Pupa menkeana Pfeiffer, 1853, Type Species of the Speciose Land Snail Genus Gulella Pfeiffer, 1856: Correction of Longstanding Misidentification and Designation of Neotype (Mollusca: Eupulmonata: Streptaxidae)

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Pupa menkeana Pfeiffer, 1853, type species of the speciose land snail genus *Gulella* Pfeiffer, 1856: correction of longstanding misidentification and designation of neotype (Mollusca: Eupulmonata: Streptaxidae)

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ABSTRACT

Gulella menkeana (Pfeiffer, 1853) is the type species of the highly diverse genus *Gulella* Pfeiffer, 1856 and study of its morphology and DNA is critical to our ability to define the genus *sensu stricto* in relation to research on the systematics of this complex genus. However, we have established that current use of the name is inconsistent with both the original description and first figure of the species. The name-bearing type is lost, and purported paratypes in the Museum für Naturkunde der Humboldt-Universität, Berlin, on which Connolly's widely-followed redescription was based, are not authentic. They have no type status and are instead specimens of *Gulella albersi* (Pfeiffer, 1855). Recently collected specimens conforming to Pfeiffer's description and figure of *G. menkeana* have been identified and a neotype is designated. This material also corresponds with the current broad interpretation of *G. adamsiana* (Pfeiffer, 1859), which, with its several established synonyms, we include in the synonymy of *G. menkeana*. There is also considerable resemblance to *G. wahlbergi* (Krauss, 1848), a name based on composite material and for which the lectotype is lost. We also designate a neotype for this species so as to preserve current application of the name. The possible synonymy of *G. menkeana* and *G. wahlbergi*, an older name, is of nomenclatural concern, but is not critical to the issue of defining *Gulella s.s.*

KEY WORDS: South Africa, *Gulella menkeana*, *adamsiana*, *wahlbergi*, type species, misidentification, original figure, new synonyms, neotypes.

INTRODUCTION

The genus *Gulella* Pfeiffer, 1856 (Streptaxidae) is perhaps the most species-rich genus of African land snails (Bruggen 1967; Richardson 1988; Schileyko 2000). However, as presently conceived, it includes a diverse array of species and much of the supraspecific taxonomy of genus is based on very limited evidence, with little consensus concerning the characterisation, distinctness and usage of the described subgeneric entities. Furthermore, given recent systematic work (Rowson *et al*. 2010) and the diversity of form exhibited in *Gulella s.l.*, it seems probable that it is not a monophyletic radiation, instead comprising a polyphyletic assemblage of variously related lineages.

As an early step in a study examining phylogenetic relationships within the Streptaxidae and *Gulella* in particular, we propose to define *Gulella* in terms of its type species, *Pupa menkeana* Pfeiffer, 1853, thus circumscribing *Gulella s.s.* in greater detail by providing morphological data on shell microsculpture, radula tooth form and genital tract anatomy, as well as molecular sequence data. To do this unequivocally, it is essential that the material studied be correctly identified. In the process of confirming identifications it has become apparent to us that the current interpretation of *Gulella menkeana* is at variance with the first illustration of the species provided by Pfeiffer (1859 in 1854–1860). Further investigation has revealed that this name has

been consistently applied incorrectly in the literature pertaining to South African land snails. In this paper we detail the historical misidentification of *G. menkeana* and provide instead a more plausible interpretation of the species in terms of the original description and the first illustration. To clarify its identity and thus that of *Gulella* itself, we designate a neotype for the species. It is important that this matter be resolved before further research is undertaken on the species in relation to streptaxid systematics.

INSTITUTIONAL CODENS

NHMUK – Natural History Museum, London, UK.
NMSA – KwaZulu-Natal Museum, Pietermaritzburg, South Africa.
SMF – Senckenberg Museum, Frankfurt, Germany.
SMNH – Swedish Museum of Natural History, Stockholm, Sweden.
ZMHB – Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

TAXONOMY

Genus *Gulella* Pfeiffer, 1856

Gulella: Pfeiffer 1856*a*: 173. Type species *Pupa menkeana* Pfeiffer, 1853 [S.D. Martens 1860: 298].

