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SUPPLEMENT TO A MONOGRAPH OF THE INDO-AUSTRALIAN CLAUSILIIDAE

by

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Since the publication of my monograph of the Indo-Australian Clausiliidae (Loosjes, 1953) I obtained some additional information, consisting mainly of new distribution records and data on shell-structures. The present paper deals with these additional data, while furthermore two new species are described.

The specimens concerned were obtained on loan from the following Museums: Zoölogisch Museum, Amsterdam (Z.M.A.), Rijks Museum van Natuurlijke Historie, Leiden (R.M.N.H.), Museo Civico di Storia Naturale di Genova (M.C.G.), Natur-Museum Senckenberg, Frankfurt am Main (S.M.F.), Ueberseemuseum, Bremen (U.M.B.).

My thanks are due to Mrs. W. S. S. van der Feen-van Benthem Jutting, Dr. C. O. van Regteren Altena, Prof. Dr. E. Tortonese, Dr. A. Zilch, Dr. H. Knipper, Dr. M. A. Lieftinck, Mr. L. J. M. Butot, Mr. A. M. R. Wegner and to the owners of the private collections mentioned below.

Phaedusa H. & A. Adams, 1855

Sectio *Phaedusa*

Phaedusa corticina corticina (L. Pfeiffer, 1842)

1953 Loosjes, p. 17

1954 Zilch, p. 31

1954 Knipper, p. 260

1959 Van Benthem Jutting, p. 127 (*Ph. corticina*)

West Java

Radjamandala, altitude 650 m, leg. J. M. A. van Groenendael, 1939 (L. J. M. Butot collection, 3 specimens); dimensions (in mm):

shell		aperture		number of whorls
length	diam.	height	width	
26.4	5.2	6.8	5.1	10
25.0	5.1	6.3	4.8	10
25.5	4.9	6.4	4.8	10

These are all three short, broad shells, with coarse striae and a comparatively large aperture.

Sumatra.

Karang Anjar near Pematang Siantar (East Coast), leg. J. P. van Niel, 1955 (J. P. van Niel collection, 2 specimens); on trees up to 8 m high, in crevices of bark, altitude 300-350 m, leg. J. P. van Niel, 1955 (J. P. van Niel collection, 20 + 14 juv. specimens)

shell		aperture		number of whorls
length	diam.	height	width	
22.4-28.0	5.1-5.6	6.3-7.3	4.6-5.4	9½-10
averages:				
25.7	5.3	6.7	5.1	

Karang Redjo near Pematang Siantar (East Coast) on the outskirts of the jungle, altitude 350-400 m, leg. J. P. van Niel, 1953 (Z.M.A., 1 specimen)

shell		aperture		number of whorls
length	diam.	height	width	
27.1	5.1	6.8	4.8	10

Pangherang, leg. E. Modigliani, 1891 (M.C.G., 1 specimen)

shell		aperture		number of whorls
length	diam.	height	width	
21.8	4.4	5.3	3.8	10

Si Rambé forest near the southern part of lake Toba, altitude about 1370 m, leg. E. Modigliani, 1891 (M.C.G., 44 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
21.9-25.6	4.5-5.5	4.9-6.8	4.2-5.4	9½-10½
averages:				
23.7	5.0	6.1	4.9	

These shells belong all to the short, coarse form.

These four localities in Sumatra form an extension of the known area of distribution to the north and north-west.

From the Von dem Busch collection I saw the original series of *Ph. corticina*, now present in the "Ueberseemuseum Bremen" (U.M.B. II/365f/742, 3 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
26.0	4.9	6.4	4.8	10
25.3	4.6	6.3	4.5	10
27.8	4.5	6.5	4.4	11

These specimens from Java are rather slender and less coarsely striated than the Sumatra specimens (vide also Bullen, 1906). As I mentioned previously (Loosjes, 1953, p. 22) narrow and broad specimens with respectively less coarse and coarser striae occur in Java, sometimes together in one locality, while in Sumatra only the broad form is found.

The Natur-Museum Senckenberg at Frankfurt am Main obtained in 1953 a fourth specimen from the original series (S.M.F. 136766).

***Phaedusa filicostata tenuicosta* (Nevill, 1878)**

1953 Loosjes, p. 40

1960 Van Benthem Jutting, p. 16

Malay Peninsula.

Perak; hill near the hot springs, about 400 m off the highway Tanjong Rambutan-Ipoh, near Kota Tambun, on the ground under leaves, leg. J. Drijver, 1946 (F. E. Loosjes collection, 5 specimens + fragment)

shell		aperture		number of whorls
length	diam.	height	width	
21.4	4.3	4.6	3.6	12½
22.0	4.3	4.5	3.4	13
21.7	4.4	4.6	3.7	12
19.8	4.3	—	3.5	11½
—	4.4	4.2	3.4	—

Perlis; Mount Kaki, 1938 (Raffles Museum, Singapore, 2 specimens + top fragment)

shell		aperture		number of whorls
length	diam.	height	width	
24.2	4.6	4.9	3.9	13
—	4.4	5.1	4.0	—

***Phaedusa kelantanensis* (Sykes, 1902)**

1953 Loosjes, p. 53

1960 Van Benthem Jutting, p. 19

Malay Peninsula.

