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## Two new species of the genus *Stemmatopsis* J. Mabilie, 1887 (Gastropoda: Stylommatophora: Streptaxidae) from Vietnam and Laos

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DO Duc Sang

*Department of Applied Zoology, Faculty of Biology, VNU University of Science, Vietnam National University, Hanoi, 334 Nguyen Trai, Thanh Xuan, Hanoi, VIETNAM, E-mail: do.ducsang@hus.edu.vn*

**ABSTRACT.** The terrestrial snail genus *Stemmatopsis* is mainly distributed in northern Vietnam and northern Laos. In total five species of *Stemmatopsis* are discovered, including two described herein. *Stemmatopsis arcuatolabris* sp. nov. has a small distorted-ovate shell with last whorl protruded quite strongly from ventral side. It has a thickened, expanded peristome with bended palatal side having a bow-like shape. *Stemmatopsis dolium* sp. nov., has a small, oblique-ovate shell, an approximately quadrangular aperture, and a wave-like shape at the palatal side of peristome.

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Два новых вида рода *Stemmatopsis* J. Mabilie, 1887 (Gastropoda: Stylommatophora: Streptaxidae) из Вьетнама и Лаоса

ДО Дук Санг

*Department of Applied Zoology, Faculty of Biology, VNU University of Science, Vietnam National University, Hanoi, 334 Nguyen Trai, Thanh Xuan, Hanoi, VIETNAM, E-mail: do.ducsang@hus.edu.vn*

**РЕЗЮМЕ.** Наземные брюхоногие моллюски рода *Stemmatopsis* преимущественно распространены в северном Вьетнаме и Лаосе. Всего известно пять видов, включая два новых, описанных в настоящей работе. *Stemmatopsis arcuatolabris* sp. nov. с маленькой искривленно-овальной раковиной с довольно сильно приподнятым последним оборотом, перистом утолщенный и отогнутый, с сильно изогнутым палатальным краем, имеющим форму лука. *Stemmatopsis dolium* sp. nov. с маленькой косо-овальной раковиной, почти четырехугольным устьем и волнообразным палатальным краем перистома.

known taxon of Streptaxidae Gray, 1860 and only recorded in northern Vietnam [Mabilie, 1887a, 1887b; Gude, 1903; Richardson, 1988; Schileyko, 2000]. To date, three species of *Stemmatopsis* are known, including *Stemmatopsis poirieri* Mabilie, 1887, *S. nangphaiensis* Do et Do, 2015, and *S. vanhoensis* Do et Do, 2015, they only inhabit northern Vietnam [Mabilie, 1887a, 1887b; Fischer, Dautzenberg, 1904; Schileyko, 2011; Do et Do, 2015].

Vietnam and Laos are located near the center of the Indo-Burmese hotspots, with diversity of habitats, including many ecosystems, which can potentially support terrestrial gastropod fauna [Myers *et al.*, 2000; Vermeulen, Maassen, 2003; Inkhavilay *et al.*, 2019]. However, the terrestrial gastropod faunas of Vietnam and Laos are poorly known.

In this paper, I describe two new streptaxid species belonging to the genus *Stemmatopsis* Mabilie, 1887, which are considered a new record for northern central Vietnam and Laos.

### Material and methods

Descriptions of two new *Stemmatopsis* species, are based solely on conchological characteristics. No live specimens were available for this study. Shell terminology follows Richardson [1988], Schileyko [2000], Siriboon *et al.* [2014]. All measurements were taken to the nearest 0.1 mm using Vernier caliper. Shell height was measured from the apex to the lowest part of the peristome parallel to the coiling axis. Shell width was measured at the widest sec-

### Introduction

The Streptaxidae Gray, 1860 are carnivorous terrestrial snails which are widely distributed from South America to Africa and Asia [Bruggen, 1967; Richardson, 1988; Siriboon *et al.*, 2014]. Currently Streptaxidae are divided into six subfamilies comprising some 96 genera and subgenera [Schileyko, 2000; MolluscaBase, 2002]. *Stemmatopsis* is a poorly

tion perpendicular to the coiling axis. The counting of shell whorls (to the nearest  $\frac{1}{4}$  whorl) follows the method described by Kerney and Cameron [1979: 13].