Gulella menkeana (Pfeiffer, 1853)

Pupa menkeana: Pfeiffer 1853: 552, No 161. Type loc.: Port Natal [=Durban, South Africa].
Ennea menkeana: Pfeiffer 1856*b*: 61; *idem* 1859 in 1854–1860: 113, pl. 32, figs 3–5.

Pfeiffer (1853) described *Pupa menkeana* from material in the collection of German conchologist K.T. Menke (1791–1861) and gave Port Natal [=Durban, South Africa] as the only locality. After Menke's death, his collection was sold to a natural history dealer, M.J. Landauer of Frankfurt, and dispersed via retail sale to private collectors (Zilch 1958). Thereafter, the location of the original material of *G. menkeana* has remained unknown and Connolly (1939: 39) stated 'the type appears to be lost'. However, he identified two shells in the 'Berlin Museum' (ZMHB) as 'paratypes' and based his description of the species on one of these, also providing a figure. In terms of locality data, he repeated only the 'Port Natal' locality. In this same work (p. 39), Connolly discussed *Gulella albersi* (Pfeiffer, 1855), stating that this was 'merely a large edition of *menkeana*, with which it is probably conspecific'. For *G. albersi* Connolly cited, in addition to the type locality, several localities on the KwaZulu-Natal south coast (see note below regarding type locality of this species). It is Connolly's description and figure of the ZMHB paratype and his interpretation of *G. menkeana* that has informed subsequent identification and discussion of this species and its distribution (Aiken 1995; Herbert & Kilburn 2004), and the belief that *G. albersi* is a junior synonym.

In the process of assembling a formal synonymy and list of citations for *Gulella menkeana*, and providing illustrations of the relevant type specimens, we have discovered firstly, that the ZMHB paratypes do not correspond with the first figure of the species provided by Pfeiffer (1859 in 1854–1860: pl. 32, fig. 4, here reproduced in Fig. 1A), and secondly that there appears to be no justification for considering them to be paratypes in the current sense of the Code. They were part of the collection of J.C. Albers, who evidently obtained them from R.J. Shuttleworth. There is no label to indicate that they were ever part of the Menke collection or that they represent type material of any kind (Glaubrecht pers. comm. 24.iii.2011). Why Connolly should have

considered them to be paratypes is not known and he was evidently not justified in so doing.

When compared with Pfeiffer's illustration (Fig. 1A) the upper labral tooth of the Albers specimens (Figs 1B, 1C) is a far less robust structure. It is smaller than the lower labral tooth and does not have a basal buttress on its upper side that lies almost parallel to the parietal lamella. Conversely, the lower labral tooth in Pfeiffer's figure is smaller than the upper one and is clearly inset. In addition, the basal tooth is large and trigonal in Pfeiffer's figure, but narrow in the Albers specimens. The columella lamella is poorly defined in Pfeiffer's figure, but the Latin description, although not detailed in terms of apertural tooth morphology, stated that the second tooth (what is now termed the columella lamella – he worked anticlockwise, starting with the parietal lamella) is '*excavata profunde ad columellam*' [deeply excavated at/toward the columella]. This description does not match the columella lamella of the Albers specimens in which this structure takes the form of a horizontal ridge-like tooth. In contrast, in the original

