

Description of *Phasmoconus (Phasmoconus) nemo* n. sp. (Gastropoda: Conidae) from south-eastern Africa

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ABSTRACT A study of the *Phasmoconus* species of southern Mozambique and northern KwaZulu-Natal, South Africa revealed a new species within an already complicated group of species. A total of 83 adult specimens were studied, measured and analyzed. The study revealed two main forms of *Phasmoconus (Phasmoconus) chindeensis* Monnier, Prugnaud & Limpalaër, 2021 and a new species, described here as *P. (P.) nemo* n. sp. The two forms of *P. (P.) chindeensis* have too few different characteristics to separate them as different species. *Phasmoconus (P.) nemo* n. sp. is different from the rest having a more rounded shell morphological feature, high spire with a slightly convex shape, broad shoulder in relation to shell length. The aperture is narrow at the posterior side, slightly bend, and flaring out at the anterior sinus. The spiral grooves of the different species are discussed and the differences highlighted.

KEYWORDS Conidae, *Phasmoconus*, *chindeensis*, *nemo*, northern KwaZulu-Natal, South Africa, Mozambique

INTRODUCTION

A small group of cones, sometimes referred to as the “*inscriptus* complex”, was recently revised by Monnier *et al.* (2021). This “complex” of cones, classified under the genus *Phasmoconus*, mainly comprises of the following Indo-Pacific species: *Phasmoconus (Phasmoconus) inscriptus inscriptus* (Reeve, 1843), *P. (P.) inscriptus cuneiformis* (E.A. Smith, 1877) and *P. (P.) inscriptus keatiformis* (Shikama & Oishi, 1977) from India, *P. (P.) maculospira* (Pilsbry & Johnson in Pilsbry, 1922) from the Gulf of Bengal to Thailand, *P. (P.) adenensis* (E.A. Smith, 1891), *P. (P.) salzmanni* (G. Raybaudi Massilia & Rolan, 1997), and *P. (P.) yemenensis* (Bondarev, 1997) from Yemen and Somalia, and the recently described species *P. (P.) chindeensis* Monnier, Prugnaud & Limpalaër, 2021 from Mozambique and northern KwaZulu-Natal, South Africa.

The author studied specifically the south-eastern African (Figure 1) *Phasmoconus* shells for many years, splitting the shells into three probable groups, ignorantly in the past identified the shells under the names *Conus inscriptus inscriptus*, *C. inscriptus adenensis*, and *C. inscriptus keatii*, until Monnier *et al.* (2018, 2021) shed some light on the subject. Monnier *et al.* (2021) established that *P. (P.) adenensis* is a moderately large, slender shell, with a short spire (Figures 14.6 & 17.3), only from the coast off Yemen and Somalia, and not south-eastern Africa. *Phasmoconus (P.) keatii* is according to Monnier *et al.* (2021) from the West Indian Ocean, and is poorly understood, with apparent specimens recorded off Yemen. Monnier *et al.* (2018) assigned *P. (P.) inscriptus* to shells from southern Red Sea and the Peninsular India, shells that are moderately large to large with a very broad shoulder and a low spire. *Phasmoconus (P.) inscriptus inscriptus* has full developed pattern across the body whorl

(Figures 14.3, 17.1 & 17.2), *P. (P.) inscriptus keatiformis* has darker but lesser pattern (Figures 14.4, 17.6 & 17.7), whereas *P. (P.) inscriptus cuneiformis* has very faint to no pattern visible (Figures 14.7, 17.4 & 17.5).

The one “form” in the author’s collection is now identified as the newly described species, *P. (P.) chindeensis*, a medium to large, conical shell (Figures 2, 14.2, 16.1, 16.2, 16.3 & 16.6). The spire is moderately high with a concave outline, the apex is off-white. The profile of the last whorl is relatively straight, slightly convex. After studying the whole group, two more “forms” are still identified as before by the author. The second “form” has most of the main characteristics as *P. (P.) chindeensis* (Figures 14.5, 16.4, 16.5, 16.7 & 16.8), with several minor shell morphological differences, discussed below. The third show significant differences that led to the description of the new species, *P. (P.) nemo* n. sp. (Figures 3, 14.1 & 15).



Figure 1. The main locality points from southern Mozambique and northern KwaZulu-Natal, South Africa, where *P. (P.) nemo* n. sp. and *P. (P.) chindeensis* occur.



Figure 2. The holotype of *Phasmoconus (Phasmoconus) chindeensis* Monnier, Prugnaud & Limpalaër, 2021, trawled 45-65m Chinde, Mozambique. Muséum national d’Histoire naturelle, Paris (France), MNHN-IM-2000-35083. Photo credit: Alexandre Lardeur (2021).

METHODOLOGY

Main shell morphological features were used during this study to differentiate the new species from its closest congener within the genus *Phasmoconus*. The terminology used within this description follow Röckel *et al.* (1995), Monnier *et al.* (2018), and Monnier *et al.* (2021) along with the author’s own statistical editions.

The following measurements were taken for each specimen studied:

- SL – maximum shell length (mm)
- MD – maximum diameter (mm)
- H – height (mm)
- AH – aperture height (mm)
- HMD – height of maximum diameter (mm)
- SH – spire height (SL-AH)
- SP – spire percentage of length (SH/SL x 100)

- RD – relative diameter (MD/AH)
- PMD – relative position of the maximum diameter (HMD/AH)
- RSH – relative spire height (SH/SL)
- W – shell weight (g)
- V – estimated ‘model’ volume (SL x MD x H)
- RW – relative shell weight ‘length’ (W/SL)
- RW – relative shell weight ‘volume’ (W/V)
- SR – shell ratio factor (SL/MD x PMD)

A total of 83 adult specimens from Mozambique and northern KwaZulu-Natal, South Africa, were studied, measured, and included in the data tables (Annexure A). Several juvenile specimens were studied but were not included in the data tables. The shell features of another 34 specimens in the Natal Museum (NMSA) were examined. The measurements of the Holotype and the 28 specimens from *P. (P.) chindeensis*, as per Monnier *et al.* (2021), were closely studied.

SYSTEMATICS

Phylum Mollusca Linnaeus, 1758
 Class Gastropoda Cuvier, 1795
 Subclass Caenogastropoda Cox, 1960
 Order Neogastropoda Wenz, 1938
 Superfamily Conoidea Fleming, 1822
 Family Conidae Fleming, 1822
 Genus *Phasmoconus* Mörch, 1852
 Subgenus *Phasmoconus* Mörch, 1852

Phasmoconus (Phasmoconus) nemo
 S.G.Veldsman, n. sp.

Description. Medium to large, heavy shell. Profile conical, moderately stepped spire of moderate height with slightly concave outline (Figures 3, 14.1 & 15). Deep incised sutures on

spire. The spire consists of thin spiraling grooves, comprising of five or six wide grooves from the suture, followed by a prominent ridge, followed by several thinner grooves, followed by a wide ridge before smoothing out to the outer part of the whorl. Shoulder sharp, slightly convex. Body whorl sides are slightly rounded with a convex shape. The posterior quarter is smooth, followed by the second quarter having shallow grooves around the body whorl, with the anterior half having deeper grooves alternating with ridges, the last quarter the ridges having small knobs. Protoconch moderately sharp, off-white to cream in color. Aperture narrow at posterior side, slightly bend, flaring out at the anterior sinus.

Background color off-white, with the coloration in bands of small and large blocks of an orange-brown color. The colored bands are usually as follows, from the posterior to anterior side: small zig-zag blocks below the shoulder, followed by two to three thin bands consisting of spots, followed by a broad band consisting of large zig-zag blotches and small spots in-between, followed by one to three lines consisting of small spots, followed by a broad band consisting of large zig-zag blotches and small spots in-between, ending on the anterior side with several thin bands consisting of small spots. The spire consists of the same orange-brown marking. Aperture a light creamy to light purple, sometimes slightly pinkish.

