

Descriptions of new Peruvian Neniinae (Gastropoda Pulmonata: Clausiliidae),  
with some notes on the nomenclature

F. E. LOOSJES & A. C. W. LOOSJES-VAN BEMMEL

Vossenlaan 4, NL 6705 CE Wageningen, The Netherlands

Three species and a subspecies of Peruvian Neniinae are described as new to science, viz. *Andiniella pomabambensis*, *Columbinia admirabilis*, *Steeriana* (*Cylindronenia*) *cicatricosa* and *S. (C.) canescens pangamitoensis*. A lectotype is selected for *Gibbonenia raimondii* (Philippi, 1867). Some notes concerning the nomenclature of the Neniinae are given as well.

Key words: Gastropoda, Pulmonata, Clausiliidae, Neniinae, taxonomy, Peru.

From the Museo de Historia Natural of the Universidad Nacional Mayor de San Marcos in Lima, Peru, we received by courtesy of the curator, Miss R. Ramirez, a collection of Peruvian Neniinae for identification. Among the samples we discovered some taxa that are new to science. Their descriptions are given in the present article, as well as some observations on the nomenclature.

For collections the following abbreviations are used: MHNL, Museo de Historia Natural, Lima, Peru; RMNH, Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands (this material is to be deposited in due time in the Leiden museum). Acknowledgements are due to Dr. E. Gittenberger (RMNH) for the photographs of figs. 1-4. All figures are enlarged, compare text for measurements.

*Andiniella* Weyrauch, 1958

Type-species: *Andinia* (*Ehrmanniella*) *flamulata* Loosjes, 1957

Weyrauch (1958: 93) and Zilch (1978: 285) have classified this taxon as a subgenus of *Steeriana* Jousseume, 1900. According to the structure of the genitalia of the type-species (Loosjes, 1957: 233; Loosjes & Loosjes-Van Bemmelen, 1966: 9) however, it is more closely related to *Ehrmanniella* Zilch, 1949. For the moment we therefore prefer to consider *Andiniella* a separate genus.

*Andiniella pomabambensis* spec. nov.  
(fig. 1)

Material. — Peru, dept. of Cajamarca, prov. of Cajabamba, Pomabamba, 2150 m alt., A. Guerra leg., 20-vii-1967 (MHNL 2333H/holotype, 2333/fragments of a paratype; RMNH 56307/paratype).

Diagnosis. — A rather small *Andiniella* species, with a slightly inflated neck, very weak crest and a lamella superior which is not connected with the lamella spiralis. Decollated shells 9.4-11.0 mm high and 3.0-3.4 mm broad. Anatomical data are lacking and the generic assignment is somewhat uncertain therefore.

Description. — Shell small, strongly decollated, cylindro-fusiform with straight to slightly convex lateral outlines and rather flat whorls, of which the penultimate one is the broadest. Decollated shells with 4½-5 whorls, sculptured with rather straight, whitish, axial striae that are interrupted by weakly sculptured, irregularly placed,

presumably brownish patches (as only empty shells were collected, the colour of the shells of living animals is unknown). There are about 15-17 striae per mm on the whorl above the aperture. The backside (neck) of the last whorl is slightly inflated; it is hardly more prominently sculptured than the rest of the shell and provided with a very shallow furrow between two very low rounded crests. The last whorl has five to eight low folds, that are most distinct above the plica palatalis principalis.