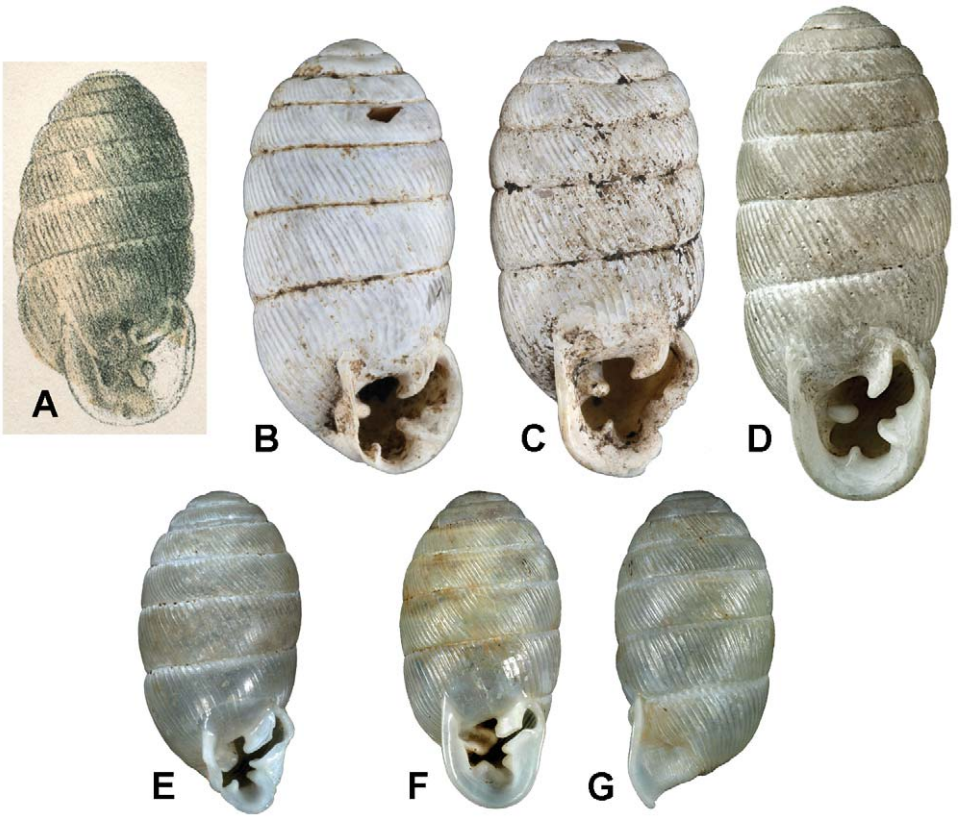

Fig. 1. (A) figure of *Pupa menkeana* (as *Ennea*) given by Pfeiffer (1859 in 1854–1860: pl. 32, fig. 4); (B, C) ZMHB specimens considered by Connolly (1939) to be paratypes of *P. menkeana* Pfeiffer, 1853, length 13.5 mm and 13.6 mm (ZMHB 56871); (D) lectotype of *Pupa albersi* Pfeiffer, 1855, 'Cape Natal, Mus. Cuming', length 15.3 mm (NHMUK 20110169); (E) Senckenberg Museum specimen figured as *Gulella menkeana* by Zilch (1960, in 1959–1960: 571, fig. 2000), 'Natal', length 10 mm (SMF 83755, photograph S. Hof); (F, G) *P. menkeana* Pfeiffer, 1853, neotype, Burman Bush, Durban, length 9.84 mm, diameter 5.05 mm (NMSA W7943/T2670).

description of *G. albersi*, Pfeiffer (1855) described the columella lamella as '*compressa, prominentiae umbilicali transverse imposita*' [flattened, positioned transverse to the umbilicus] which is an apt description of this structure in the Albers specimens. In terms of size, these specimens (length 13.5 and 13.6 mm) are also closer to *G. albersi* (length given as 15 mm) than they are to *G. menkeana* (length given as 11 mm). In fact, these Albers specimens at ZMHB exhibit all the features of *G. albersi* and their identification as *G. menkeana* is consistent with neither the original description nor the first illustration of that species. They are evidently referable to *G. albersi* (lectotype [designated Connolly 1939: 39] illustrated in Fig. 1D), thus explaining Connolly's view that *G. albersi* was merely a large edition of *G. menkeana*. The description and figure of *G. menkeana* show it to possess characters distinct from those of *G. albersi* and the two names should no longer be considered synonyms. This conclusion is further supported by the fact that Pfeiffer discussed and figured *G. albersi* in the same work in which he figured *G. menkeana* for the first time (Pfeiffer 1854–1860), clearly indicating that he considered them to be different species. Thus Connolly's concept of *G. menkeana* was based on misidentified specimens with no type status. Consequently, material collected subsequent to his monograph (Connolly 1939) and identified in accordance with his description of *G. menkeana* is misidentified and in fact represents *G. albersi* (Aiken 1995; Herbert & Kilburn 2004; Rowson *et al*. 2010). The question that then arises is — what is the real *Gulella menkeana*?