Pahang; Kuala Tahan, King George V National Park, on trail to Sungei Teku, 1958 (University of Malaya, Dept. of Zoology, 6 specimens)

	shell		aperture		number of whorls
	length	diam.	height	width	
	28.4-30.0	4.8-5.2	6.0-6.5	4.2-4.9	11-12
averages:	29.5	5.0	6.3	4.7	

Pahang; Tomoh Begng, Ulu Kenyam Kechil, King George V National Park, leg. J. R. Hendrickson, 1953 (Z.M.A., 1 specimen)

	shell		aperture		number of whorls
	length	diam.	height	width	
	28.9	5.8	6.0	4.8	12

This shell has a very distinct thread running below the suture.

Pseudonenia O. Boettger, 1877

Sectio Pseudonenia

Pseudonenia obesa obesa (Von Martens, 1867)

1953 Loosjes, p. 66

1959 Van Benthem Jutting, p. 127 (*Ps. obesa*)

Sumatra.

Brastagi (East Coast), in decaying wood, altitude ca 1750 m, leg. J. P. van Niel (Z.M.A., 1 specimen + 1 juv.)

	shell		aperture		number of whorls
	length	diam.	height	width	
	more than 23.9	6.2	6.0	more than 4.4	more than 9

The top of the whorl has been damaged. There are about 6 to 8 transverse striae per mm on the whorl above the aperture, this number is smaller than is usual in *Ps. obesa*. The lamella inferior runs straight down to the peristome; the subcolumellar lamella is not so far protruding as is usual in *Ps. obesa*, it is only slightly visible in a front view of the aperture. The shape of the shell as well as that of the aperture is as in *Ps. obesa*; the ventrosity l/d is 3.8. The shell is in its features a link between *Ps. obesa* and *Ps. aenigmatica*. As I expressed already before (Loosjes, 1953, p. 74) it may prove impossible to maintain these two forms as separate species.

Pseudonenia obesa salacana (O. Boettger, 1890)

1953 Loosjes, p. 70

1954 Zilch, p. 29 (*Ps. salacana salacana*)

West Java.

"Tjisarua Zuid" Estate, Mount Pangrango, under a piece of bark of a

Rasamala tree on the ground, leg. Dr. M. A. Lieftinck, 1952 (R.M.N.H., 1 specimen)

shell		aperture		number of whorls
length	diam.	height	width	
24.6	5.5	6.0	4.9	11

The species so far was only known from Mount Salak, W. Java.

***Pseudonemia aenigmatica* (Sykes, 1893)**

1953 Loosjes, p. 73

1959 Van Benthem Jutting, p. 127

Sumatra.

Pager Alam, near Lahat (ex Van der Sleen collection (R.M.N.H., 3 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
27.5	5.8	7.7	6.1	10
25.9	5.7	6.6	5.3	10
24.0	5.5	—	—	10

***Pseudonemia gracilentata* Loosjes, 1953 (text-fig. 1)**

1953 Loosjes, p. 75

1959 Van Benthem Jutting, p. 128

Sumatra.

Si Rambé, forest near the southern part of lake Toba, altitude about 1370 m, leg. E. Modigliani, 1891 and 1894 (M.C.G., 163 specimens; F. E. Loosjes collection, 5 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
17.4-21.3	3.8-4.5	4.2-5.4	2.9-3.6	9-11
averages:				
19.2	4.2	4.8	3.2	

This extensive material (I previously saw only 4 specimens) offered the opportunity to study the inner structure of some shells. The spiral lamella ends inward rather abruptly at the ventrolateral-left side. The ends of lamella inferior and lamella subcolumellaris reach only little beyond the end of lamella spiralis. The clausilium has a moderately long, rather broad regularly curved plate, with a true top, and a distinct angle at the columellar side, where the plate merges into the pedicle. This angle is not known of other *Pseudonemia* species. The length of the plate is about 2.5 mm, its width 1.3 mm (fig. 1). The locality means an extension to the north of the known area of distribution of the species.

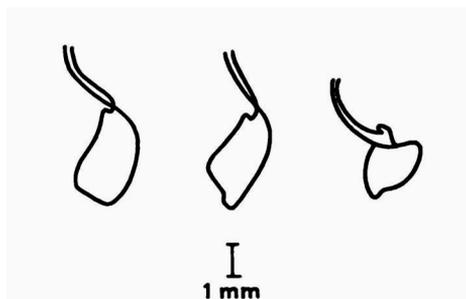


Fig. 1. *Pseudonenia gracilentata* Loosjes. Three views of clausilium to show the top and the angle at the columellar side where the plate merges into the pedicle.

***Pseudonenia sumatrana* (Von Martens, 1864)**

1953 Loosjes, p. 81

1959 Van Benthem Jutting, p. 128

Sumatra.

Pager Alam near Lahat, leg. J. Semmelink, 1898 (Z.M.A., 2 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
26.7	5.7	6.2	4.8	11
23.5	5.4	5.9	4.7	10

Both specimens are somewhat aberrant as to the plicae, they have only the upper three plicae palatales below the principalis.