The aperture is more or less broadly quadrangular, almost square, and clear of the penultimate whorl (the holotype and a paratype), or the parietal margin remains just in contact with the penultimate whorl (another paratype). Peristome broad and whitish, its upper margin almost straight, with hardly an angle at the low sinus. Lamella superior low and short, reaching the peristome in front and separated from the lamella spiralis by a wide gap. Lamella inferior not reaching the peristome, visible in the aperture as a convex fold, rather high dorsally, ending at the lateral right side of the last whorl, just beyond the inner end of the lamella spiralis. Lamella spiralis hardly half a whorl long, running almost in a direct line with the lamella superior from the palatal (left) side inward almost to the lateral right side. Lamella subcolumellaris not visible in the aperture, its outer end lies behind the lamella inferior. Lunella situated dorsally. Plica palatalis principalis about  $\frac{1}{4}$  whorl long, ending at the dorso-lateral right side. Dorsally, below the inner end of the plica palatalis principalis, there is a plica palatalis superior that merges into the rather low lunella. A very faint plica palatalis inferior is connected with the lunella. Its relation to the lamella subcolumellaris is unclear. The pointed, longitudinally curved plate of the clausilium, which is 1.5 mm long and 0.8 mm broad, is gradually tapering into the pedicle.

The dimensions (mm) and the number of whorls of the (decolated) type specimens are as follows:

	shell		aperture		whorls
	length	diam.	height	width	
holotype (MHNL 2333H)	11.0	3.4	3.0	2.6	5
paratype 1 (MHNL 2333)	9.4	3.2	2.9	2.6	4½
paratype 2 (RMNH 56307)	10.8	3.0	2.8	2.4	5

Notes. — Because only empty shells are available, the anatomical characters remain unknown. The conchological data are not in total accordance with those considered typical for *Andiniella*. In contrast to the other species of the genus, the lamella superior and the lamella spiralis are separated by a wide gap, although they are situated in line. Therefore, we cannot classify the species in that genus with certainty.

The epithet refers to the type locality of the species.

*Steeriana (Cylindronenia)* Ehrmann, 1949

Type-species: *Clausilia maranhonensis* Albers, 1854

***Steeriana (Cylindronenia) canescens pangamitoensis* subsp. nov.**  
(fig. 2)

Material. — Peru, dept. of Amazonas, Pangamito (south of Bagua, east of Bagua Grande), 1000 m alt., on herbs and shrubs on a hill, P. Hocking leg., 22-x-1980 (MHNL 1307H/holotype, 1307/4 paratypes; RMNH 56308/2 paratypes).



Fig. 1. *Andiniella pomabambensis* spec. nov. a, dorsal side of paratype 2 (RMNH 56307); b, ventral side of holotype (MHNL 2333H); c, left side of paratype 2 (RMNH 56307); d, right side of holotype (MHNL 2333H); e, schematic view of the plica palatalis principalis (1), plica palatalis superior (2) and lunella (3), as seen through the shell from the dorsal side; f, clausilium.

Diagnosis. — A subspecies of *Steeriana* (*Cylindronenia*) *canescens* (Polinski, 1922) with distinctly smaller and relatively broader shells than the nominate form.

Description. — The decollated shells are 14.4-18.7 mm long and have a diameter of 4.4-5.8 mm. Polinski (1922: 133) gave the dimensions as 22-27 mm and 5.5-6 mm for *S. (C.) c. canescens* from the type-locality Cutervo. The length/diameter index of the new subspecies is 3.0-3.4, whereas it is over 3.5 in the nominate form. Both subspecies cannot be distinguished in shell sculpture or closing apparatus.

The dimensions (mm) and the number of whorls of the (decollated) type specimens are as follows:

	shell		aperture		whorls
	length	diam.	height	width	
holotype (MHNL 1307H)	18.7	5.7	5.3	4.5	5
paratype 1 (MHNL 1307)	16.9	5.5	4.9	4.4	5
paratype 2 (MHNL 1307)	17.3	5.8	4.8	4.3	5
paratype 3 (MHNL 1307)	17.5	5.2	4.9	4.4	5
paratype 4 (MHNL 1307)	14.4	4.4	3.7	3.4	5
paratype 5 (RMNH 56308)	17.7	5.4	4.6	4.1	5
paratype 6 (RMNH 56308)	16.2	5.0	4.3	4.0	5

Notes. — We have the impression that the specimens were not collected alive. The holotype is the freshest shell available. The anatomy of this subspecies could not be studied.

The epithet refers to the type locality of the subspecies.