Specimens examined are deposited in the: ZMHU: Zoological Collection of Biological Museum, Hanoi University of Science (Hanoi, Vietnam); VNMN: Vietnam National Museum of Nature (Hanoi, Vietnam); SORC: Soil Organism Research Center of Hanoi National University of Education (HNUE) (Hanoi, Vietnam).

**Abbreviations:** AH, aperture height; AW, aperture width; MNHN, Muséum National d'Histoire Naturelle (Paris, France); SH, shell height; SW, shell width.

## Taxonomy

Class Gastropoda Cuvier, 1795  
 Subclass Heterobranchia Gray, 1840  
 Order Stylommatophora Schmidt, 1855  
 Superfamily Streptaxoidea Gray, 1860  
 Family Streptaxidae Gray, 1860  
 Subfamily Streptaxinae Gray, 1860

Genus *Stemmatopsis* J. Mabille, 1887

Mabille, 1887a: 6; 1887b: 131.

Type species – *Stemmatopsis poirieri* Mabille, 1887 by monotypy.

**Diagnosis.** Shell rather small, usually distorted, transparent, with flattened to relatively elevated spire. Shell surface smooth and glossy. Last whorl slightly to strongly deviated from vertical axis. Aperture subcircular to semi-ovate, apertural dentition always absent. Peristome expanded and reflected. Umbilicus closed to widely open [Gude, 1903; Richardson, 1988; Schileyko, 2000].

**Remark.** *Stemmatopsis* Mabille, 1887 and *Haploptychius* Möllendorff, 1906 have obliquely lenticular outline, while the last whorl is deviated from the vertical axis. *Haploptychius* always has a single parietal lamella, and *Stemmatopsis* always lacks apertural dentition [Kobelt, 1905-1906; Benthem Jutting, 1954; Schileyko, 2000; Inkhavilay *et al.*, 2016].

*Stemmatopsis arcuatolabris* sp. nov.  
 (Figs 1, 2C)

Zoobank registration: urn:lsid:zoobank.org:act:03875346-4A81-4DF3-ADDA-2B6D73944E25

**Type material.** Holotype VNMN\_IZ 000.000.181 (SH 6.7 mm, SW 8.1 mm, Fig 2C), Vietnam, Thanh

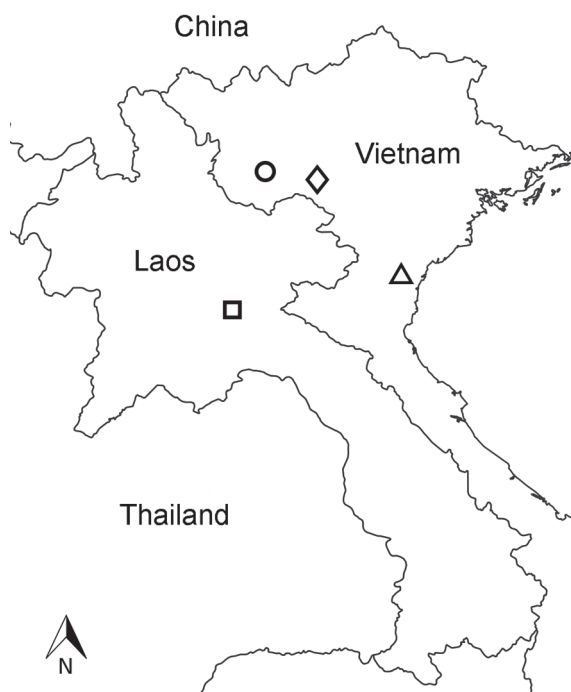


FIG. 1. Distribution map of *Stemmatopsis* spp. in Vietnam and Laos. Circle = *Stemmatopsis nangphaiensis*, rhombus = *Stemmatopsis vanhoensis*, triangle = *Stemmatopsis arcuatolabris* sp. nov., square = *Stemmatopsis dolium* sp. nov.