***Pseudonenia abbreviata* (Von Martens, 1867)**

1953 Loosjes, p. 91

1954 Zilch, p. 28

1959 Van Benthem Jutting, p. 128

Sumatra.

Mount Kerintji, "Kaju Aro" plantation, under tea plants on the ground, leg. F. J. J. Loeff, 1953 (J. Drijver collection, 36 specimens; F. E. Loosjes collection, 51 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
21.2-26.7	5.5-6.9	6.1-7.6	4.6-6.4	8½-10
averages:				
24.2	6.2	6.9	5.4	

Tamiai ("Kurintji"), 1915, leg. E. Jacobson (R.M.N.H., 1 specimen)

shell		aperture		number of whorls
length	diam.	height	width	
23.6	5.8	6.6	4.9	9

***Pseudonenia mentaweiensis* (Ehrmann, 1928) (text-fig. 2)**

1953 Loosjes, p. 99

1959 Van Benthem Jutting, p. 188

Mentawai Islands, off the west coast of Sumatra.

Sereinu, Sipora, leg. E. Modigliani, 1894 (M.C.G., 7 specimens; Z.M.A., 1 specimen; F. E. Loosjes collection, 1 specimen)

	shell		aperture		number of whorls
	length	diam.	height	width	
	16.4-19.0	4.7-5.2	4.8-5.5	3.7-4.7	8-8½
averages:	17.7	5.0	5.2	4.1	

These shells agree with Ehrmann's description and figure. As the two type specimens have been lost, Modigliani's specimens are the only ones that are now available. Ehrmann's description being very exact I do not indicate a neotype. A specimen is figured (fig. 2).

Pseudonenia schlueteri (O. Boettger, 1879) (text-fig. 3, pl. 5 fig. d)

1879 Boettger, p. 105 (*Clausilia Schlüteri*)

1954 Zilch, p. 30

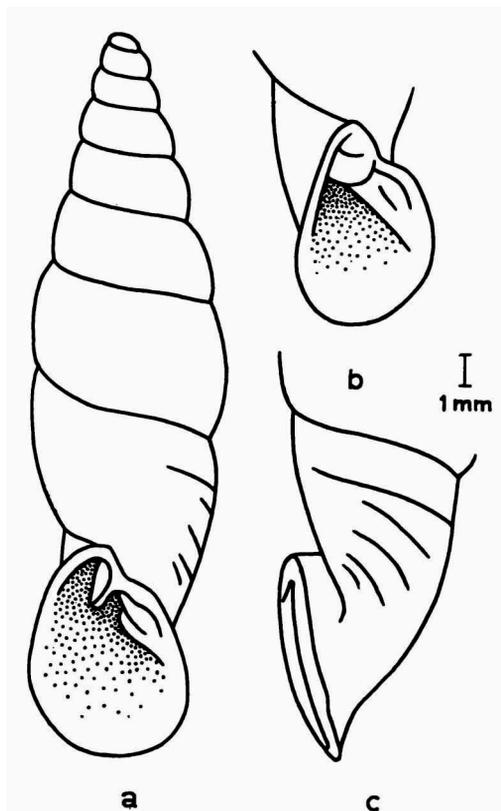


Fig. 2. *Pseudonenia mentawaiensis* (Ehrmann). a. ventral side; b. ventrolateral-left side of the last whorl; c. right side of the last whorl with the plicae.

Redescription of the holotype (the only specimen known). Shell of medium height, turreted fusiform, rather solid, yellowish-brown, glossy, rather transparent. Spire slender, turreted, with presumably straight lateral outlines. Number of whorls unknown, as the topwhorls are not present. The whorls are rather convex, densely striated with fine regular transverse striae (about 15 to 20 to the millimeter on the whorl above the aperture). These striae are somewhat coarser on the neck. A distinct band along the suture is present. The neck bends down slowly towards the base of the aperture. Aperture oblique, triangular pear-shaped. The sinulus is rather broad and high. The outer and basal parts of aperture and peristome are damaged. The peristome is continuous, brownish, widened, reflexed, not thickened, the upper margin is clear of the preceding whorl and scarcely incised at the place where it is touched by the superior lamella. From the sinulus the parieto-columellar peristomal margin curves regularly down. Lamella superior high, and oblique, reaching the margin, connected with the spiral lamella. Lamella inferior of medium height, with a thick, white cord-like margin,

