correcting the manuscript. To the RBINS Prof. Thierry Backeljau, Yves Samyn for assistance and access to the Dautzenberg collection. To Mr. Jonathan Brecko for making the Photograph of the syntype.

References:

Chan, S.Y., Tan, S.K. & Abbas, J.B., 2008. A new species of *Amphidromus* from Rotti Island Indonesia *Occasional Molluscan Papers* 1:1-5.
 Chan, S.Y. & Tan, S.K., 2010. Two new species of *Amphidromus* from the lesser Sunda Islands Indonesia. *The Raffles Bulletin of Zoology* 58(2): 245-249.

Cilia, D.P., 2013. Description of a new species of *Amphidromus* Albers, 1850 from Sumba, Indonesia (Gastropoda Pulmonata Camaenidae). *Biodiversity Journal* 4(2): 263-268.

Dharma, B., 1993. Description of two species of *Amphidromus* from Sumatra Indonesia. *Apex* 8: 139-143.

Dharma, B. 2007. Report of fossil *Amphidromus* and description of new species and new subspecies of recent and fossil *Amphidromus* from Indonesia. *Schriften zur Malakozoologie* 23:45-78.

Laidlaw, F.F. & Solem, A., 1961. *The Land Snail Genus Amphidromus A Synoptic Catalogue*.

Huber, F., 2015. *Amphidromus thachi*, a new species from Vietnam. *Gloria Maris* 54(1) 29-31.

Inkhavilay K., Sutcharit C. & Panha S., 2017. Taxonomic review of the tree snail genus *Amphidromus* Albers, 1850 (Pulmonata: Camaenidae) in Laos, with the description of two new species. *European Journal of Taxonomy*. 330: 1-40

Lehmann, H. & Maassen, W.J.M., 2004. A new species of *Amphidromus* from Laos. *Basteria* 68 : 17-20.

Panha, S., 1996. A new species of *Amphidromus* from Thailand. *Malacological Review* 29:131-132.

Severns, M., 2006. A new species and a new subspecies of *Amphidromus* from Atauro Island, East Timor. *Basteria* 70 : 23-28.

Solem, A., 1983. First record of *Amphidromus* from Australia with anatomical note on several species. *Records of the Australian Museum* 35: 153-166.

Sucharit, C. & Panha, S., 2006. Taxonomic review of the tree snails *Amphidromus* (Albers, 1850) in Thailand and adjacent areas: Subgenus *Amphidromus*. *Journal of Molluscan Studies* 72: 1-30.

Sucharit, C. & Panha, S., 2011. Neotype designation and re-description of the vanishing tree snail *Amphidromus (Amphidromus) mundus* (Pfeiffer, 1853). *Raffles Bulletin of Zoology* 59:139-143.

Thach, N.N., 2016. *Vietnamese New Mollusks. Seashells - Land Snails - Cephalopods*. 48Hrs publishing, USA.

Thach, N.N., 2017. *New Shells of Southeast Asia. Seashells - Land Snails*. 48Hrs publishing, USA.

Thach, N.N., 2018. *New Shells of South Asia. Seashells - Freshwater & Land Snails*. 48Hrs publishing, USA.

Plate 1 :

1a-1f: *Amphidromus (Amphidromus) mirandus*
 Bavay & Dautzenberg, 1912.

1a-d: Collection LS.

1e-f: living animal in situ.

2a-2d: *Amphidromus (Amphidromus) heinrichhuberi*
 Thach & Huber, 2016. Collection LS.

3a-3d: *Amphidromus (Amphidromus) friedahuberae*
 Thach & Huber, 2017. Collection LS.

Plate 1



1a



1b



1c



1d



1e



1f



2a



2b



2c



2d



3a



3b



3c



3d

Plate 2



4a



4b



4c



4d



5



6



6a



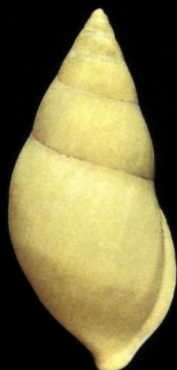
6b



7a



7b



8a



8b



8c



8d

Plate 2:

- 4a-4d:** *Amphidromus (Amphidromus) asper*
Haas, 1934. Collection LS.
- 5:** Habitat of *Amphidromus (Amphidromus)*
mirandus Bavay & Dautzenberg, 1912
- 6a-6b:** *Amphidromus (Amphidromus) thachi* Huber,
2015. Collection LS.
- 7a-7b:** *Amphidromus (Amphidromus) thachi crisi*
Thach, 2018. Collection LS.
- 8a-8d:** *Amphidromus (Amphidromus) mirandus*
Bavay & Dautzenberg, 1912. Dead-taken. Collection LS.