РИС. 1. Карта распространения *Stemmatopsis* spp. во Вьетнаме и Лаосе. Кругок = *Stemmatopsis nangphaiensis*, ромб = *Stemmatopsis vanhoensis*, треугольник = *Stemmatopsis arcuatolabris* sp. nov., квадрат = *Stemmatopsis dolium* sp. nov.

Hoa Province, Thanh Hoa City, Ham Rong limestone area, entrance of the Long Quang Cave, Exposed limestone with little soil and vegetation of herbs, 19°50.16'N, 105°47.22'E (map), coll. T.Q. Bui, 16.8.2018. Paratypes ZMHU.MOL 003 (2 shells), locality and date same as of holotype.

**Diagnosis.** *Stemmatopsis arcuatolabris* sp. nov. is characterized by a small-sized, distorted-ovate shell, with last whorl quite strongly protruding from vertical axis; peristome thickened, expanded, with strongly bent palatal, bow-like shaped side.

**Description.** Shell distorted-ovate, small, thin, semi translucent and white. Whorls  $4\frac{3}{4}$ , spire little elevated, rounded. First two whorls smooth, subsequent ones with fine, regular, close-set, somewhat wavy transverse ribs, last whorl glossy, with transverse ridges diminishing below periphery. Embryonic shell large, about  $2\frac{1}{2}$  whorls almost flat, next whorls slightly convex and regularly coiled; last whorl shouldered, axially deflected, and strongly

РИС. 2 (на след. стр.). Раковины *Stemmatopsis* spp. **A.** *Stemmatopsis nangphaiensis*, голотип SORC 1391, **B.** *Stemmatopsis vanhoensis*, паратип VNMN, from Van Ho, Son La, **C.** *Stemmatopsis arcuatolabris* sp. nov., голотип VNMN\_IZ 000.000.181, **D–E.** *Stemmatopsis dolium* sp. nov., **D.** голотип VNMN\_IZ 000.000.182, **E.** паратипы ZMHU.MOL 004, **F.** *Stemmatopsis poirieri*, лектотип MNHN 26980 (фото с сайта MNHN). Фотографии Т.С. Нгуена и Д.С. До .