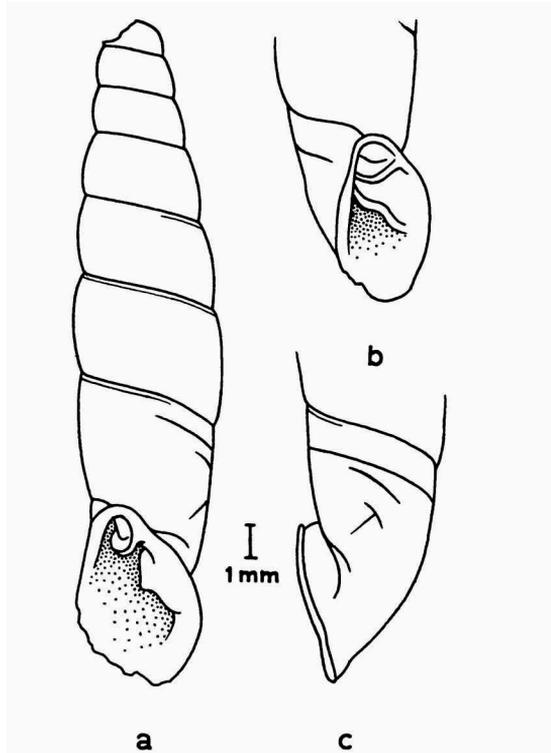


Fig. 3. *Pseudonemia schlueteri* (Boettger), holotype. a. ventral side; b. ventrolateral-left side of the last whorls; c. right side of the last whorl with the plicae.

well visible in a front view of the aperture, obliquely ascending into the shell. When looking obliquely from below into the aperture the base of the inferior lamella is invisible. The lamella subcolumellaris is not visible in the aperture. The inner ends of the lamellae could not be studied in the holotype. The closing apparatus lies at the right side. The plica palatalis principalis is $\frac{3}{4}$ of a whorl long, it runs from the ventral side almost to the outer margin of the aperture. Only a very narrow slit is left between this plica on the one side and the lamellae superior and spiralis on the other side. Below the plica palatalis principalis there are two, inwards converging palatal plicae, of which the upper is the longest; almost vertical to the lower one is a third plica like a part of a lunella, pointing towards the umbilicus. The subcolumellar lamella is visible through the shell. The clausilium could not be studied.

The only known specimen is in the Natur-Museum Senckenberg at Frankfurt am Main (No. 133967, 1 specimen). Its dimensions are (in mm):

	shell		aperture		number of whorls
	length (without top)	diam.	height	width	
Boettger recorded:	17.4	3.9	4.6	3.1	7
ca 19½		4	4½	3½	

He correctly recorded relationship with *Clausilia heldi* Küster [= *Pseudononia javana* (Pfr.)] and *Cl. insignis* Gould.

Anatomy unknown.

Type-locality: the holotype and only known specimen was found in coffee from the East Indies. Therefore its type locality as well as habitat, distribution and biology are unknown.

Dr. Zilch kindly drew my attention to this species which evidently is of Indo-Australian origin. As in the East Indies coffee was produced either in Java or Sumatra, one of these two islands probably is the type locality. The discovery of the next, related species makes it also most likely that *Ps. schlueteri* inhabits one of the greater Sunda islands.

***Pseudononia fucosa* spec. nov. (text-fig. 4; pl. 5 figs. a-c, e-h)**

Diagnosis. A large ventricose *Pseudononia* with the lamella subcolumellaris not visible in the aperture and the arrangement of the plicae palatales in accordance with that of *Ps. schlueteri* (O. Boettger) and thus differing from the other Indo-Australian *Pseudononiae*. The most striking differences with *Ps. schlueteri* are the shape and dimensions of the shell (pl. 5 figs. a-c, e-h).

Description. Shell large fusiform, solid, reddish-brown but covered with a greyish-white fur which is in some specimens rather thick and covers

the whole shell; because of this fur the shell is not transparent. Spire conical with straight lateral outlines. Whorls 10 to 11, moderately flat, sculptured