Fig. 2. *Steeriana (Cylindronenia) canescens pangamitoensis* subsp. nov. a, left side of paratype 6 (RMNH 56308); b, right side of paratype 2 (MHNL 1307); c, dorsal side of paratype 3 (MHNL 1307); d, ventral side of holotype (MHNL 1307H).

***Steeriana (Cylindronenia) cicatricosa* spec. nov.**  
(fig. 3)

**Material.** — Peru, dept. of Amazonas, between Leimebamba and Balsas, J. Amaya leg., 23-x-1965 (MHNL 2308H/holotype, 2308/fragments of a paratype; RMNH 56309/paratype).

**Diagnosis.** — A species of the subgenus *Cylindronenia* with a rather long, almost cylindrical, decollated shell, with very flat whorls and a relatively small aperture. The dorsal side of the last whorl is provided with a shallow furrow, situated between two low, rounded, basal crests. Decollated shells 20.1-22.3 mm long and 4.6-4.9 mm broad.

**Description.** — The greyish-brown decollated shell is cylindro-fusiform with rather straight lateral outlines and almost flat whorls, of which the penultimate one is broadest. Decollated shells with  $5\frac{1}{2}$ - $7\frac{1}{2}$  whorls, which are sculptured with whitish, slightly undulating, axial ribstriae that are interrupted by weakly sculptured, irregularly placed, brownish patches. There are about 10 striae per mm on the whorl above the aperture. The back of the last whorl is somewhat more coarsely striated than the rest of the whorls and provided with a rather sharp but shallow furrow between two low, rounded, basal crests.

The aperture is comparatively small, clear of the preceding whorl and whitish within. It is obliquely rounded and broadly pear-shaped. The sinulus is not high and mainly formed by the lamella superior; the upper peristomal margin is only slightly

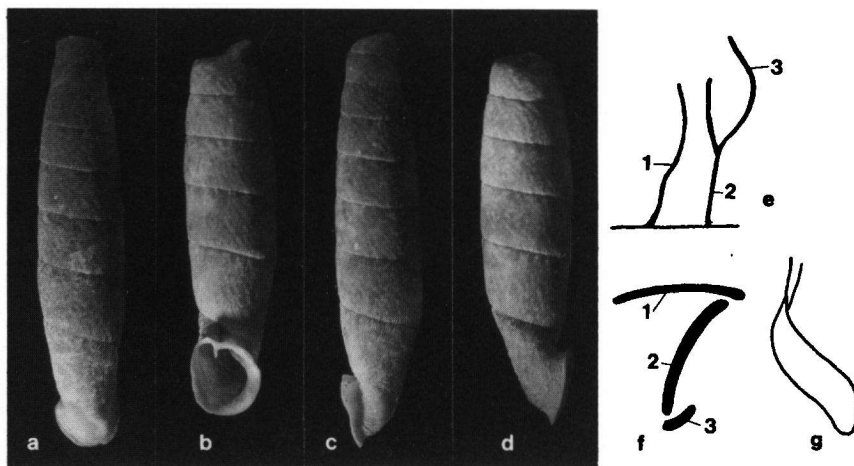


Fig. 3. *Steeriana (Cylindronenia) cicatricosa* spec. nov. a, dorsal side of paratype (RMNH 56309); b, ventral side of holotype (MHNL 2308H); c, right side of paratype (RMNH 56309); d, left side of holotype (MHNL 2308H); e, schematic view of the lamella inferior (1), lamella superior (2) and lamella spiralis (3); f, schematic view of the plica palatalis principalis (1), lunella (2) and plica palatalis inferior (3), as seen from the aperture; g, clausilium.

curved at the base of this lamella. The whitish peristome is continuous, rather narrow and somewhat reflexed. The outer margin descends rather straight, whereas the columellar margin runs to the right and downward in an almost semicircular curve; the base of the peristome is also semicircular. Lamella superior reaching the margin of the peristome, somewhat concave at the palatal (left) side, moderately high, decreasing in height inward of the connection with the lamella spiralis, which is situated at about half its length. The lamella spiralis runs at the sutural side of the lamella superior and curves to contact it. The lamella inferior is visible in the aperture as a fairly low fold, running obliquely upward; its outer part gradually decreases in height, until it ends inward of the peristome. In front view the lamella subcolumellaris is not discernible; it can be observed in an oblique view, however. The inner ends of the lamellae spiralis, inferior and subcolumellaris could not be studied.

