

A new Javan species of *Agaronia* Gray, 1839 (Neogastropoda, Olividae)

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KEYWORDS. Olividae, Indian Ocean, Java, Indonesia, *Agaronia johnabbasi* sp. nov.

ABSTRACT. A new species of olivid neogastropod from West Java, *Agaronia johnabbasi* sp. nov., is described according to conchological characters. It is distinguished from congeners by means of its distinctive morphology and colouration.

INTRODUCTION

The highly evolved gastropods in the family Olividae are found circumglobally in predominantly tropical or subtropical waters. All inhabit soft substrates including sand and silt, though the depths at which different species may be found vary from the littoral to the sublittoral. The genus *Agaronia* Gray, 1839 is sometimes regarded as forming part of the subfamily Agaroniinae Olsson, 1956 (Olsson, 1956; Ponder & Warén, 1988; Vaught, 1989; Sterba, 2004); though in Bouchet & Rocroi (2005), this taxon is synonymized with Olivinae Latreille, 1825. The majority of species are concentrated along the west African and east American coastlines, with some Indian Ocean representatives that include the species described herein (see Table 1 for a complete list of recent species).

Abbreviations

Descriptive: **D** – diameter; **H** – height.

Repositories: **DC:** collection of author, Santa Venera, Malta; **GP:** collection of Guido T. Poppe, Cebu, Philippines; **JA:** collection of John Abbas, Jakarta, Indonesia; **MNH:** Muséum national d'Histoire naturelle, Paris, France; **NMNH:** National Museum of Natural History, Mdina, Malta.

MATERIALS & METHODS

Seven shells were collected by fishermen with bottom trawling nets from the eastern bay in Pangandaran, West Java, in late 2009, at a depth of about 60m. Their shell morphology was compared and contrasted with that of the five known sympatric congeners. Maximum diameter and height of the shells, the former incorporating the lip, were measured twice using a dial caliper with a resolution of 50µm, the average of the two measurements was then calculated and noted.

SYSTEMATICS

Family **OLIVIDAE** Latreille, 1825

Subfamily **OLIVINAE** Latreille, 1825

Genus *Agaronia* Gray, 1839

Type species by monotypy *Voluta hiatula* Gmelin, 1791, West Africa

Agaronia johnabbasi sp. nov.

Figs.1-6

Type material. Collected by fishermen, c. -60m on silty substrate, east Pangandaran Bay, Java, Indonesia, October 2009. Holotype **MNH** 23267; paratypes: **DC** R.GA1000-1; **GP** unreg.; **JA** unreg.; **NMNH** unreg.

Type locality. East Pangandaran Bay, Java, Indonesia.

Description. Dextral solid shell, of maximum height of about 40mm and a height/diameter ratio of about 2.8. Spire tall and conical, with a slightly concave profile and featuring a spiral callus occupying about half the height of each whorl. Widest band of the body whorl a uniform dark-orange brown, sometimes with a purplish tinge intensifying towards the suture. This colouration is continuous along the spire, contrasting with the orange-brown spiral callus. Thin wash of white callus present on the columellar side of the aperture close to the filament channel. Just above the postfasciole, a thin pale band is discernible. The postfasciole and the fasciole are of the same colour and are considerably paler than the main part of the body whorl, with the former featuring a few very fine spiral threads and numerous darker growth striae which do not extend upon the fasciole. The belt and the base of the columellar callosity are beige. Outer lip thin, with its outline recurved, and, at the proximity of the siphonal canal, almost parallel with the columellar side of the aperture.

Dimensions. See Table 2 for details.

Remarks. In colouration, the new species is remarkable in its distinct lack of pattern (except for the growth lines typical of all *Agaronia*) and, unusually for the genus, the colouration of the postfasciole and fasciole, which are lighter in colour than the main part of the body whorl. The type locality of the new species, Pangandaran Bay yields examples