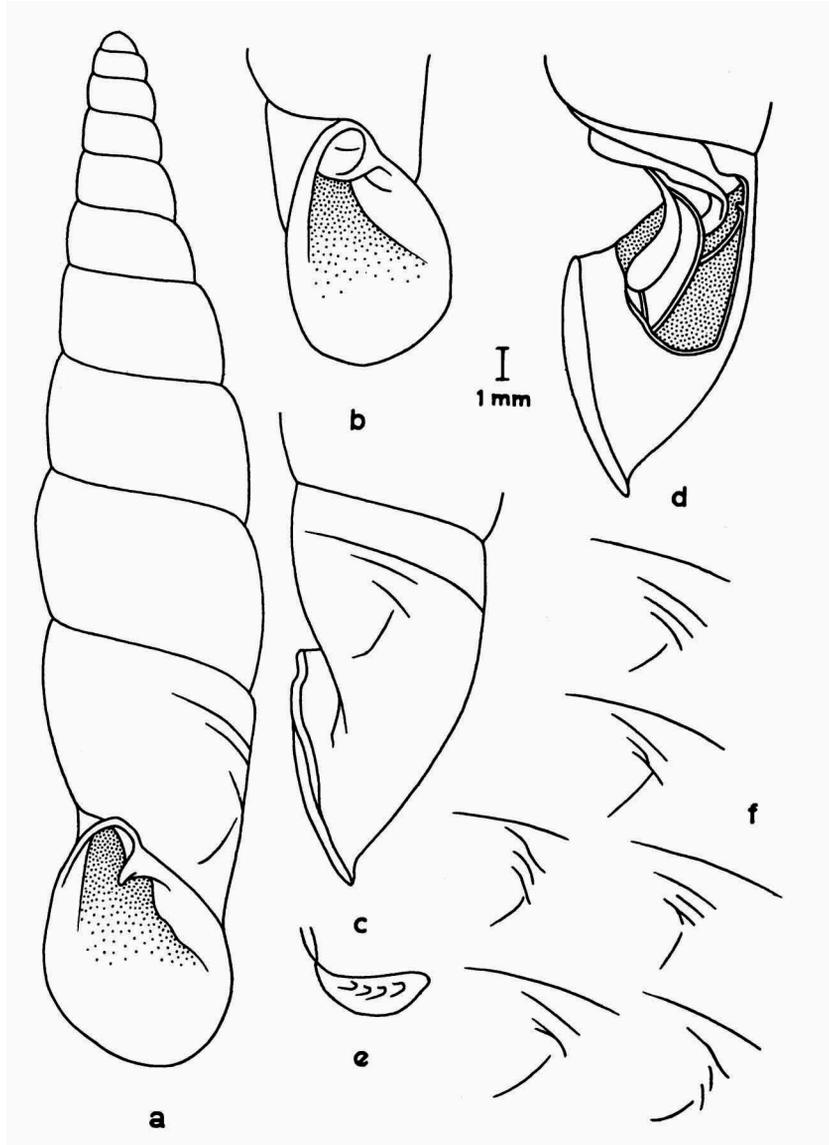


Fig. 4. *Pseudonenia fucosa* spec. nov. a. holotype, ventral side; b. holotype, ventrolateral-left side of the last whorl; c. holotype, right side of the last whorl with the plicae; d. paratype, last whorl opened from the right side to show the inner structure of the shell; e. clausilium of a paratype; f. arrangement of the plicae palatales in the six paratypes, the upper plica in each set is a part of the plica principalis.

with numerous transverse striae (about 7 to 10 per millimeter on the whorl above the aperture), these striae are coarser and stand wider apart on the neck. There is no thread along the suture. The nuclear whorls are smooth. The neck is gradually bent towards the base of the aperture.

Aperture triangular, pear-shaped, rather small for the large shell, whitish within; the sinulus is broad, the upper peristomal margin has only a faint angle in the place where it is touched by the superior lamella. The base of the peristome is receding. The peristome is continuous, whitish, broadly reflexed, the upper margin is clear of the preceding whorl. From the sinulus the outer peristomal margin descends in a strong curve, the parieto-columellar margin is rather straight; the base of the peristome is semicircular.

Lamella superior oblique and high, reaching the margin, connected with the well developed lamella spiralis, which ends inward rather abruptly in a ventral position. The lamella inferior is low and does not reach the margin, it is obliquely ascending into the shell, where it slowly decreases in height and ends together with the lamella subcolumellaris, hardly beyond the end of the spiral lamella, in a ventro-lateral position at the left side of the shell. Looking into the aperture from below, it is not or hardly possible to see the inner side of the base of the lamella inferior. The lamella subcolumellaris is not visible in the aperture, it begins behind the lamella inferior, ascends as a high lamella on the columella and ends inward ventro-laterally at the left side.

As it is impossible to see the plicae through the shells because of the thick fur, I scraped off the fur at the place of the plicae until the redbrown shell was visible and one could see the plicae from outside. Furthermore I opened the shells of two paratypes to study the inner structure (pl. 5 figs. g, h). The closing apparatus lies in a lateral position at the right side. The plica palatalis principalis runs from the left side behind the peristome, almost to the ventral side, so it is about $3/4$ whorl long. Below the principal plica are 2 to 4 plicae more or less parallel with it and below these is one more plica almost vertically to the previous one, almost representing the lower part of a lunella. The plate of the clausilium is rather broad and strongly curved and has almost parallel sides; it merges gradually into the pedicle; its length is 3.1 to 3.4 mm, its width about 1.2 mm. Length of the shells: 23.4 to 27.5 mm, diameter 5.4 to 6.0 mm; aperture: height 5.8 to 6.2 mm, width 4.4 to 4.9 mm. The ventrosity l/d is 4.3 to 4.7, the average is 4.5.

The holotype is in the collection of the Rijksmuseum van Natuurlijke Historie at Leiden; the dimensions are (in mm):

shell		aperture		number of whorls
length	diam.	height	width	
26.0	5.8	6.1	4.7	11

The dimensions of the 6 paratypes (R.M.N.H., 3; Museum Zoologicum, Bogor, 2; F. E. Loosjes collection, 1) are:

	shell		aperture		number of whorls
	length	diam.	height	width	
	23.4	5.4	5.8	4.5	10
	24.1	5.6	5.9	4.5	10
	27.5	6.0	6.2	4.7	11
	24.6	5.5	5.8	4.9	10
	25.5	5.4	5.8	4.6	10½
	24.4	5.4	5.8	4.4	10

Distribution.

Java. The new species is known only from the type-locality.

Type-locality. West Java, at 3 km distance of kampong Tamandjaja (about 7 km from the reserve Ujung Kulon and N.E. of the isthmus that connects the reserve with Bantam), in the forests near the hot spring Tjipanas.

The original set was found by Mr. A. M. R. Wegner in 1958 at an altitude of about 150 m.

Habitat. The specimens were clinging to the underside of a large fallen and mouldered tree. The trunk did not touch the ground, but was about 0.70 m above it.