Type locality. Trawled off Beira, Mozambique.

Distribution. Specimens were trawled off southern Mozambique and northern KwaZulu-Natal, South Africa.



Figure 3. The holotype of *Phasmoconus (Phasmoconus) nemo n.* sp., trawled off Beira, Mozambique, NMSA: P1950/T4528.

Type material.

- Holotype:** 57.21 x 27.30 mm (Figure 14.1); Trawled off Beira, Mozambique; Coll. Natal Museum, Pietermaritzburg, South Africa (NMSA), ID No: P1950/T4528.
- Paratype 1:** 56.30 x 26.79 mm (Figure 15.1); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 2:** 55.09 x 26.17 mm (Figure 15.2); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 3:** 55.21 x 26.78 mm (Figure 15.4); Trawled off Beira, Mozambique; L.Swart Collection.
- Paratype 4:** 53.57 x 26.65 mm (Figure 15.5); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 5:** 59.11 x 28.65 mm (Figure 15.3); Trawled off northern KwaZulu-Natal, South Africa; Veldsman Collection.
- Paratype 6:** 55.12 x 26.35 mm (Figure 15.7); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 7:** 63.04 x 29.72 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 8:** 56.24 x 26.58 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 9:** 57.04 x 27.46 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 10:** 57.73 x 26.63 mm (Figure 15.8); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 11:** 48.45 x 23.19 mm; Trawled off southern Mozambique; Veldsman Collection.
- Paratype 12:** 56.10 x 26.14 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 13:** 52.47 x 25.45 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 14:** 53.34 x 24.91 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 15:** 52.36 x 24.85 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 16:** 51.33 x 24.93 mm (Figure 15.6); Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 17:** 56.30 x 27.81 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 18:** 53.64 x 25.02 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 19:** 40.66 x 19.91 mm; Trawled off southern Mozambique; Veldsman Collection.
- Paratype 20:** 47.66 x 22.88 mm; Trawled off Beira, Mozambique; Veldsman Collection.

- Paratype 21: 45.05 x 20.90 mm; Trawled off Beira, Mozambique; Veldsman Collection.
- Paratype 22: 48.30 x 22.50 mm; Trawled off northern KwaZulu-Natal, South Africa; A.Potgieter Collection.
- Paratype 23: 39.03 x 18.80 mm; Trawled off southern Mozambique; Veldsman Collection.
- Paratype 24: 50.26 x 24.50 mm; Trawled off Beira, Mozambique; A. Groenewald Collection.

Etymology. The name “*nemo*” translates to ‘no one’ or ‘nobody’. No one expected that there is another species within this group of similar looking shells.

DISCUSSION

Phasmoconus (P.) nemo n. sp. and the two forms of *P. (P.) chindeensis* are all three medium to large in size, moderately solid to solid. In all three the background color apex, spire and body whorl are similarly off-white. The color pattern of all three, as with all the species within this “complex” of species in the genus *Phasmoconus*, are very similar and can’t be used for separation between the species and forms. The coloration of the aperture inside is very inconsistent between shells of the two species and forms, with all having an off-white background, with some adult specimens having a pinkish coloration and others more purple. The more significant differences are summarized in Table 1.

	<i>P. (P.) chindeensis</i> - A	<i>P. (P.) chindeensis</i> - B	<i>P. (P.) nemo</i> n. sp.
Shell profile	Profile conical, straight with a slightly convex profile.	Profile conical, straight with a slightly convex profile.	Profile conical, rounded convex profile.
Spire	Moderately stepped spire, of moderate height with slightly concave outline. Moderately deep incised sutures on spire.	Moderately stepped spire, low with slightly concave outline. Moderately deep incised sutures on spire.	Moderate to highly stepped spire of moderate height with slightly concave outline deep incised sutures on spire.
Shoulder	Shoulder subangulate.	Shoulder subangulate.	Shoulder subangulate, slightly rounded and convex.
Grooves on body whorl	The anterior half shallower grooves alternating with ridges, having small knobs. The grooves vary in width.	The anterior half shallower grooves alternating with ridges, having small knobs. The grooves vary in width.	The anterior half having wider, deeper grooves alternating with ridges having prominent knobs.
Aperture	Aperture narrow, moderately straight, only slightly rounded on the inner side, staying narrow towards the anterior sinus.	Aperture narrow, moderately straight, only slightly rounded on the inner side, staying narrow towards the anterior sinus.	Aperture narrow at posterior side, slightly bend, flaring out at the anterior sinus.

Table 1. Summarized shell morphological differences between *P. (P.) nemo* n. sp. and the forms of *P. (P.) chindeensis* (A & B).

The morphometric parameters for the adult specimens of *P. (P.) nemo* n. sp., *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B are summarized in Tables 2 and 3, whereas the detailed information is tabled in Annexure A. A total of 25 *P. (P.) nemo* n. sp. specimens, 30 *P. (P.) chindeensis* Form A, and 28 *P. (P.) chindeensis* Form B were measured and used in the analysis. Most of the morphometric parameters are very similar and overlapping, and characteristic of the *Phasmoconus* genus. The two forms of *P. (P.) chindeensis* show very similar morphological parameters, except that Form B has generally a shorter spire, with a smaller percentage to shell

length (mean of 14.72%) than Form A (mean of 16.47%).

The maximum height of the diameter of *P. (P.) nemo* n. sp. is on average smaller (mean HMD of 38.27, mean PMD of 0.86) than *P. (P.) chindeensis* Form A (mean HMD of 40.20, mean PMD of 0.90) and *P. (P.) chindeensis* Form B (mean of HMD of 39.05, mean PMD of 0.87), where the relative diameter of *P. (P.) nemo* n. sp. is higher (mean RD of 0.57) than *P. (P.) chindeensis* Form A (mean RD of 0.55) and *P. (P.) chindeensis* Form B (mean RD of 0.54) (Table 2).

	Maximum length (SL) - mm	Maximum diameter (MD) - mm	Height (H) - mm	Aperture height (AH) - mm	Height of maximum diameter (HMD) - mm	Relative Diameter (RD)	Relative position of the maximum diameter (PMD)
<i>P. (P.) nemo</i> n. sp. (25 specimens)							
Range	39.03 - 63.04	18.80 - 29.72	17.20 - 27.08	31.38 - 54.51	26.99 - 46.47	0.55 - 0.60	0.84 - 0.89
Mean	52.82	25.23	23.20	44.53	38.27	0.57	0.86
<i>P. (P.) chindeensis</i> Form A (30 specimens)							
Range	38.47 - 69.05	17.72 - 31.85	16.32 - 29.09	31.28 - 58.00	28.80 - 52.51	0.51 - 0.57	0.85 - 0.92
Mean	53.58	24.42	22.49	44.82	40.20	0.55	0.90
<i>P. (P.) chindeensis</i> Form B (28 specimens)							
Range	39.52 - 65.21	18.47 - 29.39	17.33 - 27.21	32.58 - 56.51	28.63 - 49.18	0.50 - 0.57	0.83 - 0.91
Mean	52.44	24.31	22.44	44.78	39.05	0.54	0.87

Table 2. Morphometric parameters including SL, MD, H, AH, HMD, RD and PMD for the adult specimens of *P. (P.) nemo* n. sp., *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.