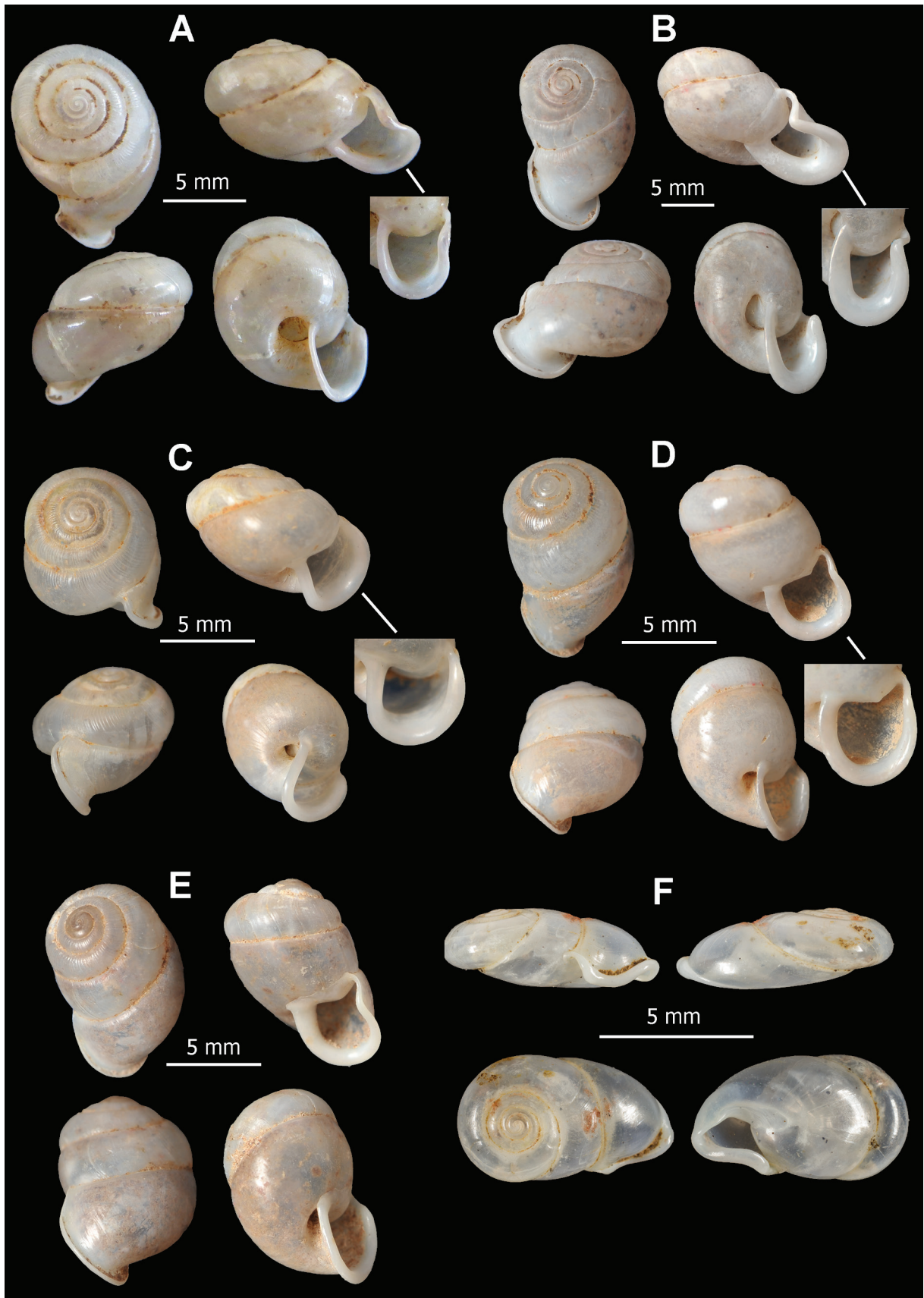


FIG. 2. Shells of *Stemmatopsis* spp. **A.** *Stemmatopsis nangphaiensis*, holotype SORC 1391, **B.** *Stemmatopsis vanhoensis*, paratype VNMN, from Van Ho, Son La, **C.** *Stemmatopsis arcuatolabris* sp. nov., holotype VNMN\_IZ 000.000.181, **D–E.** *Stemmatopsis dolium* sp. nov., **D.** holotype VNMN\_IZ 000.000.182, **E.** paratypes ZMHU.MOL 004, **F.** *Stemmatopsis porieri*, lectotype MNHN 26980 (downloaded from the website of the MNHN). Photographs by: T.S. Nguyen and D.S. Do.

Table 1. Shell measurements of *Stemmatopsis* spp. from Vietnam and Laos.Табл. 1. Измерения раковин *Stemmatopsis* spp. из Вьетнама и Лаоса.

Species and locality	No. of specimens	Measurements of the shell in mm			Number of whorl	Reference
		Shell height	Shell width	SH/SW ratio		
<i>Stemmatopsis arcuatolabris</i> sp. nov.						
Ham Rong, Thanh Hoa, Vietnam	3	6.5–6.7	8.0–8.1	0.82–0.83	4 <sup>3</sup> / <sub>4</sub>	this study
<i>Stemmatopsis dolium</i> sp. nov.						
Nam Phan, Khun, Xieng Khouang, Laos	13	7.0–8.0	7.1–7.9	0.94–1.05	4 <sup>1</sup> / <sub>2</sub> –4 <sup>3</sup> / <sub>4</sub>	this study
<i>Stemmatopsis nangphaiensis</i> Do et Do, 2015						
Muong Bu, Muong La, Son La, Vietnam	9	6.8–7.2	9.8–10.3	0.69–0.72	6	Do, Do, 2015
<i>Stemmatopsis poirieri</i> Mabille, 1887						
Tonkin, Vietnam		4.0	7.0	0.57	6 <sup>1</sup> / <sub>2</sub>	Mabille, 1887a, 1887b
<i>Stemmatopsis vanhoensis</i> Do et Do, 2015						
Xuan Nha, Van Ho, Son La, Vietnam	10	5.6–6.0	9.0–9.4	0.62–0.65	6–6 <sup>1</sup> / <sub>2</sub>	Do, Do, 2015
Van Ho, Van Ho, Son La, Vietnam	20	5.7–6.0	9.0–9.4	0.62–0.65	6–6 <sup>1</sup> / <sub>2</sub>	

protruded from apertural view. Suture distinct but not deep. Aperture approximately subcircular, with the palatal side slightly rounded, basal side rounded, columellar side almost straight, and without parietal lamella. Peristome discontinuous, thickened and expanded on the palatal, basal and columellar sides. Umbilicus narrow and deep.