Euphaedusa O. Boettger, 1877

Euphaedusa cumingiana moluccensis (Von Martens, 1864)

1953 Loosjes, p. 110

1954 Zilch, p. 40.

North Moluccas.

Batjan, Wajana, leg. A. M. R. Wegner, 1953 (Z.M.A., 12 adult specimens + 8 juveniles; F. E. Loosjes collection, 7 specimens).

	shell		aperture		number of whorls
	length	diam.	height	width	
	16.2-20.3	3.1-3.5	2.8-3.7	2.5-2.9	10-11½
averages:					
	18.1	3.4	3.4	2.7	

The species has not been reported before from Batjan.

Euphaedusa cumingiana simillima (Smith, 1896)

1953 Loosjes, p. 114

1954 Zilch, p. 40.

Celebes.

Kandari, leg. O. Beccari, 1874 (M.C.G., 30 specimens)

	shell		aperture		number of whorls
	length	diam.	height	width	
	16.3-19.3	3.4-4.0	3.4-3.9	2.5-3.1	9½-11
averages:	17.7	3.7	3.7	2.9	

These specimens are described by Tapparone Canefri (1883) as variety *majuscula* of *Eu. cumingiana moluccensis* (Von Martens). One specimen was labelled "Amboina?, leg. O. Beccari". It is hardly possible that this specimen is indeed from Amboina, it does not differ in any important point from the shells from Kandari.

Acrophaedusa O. Boettger, 1877

Acrophaedusa thrausta Loosjes, 1953

1953 Loosjes, p. 154

1954 Knipper, p. 260

1959 Van Benthem Jutting, p. 129

Sumatra.

Padang Highlands, Mount Kerintji, "Kaju Aro" plantation, leg. J. Drijver (J. Drijver collection, 56 specimens); same locality, altitude 1450 m, on the ground under teaplants, between leaves and vegetable mould, leg. F. J. J. Loeff, 1953 and 1954 (F. E. Loosjes collection, 38 specimens)

	shell		aperture		number of whorls
	length	diam.	height	width	
	12.1-16.6	2.5-4.1	3.2-4.1	2.3-3.0	8-10
averages:	14.0	3.5	3.7	2.6	

The dimensions of the shells of this species are much more variable than was so far known.

Acrophaedusa junghuhni (Philippi, 1847)

1953 Loosjes, p. 161

1959 Van Benthem Jutting, p. 129

West Java.

Mount Gedeh complex, Telega Saät, altitude 1300 m, leg. M. A. Lieftinck, 1938 (Z.M.A., 1 specimen). The specimen was damaged, it is therefore impossible to give the exact dimensions.

Sumatra.

Padang Highlands, Mount Kerintji, "Kaju Aro" plantation, leg. J. Drijver (J. Drijver collection, 27 specimens); same locality, altitude 1550 m, on the ground under tea plants, between stones and mouldered wood, leg F. J. J. Loeff, 1953 (F. E. Loosjes collection, 27 specimens)

shell		aperture		number of whorls
length	diam.	height	width	
17.6-24.2	4.9-6.4	4.4-5.8	3.3-5.0	9-11½
averages:				
20.7	5.6	5.3	4.2	

These dimensions show, that on Sumatra *A. junghuhni* may be as ventricose as on Java.

***Acrophaedusa fornicata* spec. nov. (text-fig. 5)**

Diagnosis. The shell of this new species resembles that of a large *A. junghuhni* with straight lateral outline. The lamellae of both species are almost identical. The plicae differ because below the plica principalis and the two upper palatal plicae are 1 to 3 rather small plicae and below them is a rather long plica that points to the upper right angle of the peristome. This last mentioned plica is about as long as the upper palatal plica below the plica principalis.

Description. Shell large, ventricose-fusiform, moderately solid to rather weak, yellowish or brownish-horn-coloured, glossy, fairly transparent. Spire conical, with straight lateral outlines. Whorls 9½ to 10, rather convex, sculptured with regular, transverse striae (about 6 to 7 to the millimeter on the whorl above the aperture), which are hardly coarser on the neck. There is no thread along the deep suture. The nuclear whorls are smooth. The neck is gradually bent towards the base of the aperture. The last whorl above the aperture is distinctly higher than the previous whorl. Aperture wide, more or less quadrangular, horn-coloured within, the sinulus is broad and high. The upper peristomal margin has a distinct angle at the place where it is touched by the lamella superior. The base of the peristome is receding. The peristome is continuous, whitish, often shining, thickened and reflexed, the upper margin is only just clear of the preceding whorl. From the sinulus the outer peristomal margin descends in a strong curve, the parieto-columellar margin first runs to the right while slowly descending, then it bends rather sharply downwards but still somewhat outward. The base of the peristome is semi-circular.

The lamella superior is rather high and distinct, reaching the margin, continuous with the spiral lamella, which ends a little beyond the ventral side. Lamella inferior low, just visible in a front view of the aperture. The thickened edge ascends inwards rather steeply. The columellar edge is visible as a branch of the lamella inferior. The inferior lamella is highest in a latero-dorsal-right position and ends beyond the inner end of lamella spiralis at the ventrolateral-left side of the shell. When looking obliquely from below into the aperture the inner side of the base of the lamella inferior is visible.