WHAT IS THE REAL *GULELLA MENKEANA*?

In the absence of authentic type material of *Pupa menkeana*, we have only Pfeiffer's brief original description (Pfeiffer 1853), and his subsequent illustration (reproduced in Fig. 1A) to guide us in determining the true identity of this taxon. Other treatments and figures of the species, prior to Connolly's monograph (e.g. Sowerby 1878; Tryon 1885; Möllendorff & Kobelt 1904 in 1903–1905), are of little value since these largely repeat or abbreviate Pfeiffer's earlier description and copy his figure. More recent illustrations of specimens in European museums, most probably collected in the late 1800s or early 1900s (Zilch 1960 in 1959–1960: 571, fig. 2000; Schileyko 2000: fig. 1067A) show a species with a large, buttressed upper labral tooth, suggesting that the early European concept of the species was in accordance with the original figure and at variance with Connolly's later interpretation (Connolly 1939). However, the specimens concerned were not types and the illustrations are thus not definitive. In reality, a photograph of the specimen illustrated by Zilch (1960) reveals it to be a specimen of *Gulella wahlbergi* (Krauss, 1848) (Fig. 1E, courtesy of R. Janssen) and earlier labels written by Werner Blume identify it as such (Janssen pers. comm. 13.iv.2011).

Apertural dentition is critical in the identification of *Gulella* species (e.g. Connolly 1939; Verdcourt 1962; Herbert & Kilburn 2004) and, as already emphasised, the form of the upper labral tooth and its juxtaposition almost parallel to the parietal lamella, as well as the smaller size and inset position of the lower labral tooth, are perhaps the most significant features evident in Pfeiffer's figure of *G. menkeana*. Such a pattern of labral dentition is shown by several other *Gulella* species, including other similarly-sized, axially ribbed species found in the Durban area, namely *G. adamsiana* (Pfeiffer, 1859) and *G. wahlbergi*.

The current view of *G. adamsiana* is that it is a relatively widely distributed taxon (north-eastern Eastern Cape to northern KwaZulu-Natal, from the coast to altitudes of *ca* 1300 m) and it correspondingly exhibits considerable variation in size, shell proportions and strength of apertural dentition (Bruggen 1980; Herbert & Kilburn 2004). Some of this variation, particularly shell size, may be linked to differences in habitat, specimens from drier thornveld habitats at inland localities being smaller than those from more mesic coastal forests. However, the format of the apertural dentition remains essentially the same, and although the strength and shape of the individual apertural teeth may vary, there appears to be no clear pattern in this variation. The shells illustrated in Fig. 2, including type specimens of *G. adamsiana* and its various synonyms are illustrative of this variation. We concur with Burnup (in Connolly 1932) that *G. socratica* (Melvill & Ponsonby, 1893) is based on a deformed specimen of *G. adamsiana*. The species is evidently prone to abnormalities (Warren 1933; Bruggen 1980).

Specimens referable to this concept of *G. adamsiana*, collected in Durban (the type locality for *Pupa menkeana*), closely resemble Pfeiffer's figure of *Pupa menkeana* and are concordant also with the original description. We believe that these can legitimately be considered to represent the species named *Pupa menkeana* by Pfeiffer (1853). Since this description predates that of *Pupa adamsiana* Pfeiffer, 1859, the latter must be considered a junior synonym. So as to stabilise this nomenclature we designate as neotype for *Pupa menkeana* a specimen from this Durban population (see below).

Krauss' *G. wahlbergi* also resembles Pfeiffer's figure of *G. menkeana* and Bruggen (1980) has noted the considerable similarity between the former and *G. adamsiana*. However, he observed that *G. wahlbergi* differs (*inter alia*) in having a relatively narrow basal denticle, in the form of an in-running ridge as opposed to a trigonal or subquadrate, transversely-set peg (see also Connolly 1939; Herbert & Kilburn 2004). Pfeiffer's figure of *G. menkeana* clearly shows the basal denticle as a trigonal structure like that of many *G. adamsiana* specimens and unlike that of *G. wahlbergi*. We follow Bruggen (1980) in considering *Helix fanulus* Pfeiffer, 1856, from 'Port Natal' which Connolly (1939) associated with *G. adamsiana*, to be an unidentifiable juvenile *Gulella* and thus a *nomen dubium*.