The lunella lies slightly inward of the dorsal line. The plica palatalis principalis runs from somewhat behind the peristome to just inward of the dorsal line, reaching somewhat deeper inside than the inner end of the plica palatalis superior, which merges into the upper end of the lunella. The plica palatalis principalis runs almost parallel to the suture and is about  $\frac{1}{4}$  whorl long. The lunella is very distinct and connected with a hardly marked plica palatalis superior; at its lower end there is a small plica palatalis inferior. The clausilium is rather strongly curved longitudinally; the plate is gradually tapering into the pedicle, its sides are parallel, and the top is narrowly rounded and thickened. In a closed shell the top of the clausilium is situated between the lower end of the lamella subcolumellaris and the plica palatalis inferior. The plate is 2.5 mm long and 1.0 mm broad.

The dimensions (mm) and the number of whorls of the (decollated) type specimens are as follows:

	shell		aperture		whorls
	length	diam.	height	width	
holotype (MHNL 2308H)	20.1	4.9	4.4	3.7	5½
paratype (RMNH 56309)	22.3	4.6	4.3	3.6	7½

Notes. — The anatomy of this species could not be studied.

The species is most closely related to the *canescens* group, characterized by a clausilium that is regularly pointed below (without a finger-like projection) and a lamella superior that continues beyond the point of contact with the lamella spiralis. These *Cylindronenia* species, however, have a much larger aperture in comparison to the length and diameter of the shell, which is less cylindrical and more fusiform in general shape.

The epithet *cicatricosa* refers to the many irregularly situated brown patches on the surface of the shells that look like numerous scars.

*Columbinia* Polinski, 1924

Type-species: *Nenia columbiana* Polinski, 1924

***Columbinia admirabilis* spec. nov.**

(fig. 4)

Material. — Peru, dept. of Amazonas, Pangamito, south of Bagua, east of Bagua Grande, 1000 m alt., on algae in crevices of the crag, P. Hocking leg., 22-x-1980 (MHNL 1308H/holotype, 1308/6 paratypes; RMNH 56310/2 paratypes).

Diagnosis. — Most probably a *Columbinia* species, with a long and narrow shell, with 12-13½ whorls that are sculptured with widely and irregularly spaced, interrupted ribs, and a lunella that is situated deep inside at almost the lateral right side of the last whorl. Length of the shells 16.2-19.6 mm and diameter 2.9-3.2 mm.

Description. — The yellowish to corneous, slender fusiform, not decollated shell is moderately strong and has 12-13½ whorls; its length/diameter index is 5.5-6.3. The 1½ embryonic whorls are smooth and glossy, the following teleoconch whorls are irregularly striated and rather convex, sometimes almost shouldered, whereas the lower whorls are somewhat more flattened and sculptured with rather widely and irregularly spaced, whitish to yellowish-brown ribs that are irregularly interrupted, sometimes over a considerable length. There are 1-2 ribs per mm on the whorl above the aperture. The penultimate whorl is the broadest one. The basal part of the last whorl is almost evenly rounded. Only a very shallow ridge runs from the palatal base of the aperture obliquely upward along the neck and joins the suture above the aperture; the ribs on the neck end rather abruptly at this ridge and its axial side below this is only weakly striated. The last whorl is narrowed and conspicuously descending and protruding.

The aperture is pear-shaped and higher than wide; its vertical sides are almost parallel. The whitish peristome is reflexed. The parietal edge of the peristome, which is amply clear of the preceding whorl, is hardly or not incised at the location of the lamella superior and, therefore, the rather low sinulus is formed mainly by this lamella. Lamella superior moderately high, reaching the margin of the peristome and slightly concave at the left side; after decreasing in height it merges into the lamella

spiralis without a conspicuous interruption. The lamella inferior is visible in the aperture as a low, horizontal fold that does not reach the peristome; increasing in height it runs obliquely upward into the shell, decreasing again from a dorsal position. Even in an oblique view from below into the aperture the lamella subcolumellaris is not or hardly discernible.