The lamella subcolumellaris lies concealed behind the inferior lamella, only the lower end may be seen if one looks from below into the aperture. It ends inward at the left side just beyond the end of the inferior lamella.

The closing apparatus lies at the right side. The principal plica runs from the ventral side to dorsolateral-left and is about $\frac{3}{4}$ whorl long. Below the plica principalis are 4 to 6 plicae (6 in the holotype) more or less parallel

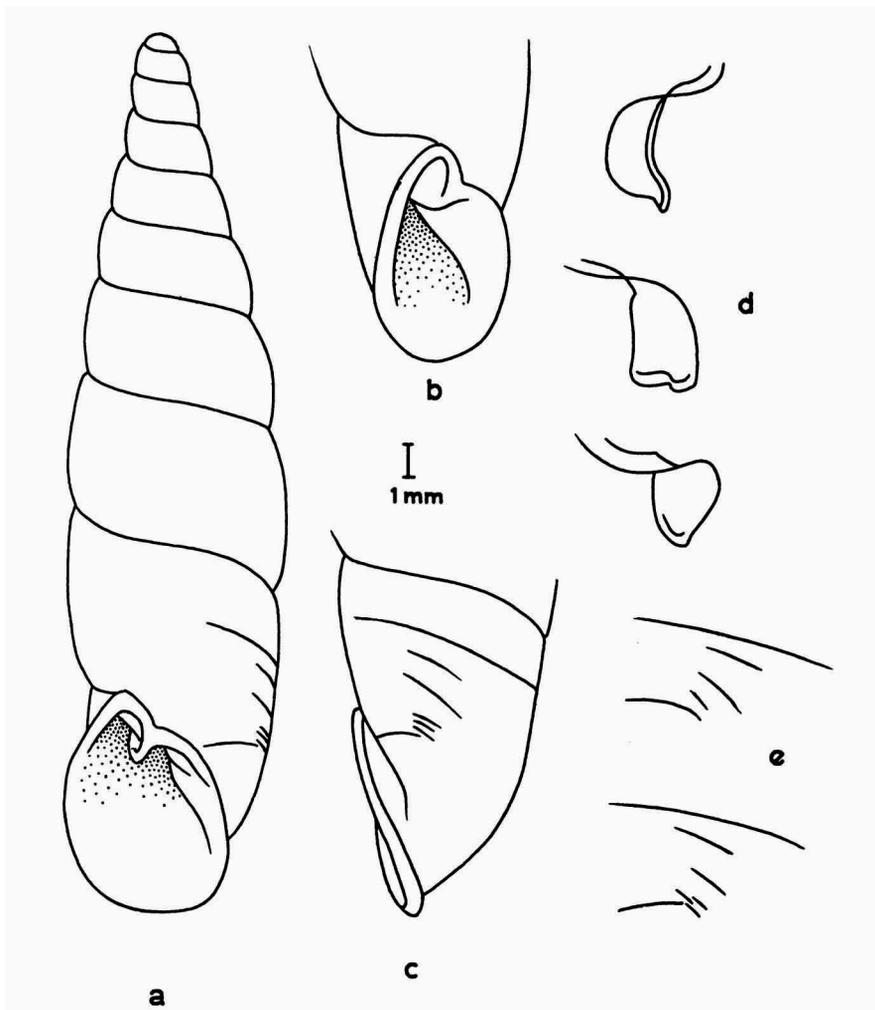


Fig. 5. *Acrophaedusa formicata* spec. nov. a. holotype, ventral side; b. holotype, ventrolateral-left side of the last whorl; c. holotype, right side of the last whorl with the plicae; d. clausilium of a paratype, three views to show the top and the slight angle at the columellar side; e. arrangement of the plicae palatales in two paratypes, the upper plica in each set is a part of the plica principalis.

to it. The upper two are comparatively long (1-2 mm) and diverge to the dorsal side with the principal plica. The next 1 to 3 plicae are very small and lie closely together near the outer end of the last, lowest one, which is longer again (about 1½ mm) and diverging inward with the principal plica, it points with its inner end to the angle of the peristome right of the sinulus. Finally the lamella subcolumellaris is visible through the shell below these plicae, running almost parallel with the columellar side of the peristome. The clausilium has a rather broad strongly curved plate, of which the sides are almost parallel, it has a distinct top. Where the plate merges into the pedicle there is a distinct but small angle at the columellar side. The length of the plate is 3.0 mm, its width 1.8 mm.

Length of the shells: 22.4 to 23.6 mm, diam. 5.3 to 5.9 mm; aperture: height 5.1 to 5.6 mm, width 3.8 to 4.3 mm. The ventrosity 1/d is 4.0 to 4.3, the average is 4.2.