**Measurements** (in mm). SH = 6.5–6.7, SW = 8.0–8.1, SH/SW = 0.82–0.83, AH = 3.7, AW = 3.8 (n = 3).

**Distribution.** Only the type locality.

**Etymology.** The name of the new species is derived from its characteristic lip, from the Latin ‘arcuatus’, meaning ‘bend’ and ‘labris’, meaning ‘lip’.

**Remarks.** The new species can be placed in *Stemmatopsis* based on its distorted shell and absent apertural dentition. *Stemmatopsis arcuatolabris* sp. nov. differs from *S. nangphaiensis* (Fig. 2A) and *S. vanhoensis* (Fig. 2B) in its smaller shell, which is less deviated from the vertical axis. *Stemmatopsis arcuatolabris* sp. nov. differs from *S. poirieri* in its larger shell, higher spire and narrow, deep umbilicus (Fig 2).

*Stemmatopsis dolium* sp. nov.  
(Figs 1, 2D–E)

Zoobank registration: urn:lsid:zoobank.org:act: A7B142B5-0A94-4572-AD3B-D52DCAFD7895

**Type material.** Holotype VNMN\_IZ 000.000.182 (SH 7.8 mm, SW 7.4 mm, Fig 2D–E), Laos, Xieng Khouang Province, Khun District, Nam Phan Commune, Pa Kha Village, Limestone area near village, 19°31.59’N, 103°31.01’E (map), coll. V.L.C. Chu Lau, 26.7.2018. Paratypes ZMHU.MOL 004 (12 shells), locality and date same as of holotype.

**Diagnosis.** *Stemmatopsis dolium* sp. nov. is characterized by a small-sized, oblique-ovate shell, an approximately square aperture, and the palatal side of peristome slightly expanded, winding and wave-like shaped.

**Description.** Shell oblique-ovate, small, thin, translucent and white. Whorls 4<sup>1</sup>/<sub>2</sub>–4<sup>3</sup>/<sub>4</sub>, spire little elevated, rounded. First two whorls smooth, subsequent ones with thin transverse ridges which diminish below periphery, last whorl glossy and virtually without ridges. Embryonic shell large, about 2 whorls almost flat, next whorls slightly convex and regularly coiled, penultimate whorl and last whorl rounded, axially deflected. Suture distinct but not deep. Aperture approximately square, with the palatal side winding to form wave-like shape, basal side rounded, columellar side almost straight, and without parietal lamella. Peristome expanded, thickened on the basal and columellar sides. Umbilicus narrow and deep.

**Measurements** (in mm). SH = 7.0–7.8, SW =

7.1–7.9, SH/SW = 0.94–1.05, AH = 3.3–3.6, AW = 3.2–3.6 (n = 13).

**Distribution.** Only the type locality.

**Etymology.** The specific epithet is from the Latin word “dolium” meaning “large jar”. This is a name referring to the Plain of Jars, one of the important prehistoric sites located in the Xieng Khouang and Luang Prabang Provinces of north Laos.

**Remarks.** *Stemmatopsis dolium* sp. nov., can be distinguished from *S. nangphaiensis* and *S. vanhoensis* in its smaller shell, the palatal side of peristome slightly expanded, winding to form wave-like shape. *Stemmatopsis dolium* sp. nov., can be distinguished from *Stemmatopsis arcuatolabris* sp. nov. by its left periphery of the penultimate whorl being shouldered, last whorl being more deviated from the vertical axis, its wider umbilicus, and approximately square aperture (Fig 2). This is the first species of the genus *Stemmatopsis* Mabille, 1887 from Laos.

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