An updated synonymy for *G. menkeana* incorporating these nomenclatural changes is given below. In so redefining the species, we are aware that adherence to the original concept of *G. menkeana* might be considered to conflict with prevailing usage of the name. However, the species has been rarely mentioned in the literature, beyond mere mention of the name as the type species of *Gulella*. We are aware of only three instances where the species, as conceived by Connolly (1939), has been cited subsequently in print (Aiken 1995; Herbert & Kilburn 2004; Rowson *et al*. 2010). Conversely, the original concept of the species has not completely fallen out of use and was employed by Schileyko (2000). Since both concepts of the species have been employed in relatively recent times, it is logically correct to expunge the one based on an error and to employ the name in a manner consistent with the original description and figure.

Gulella menkeana Pfeiffer, 1853

Pupa menkeana: Pfeiffer 1853: 552, No. 161. Type loc.: Port Natal [=Durban, South Africa]. **Neotype designated herein**.

Ennea menkeana: Pfeiffer 1856*b*: 61; 1859 in 1854–1860: 113, pl. 32, figs 3–5; Tryon 1885: 97, pl. 18, fig. 79; Melvill & Ponsonby 1898*b*: 168; Sturany 1898: 15 [555]; Connolly 1912: 79.

Ennea adamsiana: Pfeiffer 1859 in 1854–1860: 114, pl. 32, figs 9–11; 1859: 339; Melvill & Ponsonby 1898*b*: 166. Type loc.: Port Natal. Lectotype designated by Connolly (1939: 84). **Syn. n.**
Gulella menkeana: Martens 1860: 298; Zilch 1960 in 1959–1960: 571, fig. 2000; 1961: 95; Richardson 1988: 101; Schileyko 2000: 816, fig. 1067A.
Ennea (*Gulella*) *menkeana*: Pfeiffer 1878 in 1878–1881: 19; Möllendorff & Kobelt 1904 in 1903–1905: 191, pl. 24, fig. 6; Kobelt 1909: 54; 1910: 161.
Pupa menkeana: Sowerby 1878, pl. 19, fig. 176 [confused with *Carychium menkeanum* Pfeiffer, 1821 = *Azeca goodalli* (Férussac, 1821) and erroneous locality given].
Enneastrum menkeanum: Bourguignat 1889: 127.
Ennea socratica: Melvill & Ponsonby 1893: 109, pl. 3, fig. 14. Type loc.: Pietermaritzburg. **Syn. n.**
Ennea impervia: Melvill & Ponsonby 1896: 315, pl. 16, fig. 1; 1898*b*: 168. Type loc.: Natal. **Syn. n.**
Ennea aurisleporis: Melvill & Ponsonby 1898*a*: 25, pl. 8, fig. 3; 1898*b*: 167. Type loc.: Natal. **Syn. n.**
Gulella adamsiana: Connolly 1939: 84, text-fig. 5; Bruggen 1980: 7, figs 1, 3 [see for additional citations]; Richardson 1988: 50; Aiken 1995: 18; Herbert & Kilburn 2004: 195.
Gulella adamsiana var. *impervia*: Connolly 1939: 85.
Gulella aurisleporis: Connolly 1939: 86; Richardson 1988: 51; Aiken 1995.
Gulella impervia: Richardson 1988: 51.
Gulella socratica: Richardson 1988: 51.
? *Helix fanulus*: Pfeiffer 1856*c*: 33. Type loc.: Port Natal [=Durban, South Africa]. *Nomen dubium*
non Gulella menkeana: Connolly 1939: 38, pl. 1, fig. 15; Aiken 1995: 7; Herbert & Kilburn 2004: 169; Rowson *et al*. 2010: 10 [= *Gulella albersi* Pfeiffer, 1855].