The holotype is in the Genova collection, the dimensions are (in mm):

shell		aperture		number of whorls
length	diam.	height	width	
22.4	5.6	5.5	4.2	9½

The dimensions of the paratypes (M.C.G., 4; Z.M.A., 1) are:

shell		aperture		number of whorls
length	diam.	height	width	
23.6	5.9	5.5	4.3	9½
22.8	5.3	5.3	3.8	10
23.0	5.4	5.1	4.0	10
23.3	5.7	5.5	3.9	9½
23.1	5.4	5.6	4.1	9½

Type-locality: Si Rambé, forest near the southern part of lake Toba, Sumatra, altitude about 1370 m. The original set was collected by E. Modigliani in 1894. The species is not yet known from outside the type locality.

This new species has, as indicated, a great resemblance to *A. junghuhni*. Except in the plicae, differences occur in the number of striae on the whorl above the aperture, the situation of the base of the inferior lamella that can be seen by looking from below into the aperture, the longer plica palatalis principalis and the presence of an angle at the columellar side of the clausilium.

Acrophaedusa nubigena (Von Moellendorff, 1897)

1953 Loosjes, p. 175

1954 Zilch, p. 24

West Java.

Kandang Badak, between Mount Gedeh and Mount Pangrango, altitude 2400 m, between rotting leaves, leg. W. S. S. van Benthem Jutting, 1930 (Z.M.A., 1 specimen)

The topwhorls of the specimen have been broken off.

shell		aperture		number of whorls
length	diam.	height	width	
—	3.7	3.5	2.7	—

The species has so far not been reported from the present locality which lies to the north west of the known range of the species.

Hemiphaedusa O. Boettger, 1877

Hemiphaedusa excurrens (Von Martens, 1864)

1953 Loosjes, p. 182

1959 Van Benthem Jutting, p. 129

Sumatra.

Pager Alam, near Lahat (from Van der Sleen collection) (R.M.N.H., 1 specimen; F. E. Loosjes collection, 1 specimen)

shell		aperture		number of whorls
length	diam.	height	width	
17.8	4.1	4.1	3.1	10½
18.8	4.2	4.5	3.0	11

Of this species only 9 specimens are known to me at the moment.

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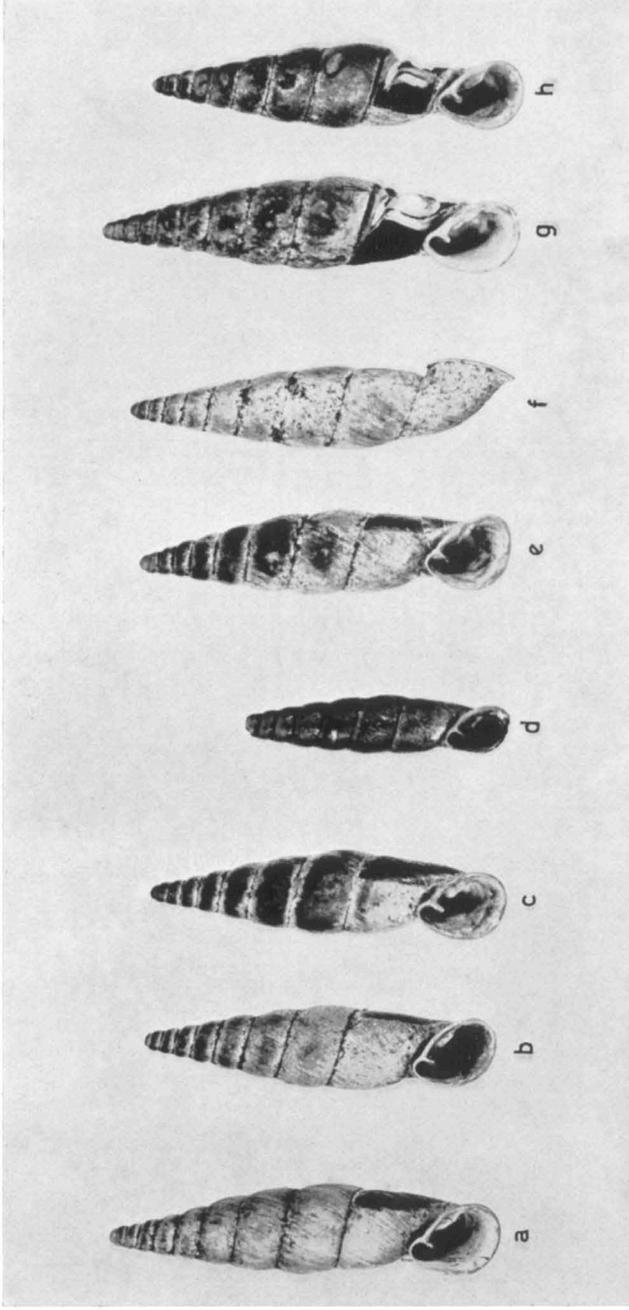


Fig. a-c, e-h, *Pseudonemia fucosa* spec. nov. a, holotype, ventral side (R.M.N.H.); b, c, e, paratypes, ventral side (b, c, R.M.N.H.; e, M.Z.B.); f, paratype, left side (M.Z.B.); g, h, paratypes, ventral side, whorl above the aperture opened, showing clausilium and lamella subcolumnaris (g, R.M.N.H.; h, F. E. Loosjes collection). Fig. d, *Pseudonemia schlueteri* (Boettger), holotype, ventral side (S.M.F., no. 133967).