The lunella lies almost at the lateral right side of the last whorl. The plica palatalis principalis runs from the left (palatal) side of the aperture to the right side and is about a half whorl long, running parallel to the suture. A rather long plica palatalis superior is situated below the plica palatalis principalis at the lateral right side of the last whorl; its inner end lies about as far inside the shell as that of the principalis, whereas its outer end is connected with the upper end of the lunella at a right angle. At its lower end the lunella is almost straight; it is connected with a very short plica palatalis inferior, that runs almost parallel to the plica palatalis superior. Longitudinally the clausilium is moderately curved. The sides of the plate are slightly tapering to the pedicle; the axial side is thickened and forms an inconspicuous point at the top. The plate is 1.6 mm long and 0.7 mm broad.

The dimensions (mm) and the number of whorls of the type specimens are as follows:

	shell		aperture		whorls
	length	diam.	height	width	
holotype (MHNL 1308H)	19.3	3.2	2.9	2.4	13
paratype 1 (MHNL 1308)	17.8	3.0	3.1	2.6	13
paratype 2 (MHNL 1308)	18.5	3.0	3.1	2.4	13
paratype 3 (MHNL 1308)	16.2	2.9	2.8	2.7	12
paratype 4 (MHNL 1308)	17.2	2.9	3.0	2.4	12½
paratype 5 (MHNL 1308)	16.4	3.0	3.1	2.4	12
paratype 6 (MHNL 1308)	16.6	2.9	3.0	2.6	12
paratype 7 (RMNH 56310)	17.3	3.0	2.9	2.4	12
paratype 8 (RMNH 56310)	19.6	3.1	3.4	2.4	13½

Notes. — The anatomy of this easily distinguishable species could not be studied. As a consequence its generic assignment remains somewhat uncertain.

The epithet *admirabilis* is used because we thought these shells to be very admirable specimens.

*Gibbonenia* Zilch, 1954

Type-species: *Clausilia raimondii* Philippi, 1867

Weyrauch (1957: 28) considered *Gibbonenia* a subgenus of *Temesa* because of its conchological characters. At least as long as its anatomy is unknown we prefer to consider the taxon an independent genus.

*Gibbonenia raimondii* (Philippi, 1867)  
(fig. 5)

Notes. — Philippi (1867: 194) described this species after 18 specimens, without designating a holotype. He figured a specimen, but this original illustration is unclear, even the species in question cannot be recognized. Zilch (1954: 66) figured one of five

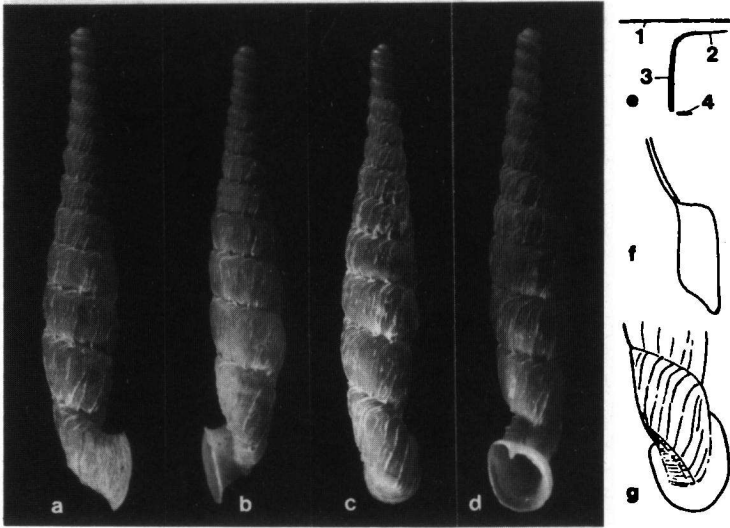


Fig. 4. *Columbinia admirabilis* spec. nov. a, left side of paratype 8 (RMNH 56310); b, right side of paratype 2 (MHNL 1308); c, dorsal side of paratype 1 (MHNL 1308); d, ventral side of holotype (MHNL 1308H); e, schematic view of the plica palatalis principalis (1), plica palatalis superior (2), lunella (3) and plica palatalis inferior (4), as seen from the aperture; f, clausilium; g, dorsal side of the last whorl.