The most significant parameter is the shell ratio factor, *P. (P.) nemo* n. sp. has a mean of 1.80, *P. (P.) chindeensis* Form A, a mean of 1.97, and *P.*

(P.) chindeensis Form B, a mean of 1.88 (Table 3).

	Spire Height (SH) - mm	Relative Spire height (RSH)	Weight (W) - g	Relative shell weight 'length' (RW)	Estimated 'model' volume (V)	relative shell weight 'volume' (RW')	Spire % of length (SP)	Shell ratio factor (SR)
<i>P. (P.) nemo n. sp. (25 specimens)</i>								
Range	6.82 - 9.62	0.13 - 0.20	5.60 - 22.75	0.14 - 0.36	12.62 - 50.74	0.39 - 0.50	13.15 - 19.60	1.71 - 1.89
Mean	8.30	0.16	13.94	0.26	31.86	0.44	15.82	1.80
<i>P. (P.) chindeensis Form A (30 specimens)</i>								
Range	5.54 - 11.05	0.10 - 0.20	5.27 - 23.63	0.14 - 0.34	11.13 - 63.98	0.37 - 0.47	10.11 - 20.40	1.82 - 2.13
Mean	8.76	0.16	12.54	0.23	30.98	0.41	16.47	1.97
<i>P. (P.) chindeensis Form B (28 specimens)</i>								
Range	4.12 - 10.33	0.10 - 0.21	5.72 - 20.99	0.14 - 0.32	12.65 - 52.15	0.37 - 0.51	10.19 - 21.43	1.72 - 2.06
Mean	7.67	0.15	12.31	0.23	29.77	0.42	14.72	1.88

Table 3. Morphometric and weight parameters including SH, RSH, W, RW, V, RW', SP, and the shell ratio factor for the adult specimens of *P. (P.) nemo n. sp.*, *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.

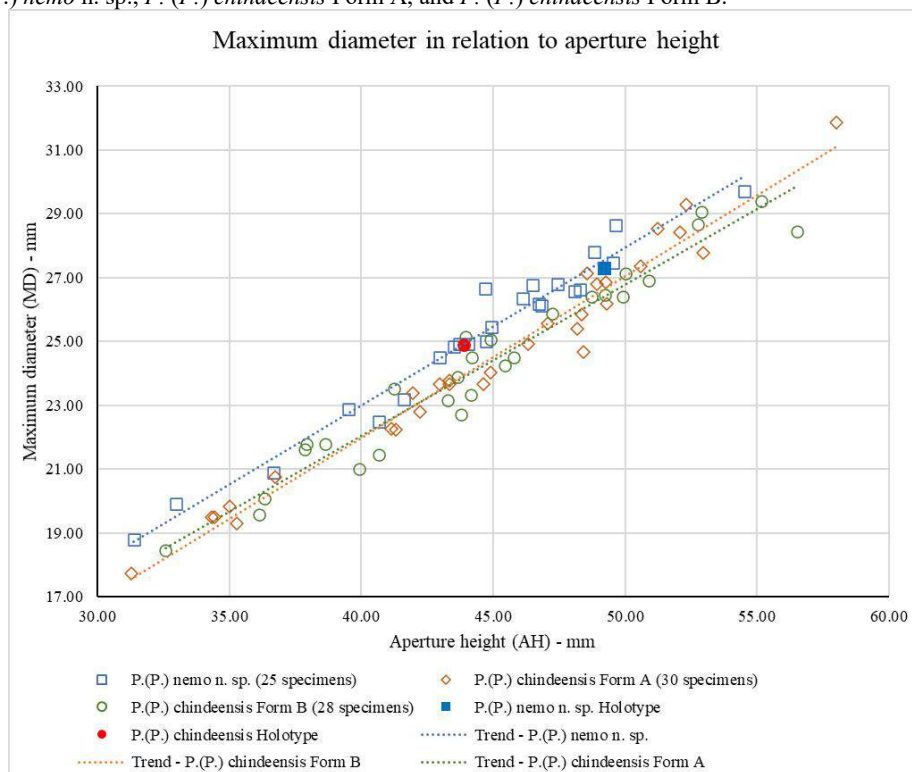


Figure 4. Illustration of the maximum diameter (MD) of the shell in relation to the aperture height (AH) for the adult specimens of *P. (P.) nemo n. sp.*, *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.

The new species has a slightly different trend regarding the maximum diameter in relation to the aperture height (Figure 4), whereas the trend of the two forms *P. (P.) chindeensis* is very similar.

Phasmoconus (P.) nemo n. sp. has a slightly different trend regarding the maximum diameter in relation to the height of maximum diameter (Figure 5), whereas the trend of the two forms *P. (P.) chindeensis* is very similar.

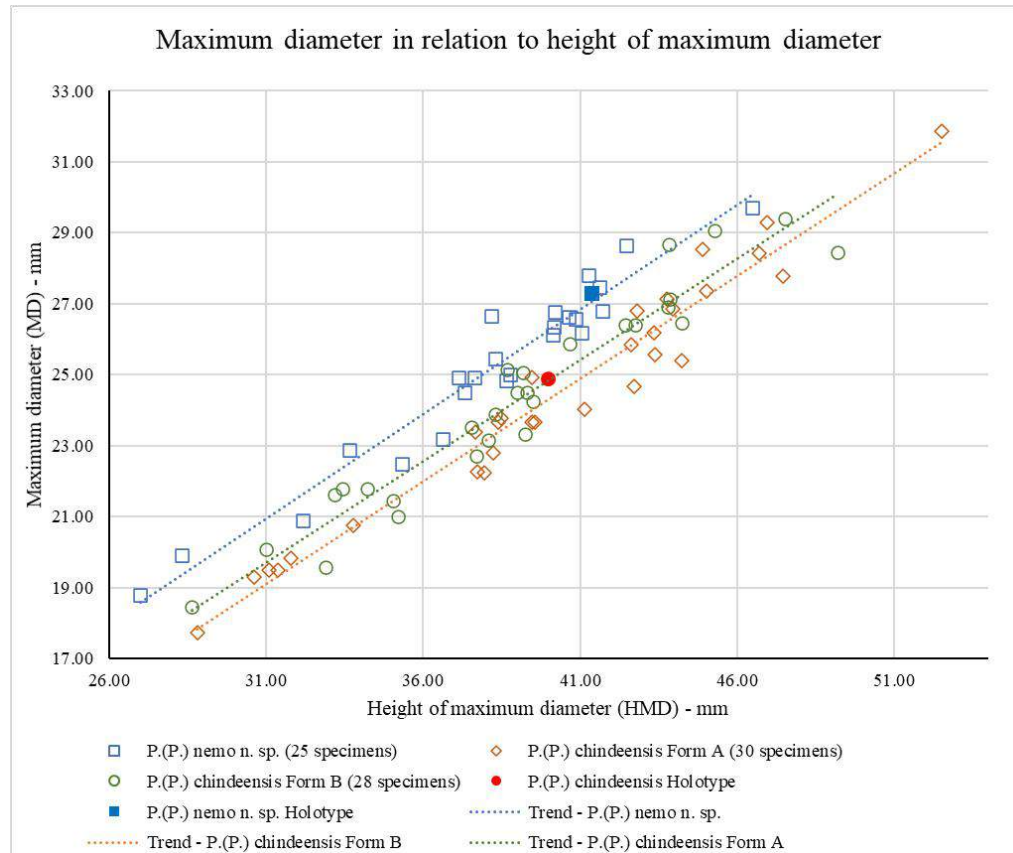


Figure 5. Illustration of the maximum diameter (MD) of the shell in relation to the height of maximum diameter (HMD) for the adult specimens of *P. (P.) nemo* n. sp., *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.