DESIGNATION OF NEOTYPE FOR *PUPA MENKEANA* PFEIFFER, 1853

Since *Pupa menkeana* is the type species of the genus *Gulella* Pfeiffer, 1856, its identity is of critical importance in defining the genus and it is vital that the name be applied correctly. We believe, in accordance with Article 75.3.4 of the Code (ICZN 1999), that the original type material of *Pupa menkeana* was lost when Menke's collection was sold and dispersed to private collectors after his death (Zilch 1958). As discussed above, the purported paratypes in the ZMHB (Connolly 1939) are neither types nor are they referable to *G. menkeana* (they are in reality specimens of *G. albersi*). Having now identified material that matches Pfeiffer's description and figure of *P. menkeana* more closely than any other material known to occur in the province of KwaZulu-Natal, South Africa, we consider it is necessary to designate a neotype for the taxon in order to remove any further doubt concerning the species represented by this name. The specimen (Figs 1F, 1G) is selected from a population occurring at the type locality (given only as 'Port Natal' = Durban). In addition to the neotype, we have collected from this same population a growth series of shells, as well as live-collected specimens preserved for anatomical study and tissue samples for molecular sequencing (NMSA W7878, W7896). This material will enable us to define the species and thus the genus *Gulella s.s.* in terms of features of the adult and embryonic shell, radula teeth, reproductive tract morphology and molecular sequence data (Rowson & Herbert, in prep).

We consider that the neotype is also identifiable as the larger coastal form of what has been known as the variable *Gulella adamsiana* (Figs 2A, 2B) and as stated above consider *G. adamsiana* and *G. menkeana* to be conspecific and therefore synonyms. The distinguishing features of this species and the extent of its intraspecific variability have been discussed in detail under the name *G. adamsiana* by Bruggen (1980).

Neotype: SOUTH AFRICA: *KwaZulu-Natal*: Durban, Burman Bush, beside road near scout camp, 29.81490°S: 31.01740°E, 75 m, in accumulations of leaf-litter at roadside, Station 11-05, 29.iii.2011, D. Herbert & L. Davis (NMSA W7943/T2670). Length 9.84 mm, diameter 5.05 mm.