of all other four Indian Ocean representatives of the genus (J. Abbas, pers. comm. XII.2009) (refer to Table 1). Of these, *Agaronia nebulosa* (Lamarck, 1811) may easily be distinguished by a reticulated pattern over a (generally) very pale background combined with a thick parietal callosity, while *Agaronia gibbosa* (Born, 1778) features reticulation, a significantly lower H/D ratio, a strongly marked postfasciole and a thick parietal callosity. The lighter, occasionally non-reticulated form *flavescens* Melvill, 1904 has a colour which is relatively close to that of *A. johnabbasi*, but the dimensions and the geographical provenance (South India) set it apart at first glance. *Agaronia lutaria* (Röding, 1798) is larger and more slender, with a narrower aperture and strong reticulation. The differences from *A. johnabbasi* are herein illustrated by a juvenile specimen of the same size as two of the paratypes (Figs 7-8). A closer relative of *A. johnabbasi* is *Agaronia johnkochi* Voskuil, 1990 (Figs 9-10). This is suggested by the absence of reticulation, a similarly curved outline of the outer lip, a similarly proportioned spire callus which does not bulge out disproportionately towards the aperture, and the strong demarcation of colour, in perpendicular direction to the filament channel, between the pigmented spiral and the whitish parietal calluses. However, the spire of *A. johnabbasi* is higher and more acutely angled than that of *A. johnkochi*, while the spiral callus is lighter in colour, contrasting less with the rest of the whorl. The widest part of the shell of *A. johnabbasi* is closer to the apical part of the shell, the parietal callus is thinner, and the oblique striae on the pillar structure are thinner and closer to each other, with no chromatic aberrations between them; all these features are consistent and may be used for morphological differentiation between the two species.

The gracile shell of *A. johnabbasi* is also similar to that of the West African *Agaronia hiatula* (Gmelin, 1791), but the outer lip is recurved and therefore the aperture is narrower.

Etymology. The species is named after John Abbas (Jakarta, Indonesia) who initially recognized the species as a new one, kindly bringing it to the author's attention.

ACKNOWLEDGEMENTS

The author is indebted to John Abbas for the specimens sent for examination, including comparative material, Eddy Wilmet (Mechelen, Belgium) for comparative material, Jon Camilleri (Birkirkara, Malta) for the photography of specimens, Roland Houart (Landen, Belgium) for editorial comments and recommendations and John J. Borg (NMNH), Philippe Bouchet & Virginie Héros (MNHN), Guido Poppe & Sheila Tagaro (conchology.be) for technical assistance.

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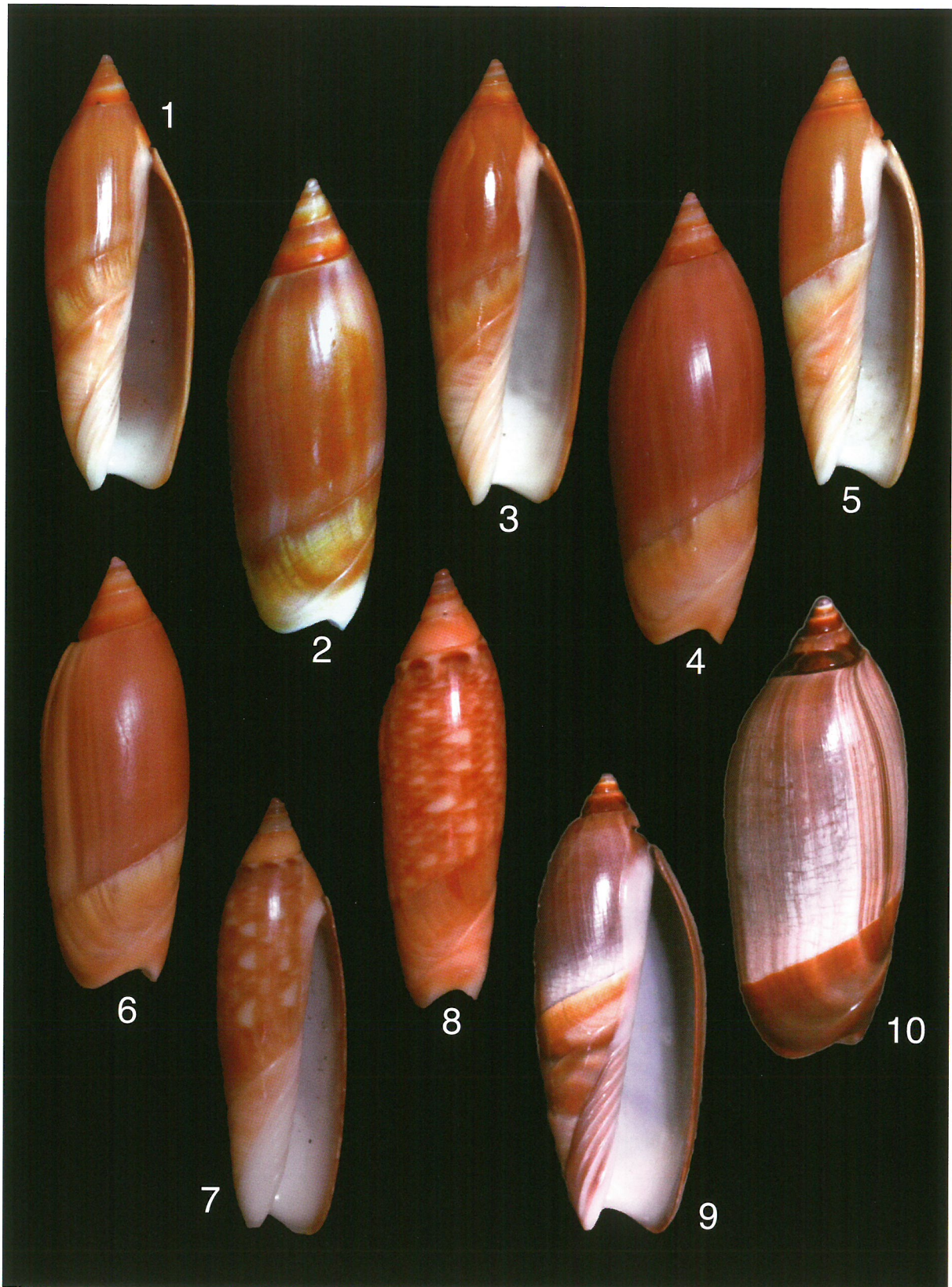
Figures 1-10