The relative diameter in relation to the relative position of the maximum diameter *P. (P.) nemo* n. sp. fills a different plot area with a very different trend (Figure 6) than that of the two forms of *P. (P.) chindeensis*.

The shell ratio factor in relation to the spire percentage to shell length, the two forms of *P. (P.) chindeensis* have slightly different trends, but their plotting areas overlap over most of the plotting area (Figure 7), with *P. (P.) nemo* n. sp. mostly filling its own plotting space with a very different trend.

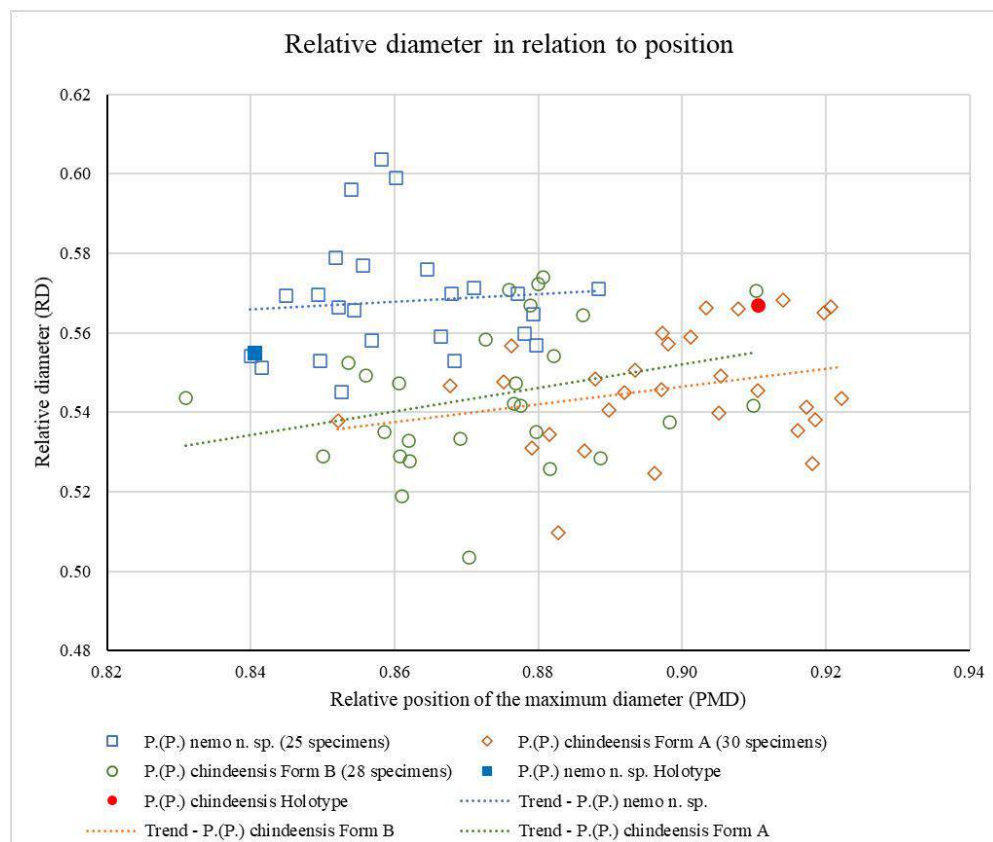


Figure 6. Illustration of the relative diameter (RD) of the shell in relation to the relative position of the maximum diameter (PMD) for the adult specimens of *P. (P.) nemo n. sp.*, *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.

The spiral grooves of each of the *Phasmoconus* species are only slightly different as illustrated in Figures 8-12, concurring with Monnier *et al.* (2021). The spiral grooves of *P. (P.) nemo n. sp.* (Figure 8) comprise of five or six wide grooves from the suture, followed by a prominent ridge, followed by several thinner grooves, followed by a wide ridges before smoothing out to the outer part of the whorl. The spiral grooves *P. (P.) chindeensis* (Figure 9) is confirmed to be as illustrated by Monnier *et al.* (2021), with five or six wide grooves close to the suture, followed by a moderately thin ridge, followed by a few thinner grooves, smoothing out towards the outer part as per Form A (Figure 9), where

Form B (Figure 10) has slightly thinner grooves from the ridge before smoothing out. The spiral grooves of *P. (P.) adenensis* (Figure 11) has three broad grooves from the suture, followed by several moderately wide grooves before smoothing out to the outer part of the whorl. The spiral grooves of *P. (P.) inscriptus* (Figure 12) comprises of four to six moderately wide grooves with the areas in between the grooves having clear thin radial ridges, whereafter smoothing out towards the outer part of the whorl.

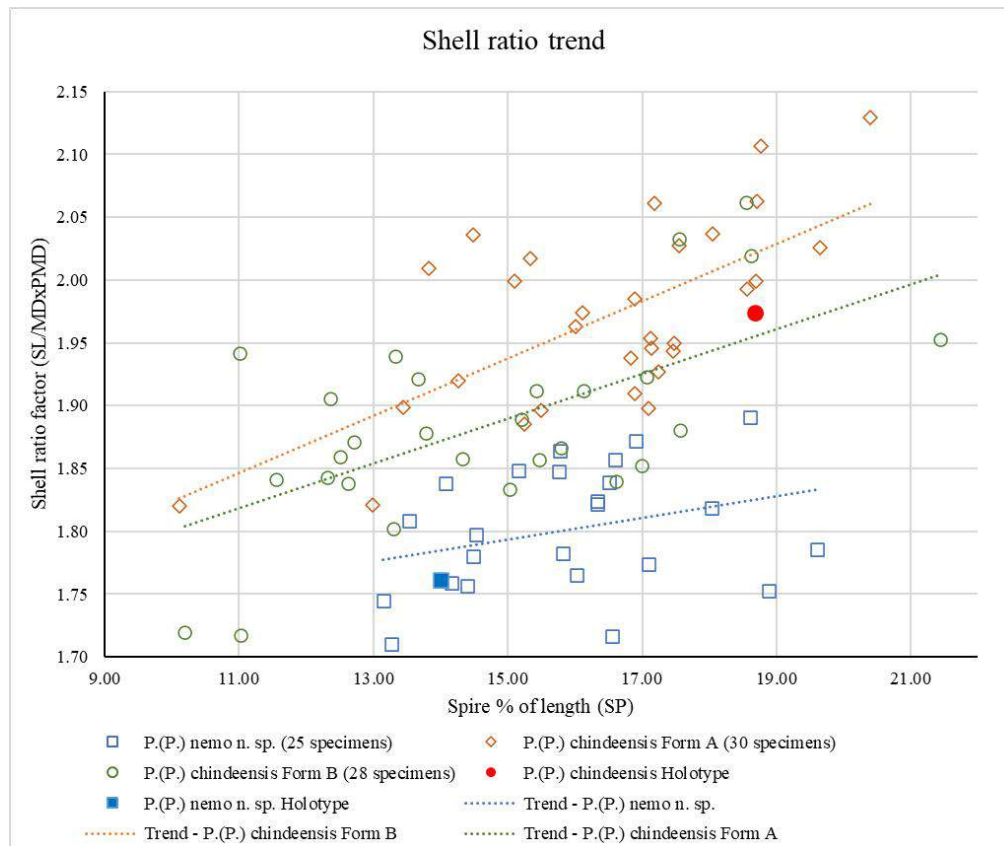


Figure 7. Illustration of the shell ratio factor (SR) of the shell in relation to the spire as a percentage of shell length for the adult specimens of *P. (P.) nemo n. sp.*, *P. (P.) chindeensis* Form A, and *P. (P.) chindeensis* Form B.