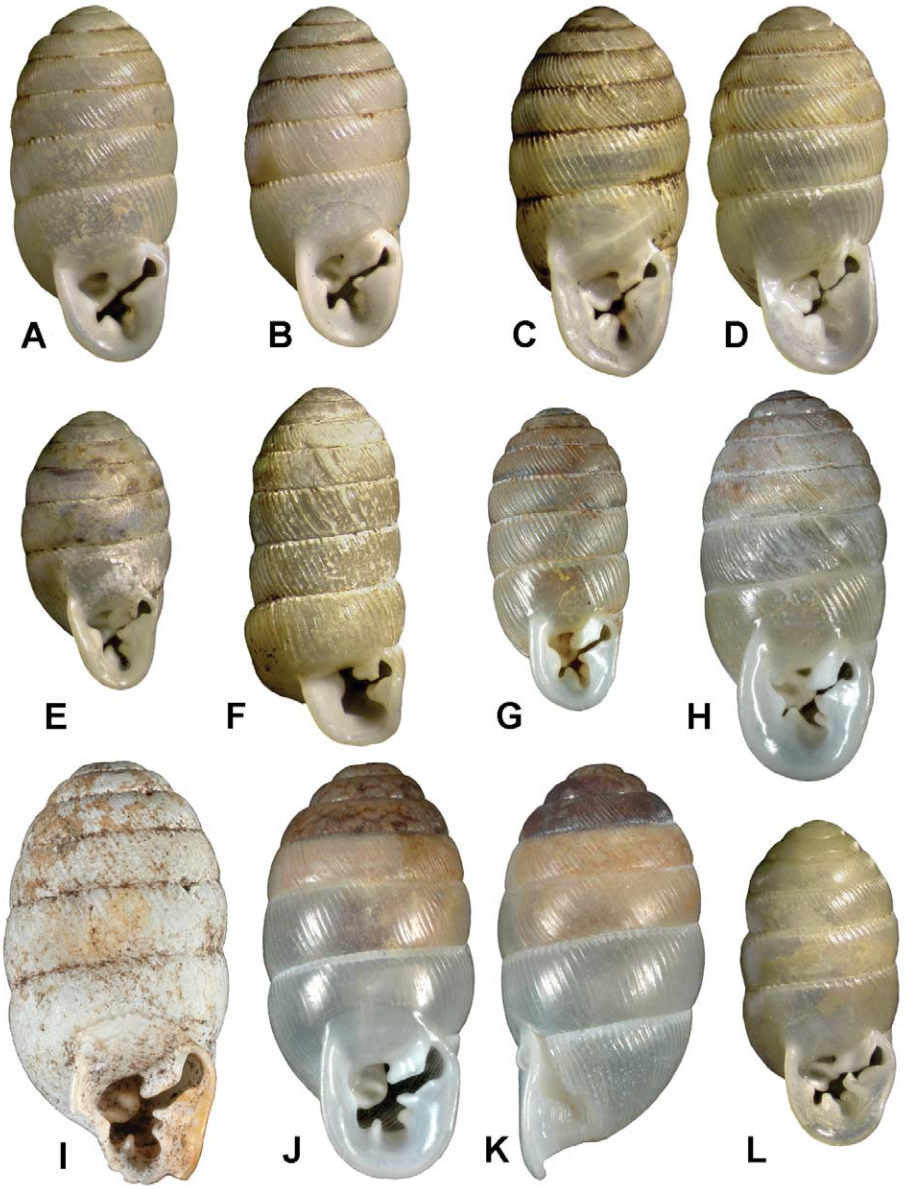

Fig. 2. (A, B) lectotype and paralectotype of *Ennea adamsiana* Pfeiffer, 1859 in 1854–1860, 'Port Natal, M.C. [Mus. Cuming]', length 8.45 and 8.1 mm (NHMUK 20110168); (C, D) syntypes of *Ennea impervia* Melvill & Ponsonby, 1896, 'Natal', length 8.8 and 8.75 mm (NHMUK 1903.3.11.85–86); (E) holotype of *Ennea aurisleporis* Melvill & Ponsonby, 1898, 'Natal', length 6.65 mm (NHMUK 1903.3.11.69); (F) holotype of *Ennea socratica* Melvill & Ponsonby, 1893, 'Pietermaritzburg', length 8.45 mm (NHMUK 1903.3.11.78); (G) *Gulella menkeana*, small inland form, Cumberland, Pietermaritzburg, length 7.2 mm (NMSA V9709); (H) *G. menkeana*, large form from coastal E. Cape, Port St Johns, length 9.24 mm (NMSA W561); (I) *Pupa wahlbergi* Krauss, 1848, probable paratype in SMNH, length 10.1 mm (SMNH-Type-2112); (J, K) *P. wahlbergi* Krauss, 1848, neotype, Durban Bluff, length 9.84 mm, diameter 4.92 mm (NMSA W7942/T2669); (L) holotype of *Ennea formosa* Melvill & Ponsonby, 1898, Pietermaritzburg, length 7.75 mm (NHMUK 1903.3.11.79).

CAVEAT

We acknowledge that our use of the name *Gulella menkeana* as an earlier name for the species currently known as *G. adamsiana* may ultimately need to be revised. The prevailing broad interpretation of *G. adamsiana* includes small, narrow specimens from drier inland localities (Fig. 2G), as well as larger, broader specimens with strong apertural dentition from the coast (Figs 2C, 2D form *impervia*) and a somewhat disjunct population of similarly large specimens from the central coastal area of the Transkei region, Eastern Cape (Fig. 2H). In due course, phylogeographic analysis of molecular data may reveal this to be a composite taxon. However, this is immaterial to the issue at hand, the crux of which is to verify the identity of *G. menkeana*. Should the species eventually be shown to be composite, this will not change the fact we have established the true identity of *G. menkeana*.