1-6. *Agaronia johnabbasi* sp. nov. East Pangandaran Bay, Java, Indonesia.

1-2. Holotype, MNHN 23267, 38mm; **3-4.** Paratype 1, DPC R.GA1000, 41mm; **5-6.** Paratype 4, NMNH unreg., 31mm.

7-8. *Agaronia lutaria* (Röding, 1798), East Pangandaran Bay, Java, Indonesia, 31mm (juvenile).

9-10. *Agaronia johnkochi* Voskuil, 1990. East Pangandaran Bay, Java, Indonesia, 47mm.



| Name and authority | Distribution | Oceanic division |
|----------------------------------------------------------|------------------------|-------------------|
| <i>Agaronia acuminata</i> (Lamarck, 1811) | West Africa | East Atlantic |
| <i>A. adamii</i> Terzer, 1992 | Philippines | West Pacific |
| <i>A. annotata</i> Marrat, 1871 | West Africa | East Atlantic |
| <i>A. cauta</i> (Marrat, 1871) | West Africa | East Atlantic |
| <i>A. gibbosa</i> (Born, 1778) | India to Malaya | East Indian Ocean |
| <i>A. griseoalba</i> (von Martens, 1897) | Central America (west) | East Pacific |
| <i>A. hiatula</i> (Gmelin, 1791) | West Africa | East Atlantic |
| <i>A. hilli</i> Petuch, 1987 | Central America (east) | West Atlantic |
| <i>A. jesuitarum</i> López, Montoya-Maquín & López, 1988 | Central America (west) | East Pacific |
| <i>A. johnabbasi</i> sp. nov. | Indonesia | East Indian Ocean |
| <i>A. johnkochi</i> Voskuil, 1990 | Indonesia | East Indian Ocean |
| <i>A. leonardhilli</i> Petuch, 1987 | Central America (east) | West Atlantic |
| <i>A. lutaria</i> (Röding, 1798) | Indonesia | East Indian Ocean |
| <i>A. nebulosa</i> (Lamarck, 1811) | Indonesia | East Indian Ocean |
| <i>A. nica</i> López, Montoya-Maquín & López, 1988 | Central America (west) | East Pacific |
| <i>A. propatula</i> (Conrad, 1849) | Central America (west) | East Pacific |
| <i>A. razetoi</i> Terzer, 1992 | West Africa | East Atlantic |
| <i>A. steeriae</i> (Reeve, 1850) | South America (east) | West Atlantic |
| <i>A. testacea</i> (Lamarck, 1811) | Central America (west) | East Pacific |
| <i>A. travassosi</i> Morretes, 1938 | South America (east) | West Atlantic |

Table 1. Recent species of *Agaronia* Gray, 1839 based on Marrat (1871), Petuch (1987), Sterba (2004), Teso & Pastorino (2011) and the present research. Bold type indicates species in close geographical proximity to the new species.

| | Holotype MNHN 23267 | Paratype 1 DC R.GA1000 | Paratype 2 JA unreg. | Paratype 3 JA unreg. | Paratype 4 NMNH unreg. | Paratype 5 GP unreg. | Paratype 6 DPC R.GA1001 | mean |
|------------|---------------------------|---------------------------|-------------------------|-------------------------|------------------------------|----------------------------|-------------------------------|------|
| H | 38 | 41 | 40 | 33 | 31 | 31 | 28 | 35 |
| D | 14 | 15 | 14 | 12 | 11 | 11 | 10 | 12 |
| H/D | 2.7 | 2.7 | 2.9 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |

Table 2. Dimensions of the type series of *Agaronia johnabbasi* sp. nov. (7 specimens) and their mean value. Measurements are in millimetres.