Figure 8. Spire closeup of *P. (P.) nemo n. sp.* Holotype to indicate the spiral grooves.



Figure 9. Spire closeup of a representative specimen of *P. (P.) chindeensis* Form A to indicate the spiral grooves.



Figure 10. Spire closeup of a representative specimen of *P. (P.) chindeensis* Form B to indicate the spiral grooves.



Figure 11. Spire closeup of a representative specimen of *P. (P.) adenensis* to indicate the spiral grooves.



Figure 12. Spire closeup of a representative specimen of *P. (P.) inscriptus* to indicate the spiral grooves.



Figure 13. Two young specimens to illustrate the morphological differences. **1.** *P. (P.) nemo* n. sp. Paratype 19 (40.66 x 19.91 mm), southern Mozambique; **2.** *P. (P.) chindeensis* (42.43 x 19.82 mm), Tofo, southern Mozambique.

CONCLUSION

Within a challenging “complex” in the genus *Phasmoconus*, Monnier *et al.* (2021) provides an extensive comparison between several of the species, subspecies and synonymized names. On this background the author studied the species described by Monnier *et al.* (2021) intensively with many shells in-hand, from where two main forms of *P. (P.) chindeensis* are identified and a group of shells different from the rest, now named *P. (P.) nemo* n. sp. Two forms of *P. (P.) chindeensis* are identified, but too few characteristics separate them to confirm it to be different species. *Phasmoconus (P.) nemo* n. sp. is different from the rest having a more rounded shell morphological feature, high spire with a slightly convex shape, broad shoulder in relation to shell length. The aperture is narrow at the posterior side, slightly bend, and flaring out at the anterior sinus. The spiral grooves of the species are different from each other as discussed above. The differences between *P. (P.) chindeensis* and *P. (P.) nemo* n. sp. are especially visible in younger specimens as illustrated in Figure 13.

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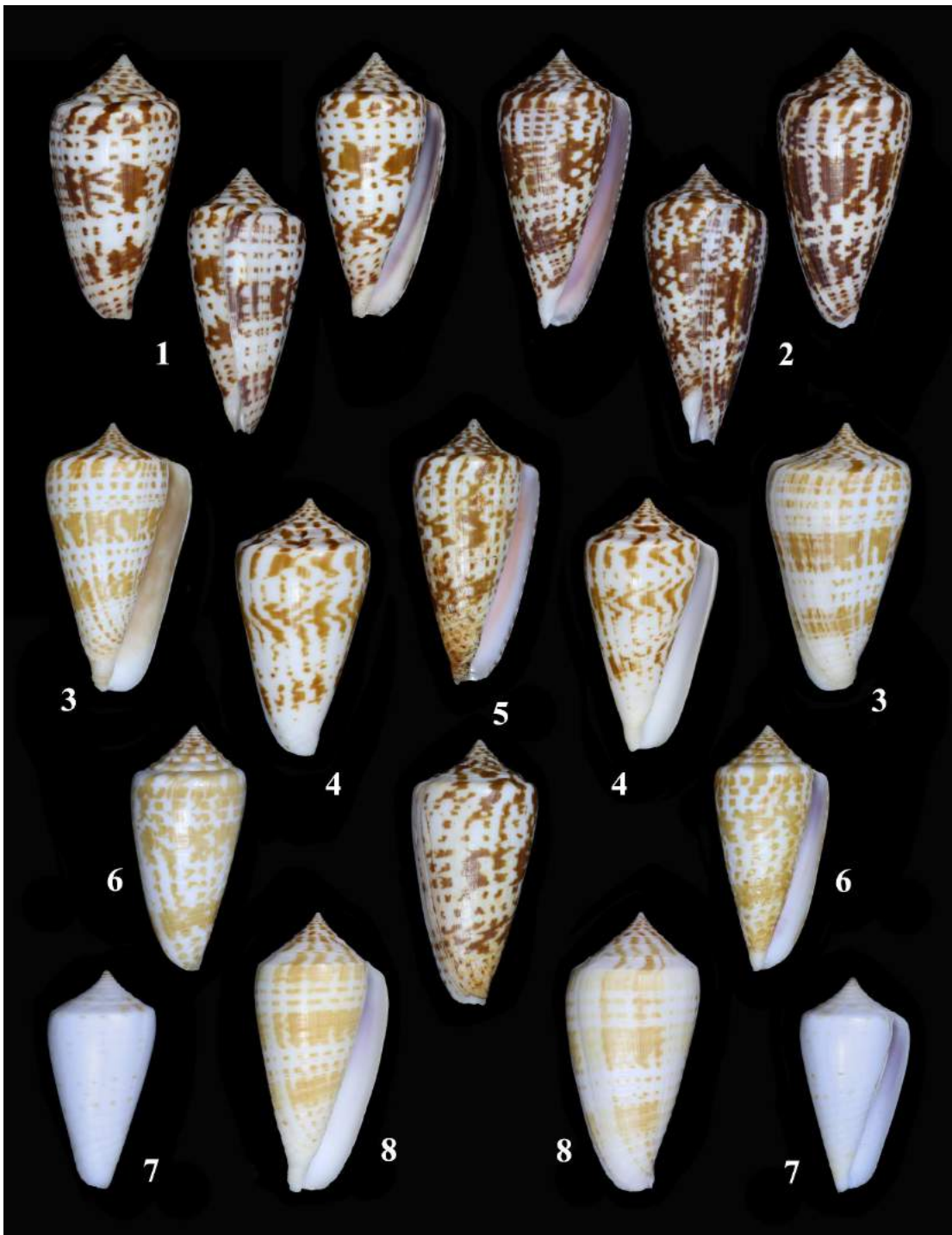


Figure 14. 1. *Phasmoconus (P.) nemo* n. sp. Holotype: 57.21 x 27.30 mm; Trawled off Beira, Mozambique; NMSA: P1950/T4528. 2. *P. (P.) chindeensis* Form A 60.16 x 28.42 mm; Trawled off northern KwaZulu-Natal, South Africa; Veldsman Coll. 3. *P. (P.) inscriptus* 57.66 x 30.99 mm; Dredged 10 m Chennai, India; Veldsman Coll. 4. *P. (P.) inscriptus kaetiformis* 55.08 x 28.52 mm; Dredged 10 m Chennai, India; Veldsman Coll. 5. *P. (P.) chindeensis* Form B 57.12 x 26.41 mm; Trawled off Beira, Mozambique; Veldsman Coll. 6. *P. (P.) adenensis* 52.87 x 24.51 mm; off northern Somalia; Veldsman Coll. 7. *P. (P.) inscriptus cuneiformis* 47.01 x 23.64 mm; Trawled 20-30 m Keelakarai, India; Veldsman Coll. 8. *P. (P.) maculospira* 60.00 x 28.31 mm; Trawled off Phuket Island, Thailand; Veldsman Coll.