Ultimately, if the broad interpretation of a morphologically variable *G. menkeana* proves to be robust, it may also include the form currently known as *G. wahlbergi*. This taxon differs from *G. menkeana* only in relatively small details that could be subsumed within the variability of one species. If such is the case, since it is an earlier name (1848), it would take precedence over *G. menkeana* (1853). Again, however, this would not detract from the fact that we have fixed the identity of *G. menkeana* for the purposes of defining *Gulella s.s.*

Connolly (1939) indicated that the type material of *Pupa wahlbergi* Krauss, 1848 in Stuttgart (two specimens, both now lost) was composite and selected as 'the type' [=lectotype] an axially costulate specimen with a superficial tooth on the columella which matched Krauss' figure. A lot containing three probable paralectotypes of *P. wahlbergi* in the SMNH is also composite (Herbert & Warén 1999). Only one, a somewhat damaged specimen, is costulate and has a superficial tooth on the columella (Fig. 2I). Although damaged, this specimen conforms with Krauss' original and most subsequent illustrations of the taxon (Küster 1855 in 1841–1855: 158, pl. 19, figs 6–9 (plate dated 1854); Sowerby 1878: pl. 20, fig. 187; Möllendorff & Kobelt 1904 in 1903–1905: 190, pl. 24, figs 3, 4; Burnup 1925: pl. 8, fig. 35) and with current application of the name (Connolly 1939; Bruggen 1980; Herbert & Kilburn 2004). Tryon's illustration (Tryon 1885: 96, pl. 19, fig. 99), as pointed out by Burnup (1925), erroneously shows three labral teeth, and seems to have been influenced by Pfeiffer's inclusion of the basal tooth as a third labral tooth (Pfeiffer 1848). The remaining two specimens are smooth except for axial pliculae radiating onto the base from the umbilicus and lack a superficial columella tooth. They resemble *Gulella kosiensis* (Melvill & Ponsonby, 1908) but are considerably larger (length 9.2 mm) than any other specimens referable to that species (length up to 7.0 mm) and their identity is puzzling. Since *P. wahlbergi* was based on material of more than one species (evident also in Krauss' description), we consider it necessary designate a neotype for the taxon such that application of the name will preserve prevailing usage. As the single SMNH specimen reflecting this usage is in poor condition (Fig. 2I) we prefer (as permitted by Art. 75 of the Code) to select a more recently collected, undamaged, topotypic specimen as the neotype (Figs 2J, 2K): Durban Bluff, length 9.84 mm, diameter 4.92 mm (NMSA W7942/T2669).

G. formosa (Melvill & Ponsonby, 1898) from the KwaZulu-Natal Midlands (holotype Fig. 2L), though generally less strongly sculptured, may also fall within this variable concept of *G. menkeana* and represent a mist-belt ecomorph, though we refrain

from proposing synonymy at this stage. The locality 'Durban' given in the original description is dubious. That of 'Pietermaritzburg' cited on the labels in the type lot (NHMUK 1903.3.11.79) is more probable.

NOTE ON THE TYPE LOCALITY OF *GULELLA ALBERSI* (PFEIFFER, 1855)

For his new taxon *Pupa albersi*, Pfeiffer (1855) gave as the locality 'Port Natal (Stanger)' [later misspelt as 'Strangier' (Pfeiffer, 1859: 339)]. Subsequently, Connolly (1939) cited several additional localities on the KwaZulu-Natal south coast (Scottburgh, Port Shepstone, Port Edward). In reality, there are to date no confirmed records for this species from further north than Scottburgh (30.288°S). It is not known from the Durban area and it seems probable that the Port Natal locality was simply an imprecise one referring to the KwaZulu-Natal coast. Stanger is a more precise locality, but lies 120 km to the north of the known distribution of the species. Given that the malacofauna of this region is relatively well known and that the south coast of KwaZulu-Natal is home to other locally endemic land snails that do not range as far north as Durban (Herbert & Kilburn 2004), we believe that the original locality data must be considered imprecise in the case of 'Port Natal' and erroneous in the case of 'Stanger'. Errors such as this are not unusual for material in the Cuming collection. We take this opportunity to emend the type locality to Port Shepstone, where the species is particularly common.

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