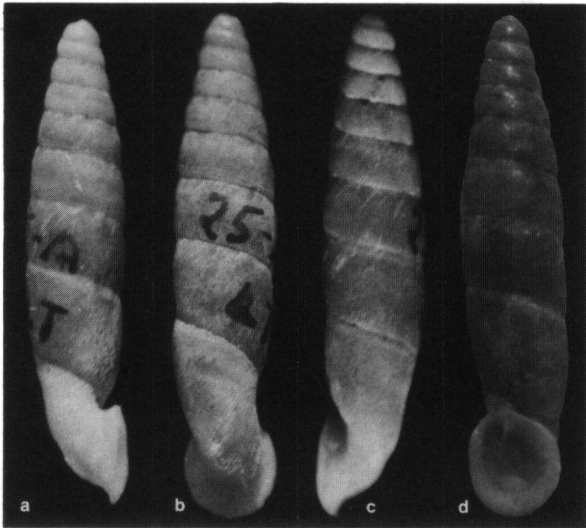


Fig. 5. *Gibbonenia raimondii* (Philippi, 1867), lectotype. a, left side (MHNL 0050H); b, right side; c, dorsal side; d, ventral side (photographs by courtesy of Dr. M. Guevara, San Marcos University, Lima).



syntypes that are in the Senckenberg Museum (Frankfurt am Main, F. R. Germany), without designating a lectotype. According to both authors Philippi's main collection of these clausiliids is in MHNL and, therefore, in our opinion a lectotype should preferably be selected from that material.

The custodian of the molluscan department of the MHNL designated a shell as lectotype (MHNL 0025H: fig. 5). This specimen has  $9\frac{1}{4}$  whorls and measures 16.2 mm in length and 3.0 mm in diameter; the aperture is 3.3 mm high and 3.0 mm broad.

#### REFERENCES

- LOOSJES, F. E., 1957. On a new Andinia (Gastropoda, Clausiliidae) from Peru. — *Zool. Meded. Leiden* 35: 229-234.
- , & A. C. W. LOOSJES-VAN BEMMEL, 1966. Some anatomical, systematical and geographical data on Neniinae (Gastropoda, Clausiliidae). — *Zool. Verh. Leiden* 77: 1-59.
- & —, 1984. On a collection of Peruvian Neniinae (Mollusca: Gastropoda: Clausiliidae), with a checklist and a provisional key to all the Peruvian species known. — *Zool. Verh. Leiden* 212: 1-38.
- PHILIPPI, R. A., 1867. Beschreibung zweier neuen peruanischen Clausilien. — *Malakozool. Bl.* 14: 194-195.
- POLINSKI, W., 1922. Neue Clausilien aus Peru. — *Bull. Acad. Polon. Sci. Lett. Cracovie (B)* 1922: 121-143.
- WEYRAUCH, W., 1957. Sieben neue Clausiliiden aus Peru. — *Arch. Molluskenk.* 86: 1-28.
- , 1958. Neue Landschnecken und neue Synonyme aus Südamerika, 1. — *Arch. Molluskenk.* 87: 91-139.
- ZILCH, A., 1954. Landschnecken aus Peru, 2. — *Arch. Molluskenk.* 83: 65-79.
- , 1978. Die Typen und Typoide des Natur-Museums Senckenberg, 59: Mollusca: Triptychiidae und Clausiliidae (Nachträge zu Teil 12). — *Arch. Molluskenk.* 108: 267-298.