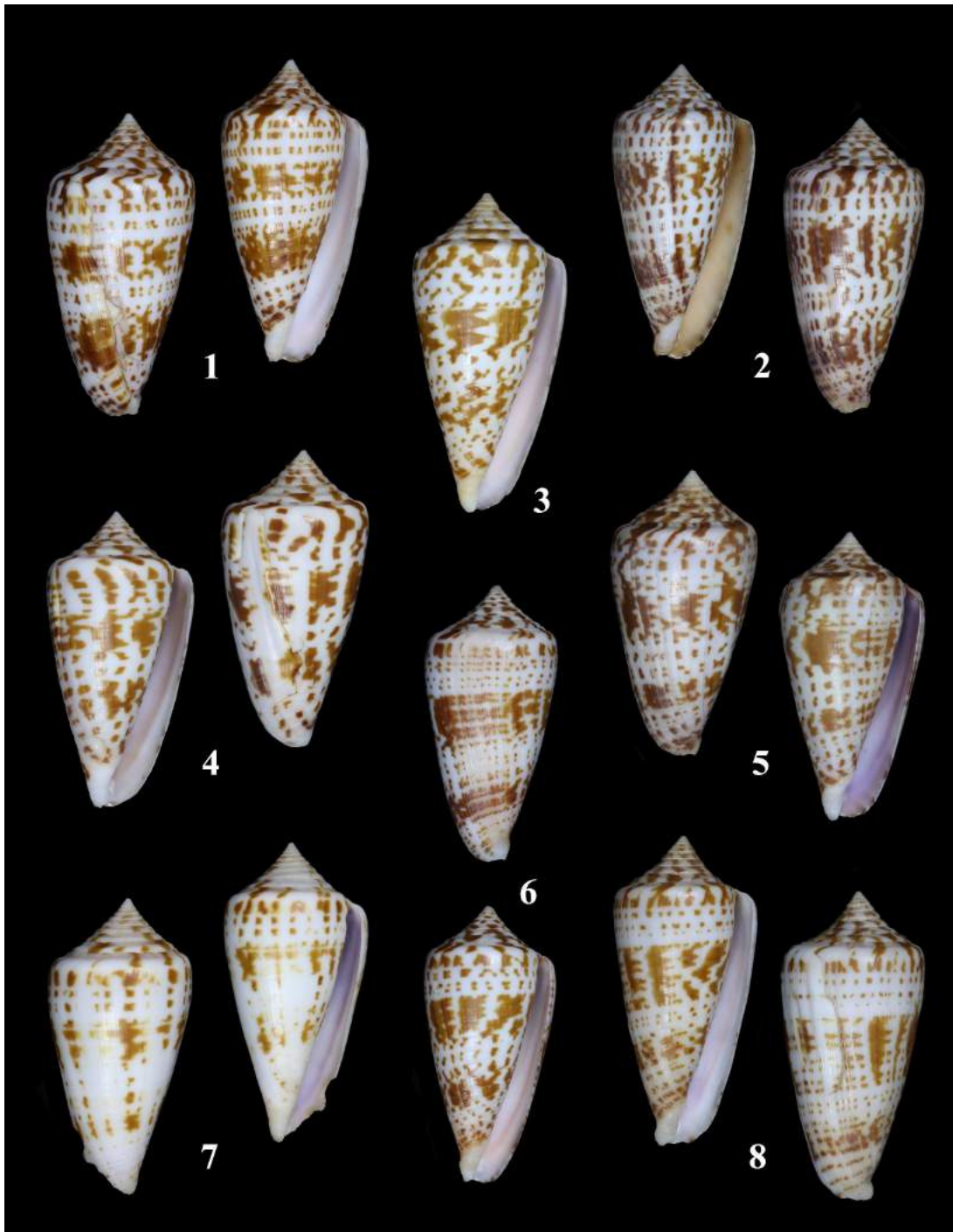


Figure 15. 1. *Phasmoconus (P.) nemo* n. sp. Paratype 1: 56.30 x 26.79 mm; Trawled off Beira, Mozambique; Veldsman Coll. 2. *P. (P.) nemo* n. sp. Paratype 2: 55.09 x 26.17 mm; Trawled off Beira, Mozambique; Veldsman Coll. 3. *P. (P.) nemo* n. sp. Paratype 5: 59.11 x 28.65 mm; Trawled off northern KwaZulu-Natal, South Africa; Veldsman Coll. 4. *P. (P.) nemo* n. sp. Paratype 3: 55.21 x 26.78 mm; Trawled off Beira, Mozambique; Veldsman Coll. 5. *P. (P.) nemo* n. sp. Paratype 4: 53.57 x 26.65 mm; Trawled off Beira, Mozambique; Veldsman Coll. 6. *P. (P.) nemo* n. sp. Paratype 16: 51.33 x 24.93 mm; Trawled off Beira, Mozambique; Veldsman Coll. 7. *P. (P.) nemo* n. sp. Paratype 6: 55.12 x 26.35 mm; Trawled off Beira, Mozambique; Veldsman Coll. 8. *P. (P.) nemo* n. sp. Paratype 10: 57.73 x 26.63 mm; Trawled off Beira, Mozambique; Veldsman Coll.

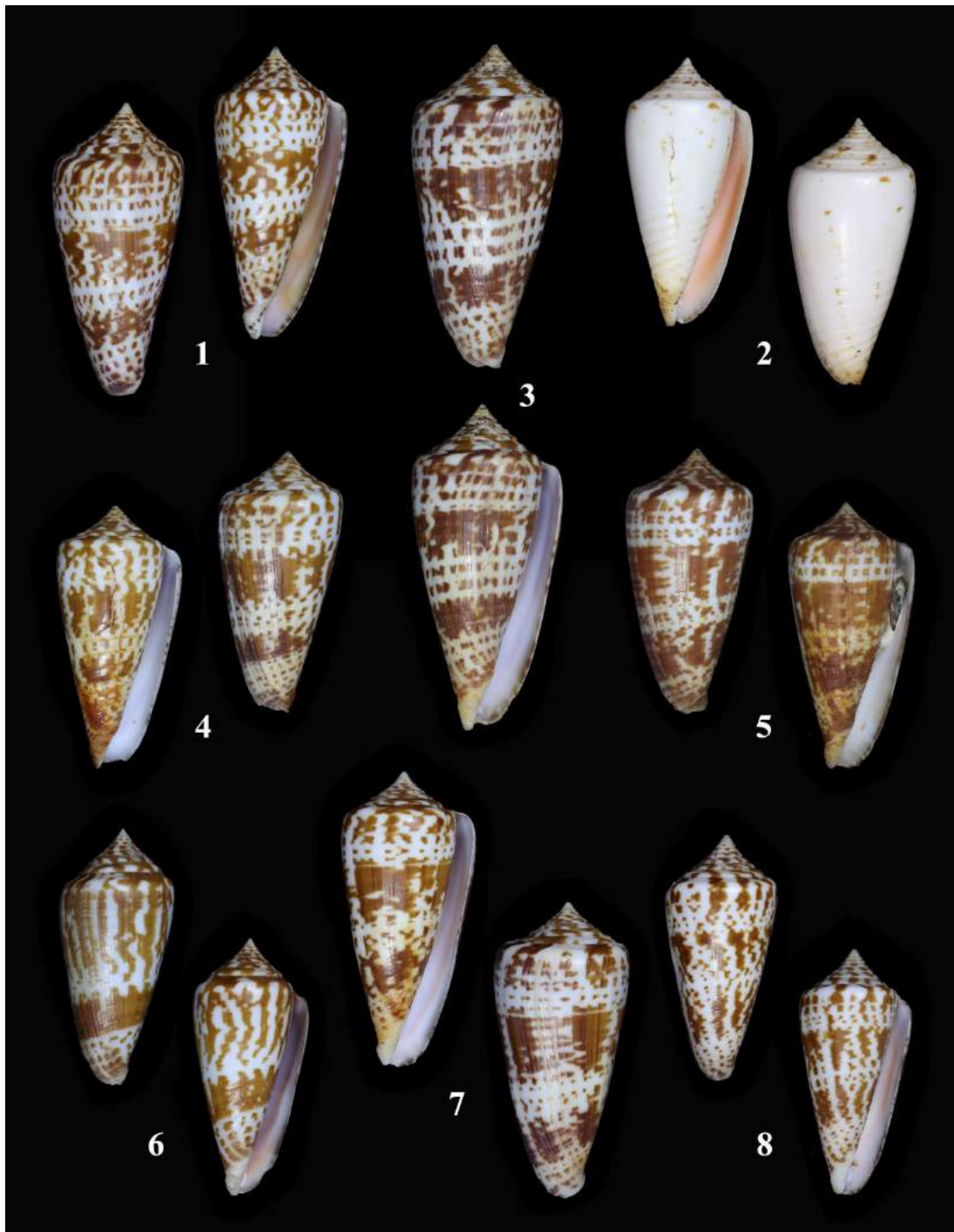


Figure 16. 1. *Phasmoconus (P.) chindeensis* Form A 62.56 x 27.79 mm; Trawled southern Mozambique; Veldsman Coll. 2. *P. (P.) chindeensis* Form A 57.72 x 26.79 mm; Trawled northern KwaZulu-Natal, South Africa; Veldsman Coll. 3. *P. (P.) chindeensis* Form A 69.05 x 31.85 mm; Trawled off Beira, Mozambique; Veldsman Coll. 4. *P. (P.) chindeensis* Form B 56.51 x 26.40 mm; Trawled off Quissico, Mozambique; Veldsman Coll. 5. *P. (P.) chindeensis* Form B 57.04 x 27.13 mm; Trawled northern KwaZulu-Natal, South Africa; Veldsman Coll. 6. *P. (P.) chindeensis* Form A 55.28 x 24.04 mm; Trawled southern Mozambique; Veldsman Coll. 7. *P. (P.) chindeensis* Form B 63.50 x 28.46 mm; Trawled off Quissico, Mozambique; Veldsman Coll. 8. *P. (P.) chindeensis* Form B 52.96 x 25.16 mm; Trawled southern Mozambique; Veldsman Coll.

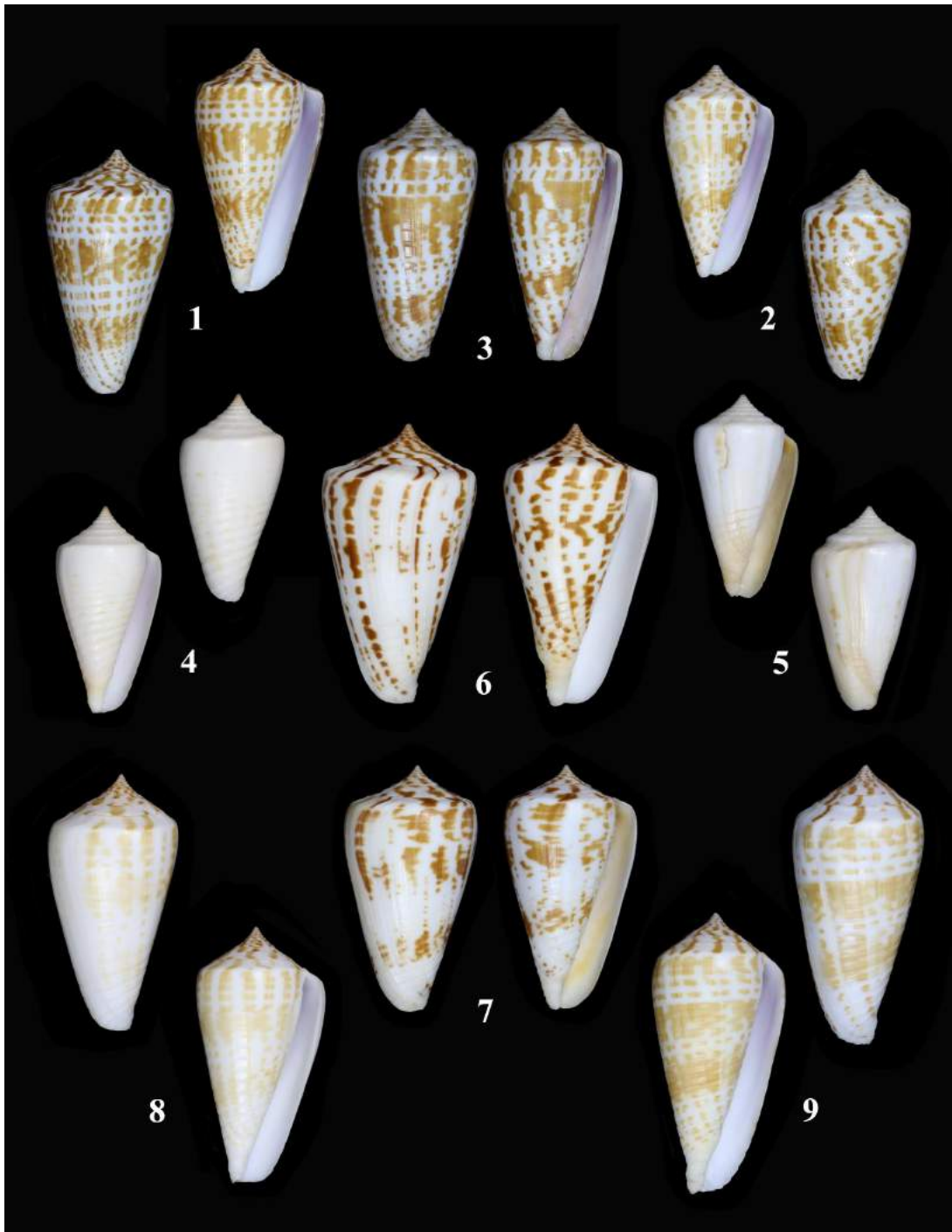


Figure 17. 1. *Phasmoconus (P.) inscriptus* 51.90 x 27.34 mm; Trawled India; A.Groenewald Coll. 2. *P. (P.) inscriptus* 45.24 x 23.06 mm; Trawled India; A.Groenewald Coll. 3. *P. (P.) adenensis* 53.31 x 25.06 mm; off northern Somalia; Veldsman Coll. 4. *P. (P.) inscriptus cuneiformis* 44.00 x 22.02 mm; Trawled 20-30 m Keelakarai, India; Veldsman Coll. 5. *P. (P.) inscriptus cuneiformis* 42.94 x 22.17 mm; Trawled 20-30 m Keelakarai, India; Veldsman Coll. 6. *P. (P.) inscriptus kaetiformis* 59.32 x 32.13 mm; Dredged 10 m Chennai, India; Veldsman Coll. 7. *P. (P.) inscriptus kaetiformis* 51.81 x 27.53 mm; Dredged 10 m Chennai, India; Veldsman Coll. 8. *P. (P.) maculospira* 54.33 x 27.16 mm; Trawled off Nicobar Island; Veldsman Coll. 9. *P. (P.) maculospira* 59.4 x 27.99 mm; Trawled off Phuket Island, Thailand; Veldsman Coll.

Annexure A – Full data tables of the specimens measured for the study

ID	Max length (SL)	Max diameter (MD)	Height (H)	Aperture Height (AH)	Height of max. diameter (HMD)	Relative Diameter (RD)	Relative position of the max diameter (PMD)	Spiral Height (SH)	Relative Spire height (RSH)	Weight (g)	relative shell weight 'length' (RW)	Estimated 'model' volume (V)	relative shell weight 'volume' (RW')	Spire % of length (SP)	Shell ratio factor (SL/MDxPMD)
<i>P. (P.) nemo n. sp. (25 specimens)</i>															
<i>P. (P.) nemo</i> Holotype	57.21	27.30	25.10	49.20	41.35	0.55	0.84	8.01	0.14	17.15	0.30	39.20	0.44	14.00	1.76
<i>P. (P.) nemo</i> Paratype 1	56.30	26.79	24.83	47.43	41.70	0.56	0.88	8.87	0.16	17.41	0.31	37.45	0.46	15.75	1.85
<i>P. (P.) nemo</i> Paratype 2	55.09	26.17	23.62	46.74	41.04	0.56	0.88	8.35	0.15	16.88	0.31	34.05	0.50	15.16	1.85
<i>P. (P.) nemo</i> Paratype 3	55.21	26.78	24.46	46.48	40.18	0.58	0.86	8.73	0.16	15.52	0.28	36.16	0.43	15.81	1.78
<i>P. (P.) nemo</i> Paratype 4	53.57	26.65	24.64	44.70	38.17	0.60	0.85	8.87	0.17	14.82	0.28	35.18	0.42	16.56	1.72
<i>P. (P.) nemo</i> Paratype 5	59.11	28.65	26.53	49.64	42.47	0.58	0.86	9.47	0.16	17.42	0.29	44.93	0.39	16.02	1.77
<i>P. (P.) nemo</i> Paratype 6	55.12	26.35	24.33	46.12	40.17	0.57	0.87	9.00	0.16	15.53	0.28	35.34	0.44	16.33	1.82
<i>P. (P.) nemo</i> Paratype 7	63.04	29.72	27.08	54.51	46.47	0.55	0.85	8.53	0.14	22.75	0.36	50.74	0.45	13.53	1.81
<i>P. (P.) nemo</i> Paratype 8	56.24	26.58	24.57	48.07	40.84	0.55	0.85	8.17	0.15	15.19	0.27	36.73	0.41	14.53	1.80
<i>P. (P.) nemo</i> Paratype 9	57.04	27.46	25.47	49.54	41.61	0.55	0.84	7.50	0.13	17.12	0.30	39.89	0.43	13.15	1.74
<i>P. (P.) nemo</i> Paratype 10	57.73	26.63	24.06	48.30	40.64	0.55	0.84	9.43	0.16	16.28	0.28	36.99	0.44	16.33	1.82
<i>P. (P.) nemo</i> Paratype 11	48.45	23.19	20.92	41.63	36.62	0.56	0.88	6.82	0.14	9.97	0.21	23.50	0.42	14.08	1.84
<i>P. (P.) nemo</i> Paratype 12	56.10	26.14	23.94	46.84	40.13	0.56	0.86	9.26	0.17	15.78	0.28	35.11	0.45	16.51	1.84
<i>P. (P.) nemo</i> Paratype 13	52.47	25.45	23.28	44.92	38.28	0.57	0.85	7.55	0.14	13.20	0.25	31.09	0.42	14.39	1.76
<i>P. (P.) nemo</i> Paratype 14	53.34	24.91	22.95	43.72	37.13	0.57	0.85	9.62	0.18	12.51	0.23	30.49	0.41	18.04	1.82
<i>P. (P.) nemo</i> Paratype 15	52.36	24.85	23.34	43.51	38.65	0.57	0.89	8.85	0.17	13.00	0.25	30.37	0.43	16.90	1.87
<i>P. (P.) nemo</i> Paratype 16	51.33	24.93	22.65	44.06	37.64	0.57	0.85	7.27	0.14	14.58	0.28	28.98	0.50	14.16	1.76
<i>P. (P.) nemo</i> Paratype 17	56.30	27.81	25.56	48.83	41.25	0.57	0.84	7.47	0.13	18.10	0.32	40.02	0.45	13.27	1.71
<i>P. (P.) nemo</i> Paratype 18	53.64	25.02	22.96	44.74	38.76	0.56	0.87	8.90	0.17	13.57	0.25	30.81	0.44	16.59	1.86
<i>P. (P.) nemo</i> Paratype 19	40.66	19.91	18.23	32.98	28.30	0.60	0.86	7.68	0.19	6.44	0.16	14.76	0.44	18.89	1.75
<i>P. (P.) nemo</i> Paratype 20	47.66	22.88	21.16	39.51	33.65	0.58	0.85	8.15	0.17	10.45	0.22	23.07	0.45	17.10	1.77
<i>P. (P.) nemo</i> Paratype 21	45.05	20.90	19.40	36.67	32.16	0.57	0.88	8.38	0.19	7.76	0.17	18.27	0.42	18.60	1.89
<i>P. (P.) nemo</i> Paratype 22	48.30	22.50	21.36	40.68	35.32	0.55	0.87	7.62	0.16	9.41	0.19	23.21	0.41	15.78	1.86
<i>P. (P.) nemo</i> Paratype 23	39.03	18.80	17.20	31.38	26.99	0.60	0.86	7.65	0.20	5.60	0.14	12.62	0.44	19.60	1.79
<i>P. (P.) nemo</i> Paratype 24	50.26	24.50	22.38	42.98	37.30	0.57	0.87	7.28	0.14	12.13	0.24	27.56	0.44	14.48	1.78
<i>P. (P.) chindeensis</i> Form A (30 specimens)															
N17	54.80	26.85	24.77	49.26	43.94	0.55	0.89	5.54	0.10	14.77	0.27	36.45	0.41	10.11	1.82
N100	53.23	24.91	22.74	46.32	39.47	0.54	0.85	6.91	0.13	12.99	0.24	30.15	0.43	12.98	1.82
N15	57.72	26.79	24.60	48.92	42.81	0.55	0.88	8.80	0.15	13.98	0.24	38.04	0.37	15.25	1.89
N74	61.91	29.29	26.88	52.32	46.94	0.56	0.90	9.59	0.15	18.36	0.30	48.74	0.38	15.49	1.90
N11	61.80	28.53	26.36	51.24	44.90	0.56	0.88	10.56	0.17	18.40	0.30	46.48	0.40	17.09	1.90
N59	60.16	28.42	26.09	52.07	46.71	0.55	0.90	8.09	0.13	16.60	0.28	44.61	0.37	13.45	1.90
N35	42.46	19.29	17.85	35.29	30.62	0.55	0.87	7.17	0.17	6.33	0.15	14.62	0.43	16.89	1.91
N106	59.02	27.35	25.18	50.60	45.02	0.54	0.89	8.42	0.14	16.59	0.28	40.65	0.41	14.27	1.92
N48	41.60	19.50	18.09	34.43	31.10	0.57	0.90	7.17	0.17	6.85	0.16	14.67	0.47	17.24	1.93

N27	50.44	23.37	21.62	41.95	37.67	0.56	0.90	8.49	0.17	11.52	0.23	25.49	0.45	16.83	1.94
N21	42.43	19.82	18.50	35.02	31.79	0.57	0.91	7.41	0.17	7.16	0.17	15.56	0.46	17.46	1.94
N34	58.60	27.14	24.60	48.56	43.76	0.56	0.90	10.04	0.17	15.75	0.27	39.12	0.40	17.13	1.95
N52	41.59	19.50	18.13	34.32	31.37	0.57	0.91	7.27	0.17	6.63	0.16	14.70	0.45	17.48	1.95
N33	52.31	23.77	21.94	43.35	38.49	0.55	0.89	8.96	0.17	10.43	0.20	27.28	0.38	17.13	1.95
N09	69.05	31.85	29.09	58.00	52.51	0.55	0.91	11.05	0.16	23.63	0.34	63.98	0.37	16.00	1.96
N28	58.78	26.18	24.28	49.31	43.35	0.53	0.88	9.47	0.16	15.28	0.26	37.36	0.41	16.11	1.97
N36	58.18	25.84	24.24	48.35	42.62	0.53	0.88	9.83	0.17	14.25	0.24	36.44	0.39	16.90	1.98
N39	52.75	23.65	21.89	42.96	38.38	0.55	0.89	9.79	0.19	11.91	0.23	27.31	0.44	18.56	1.99
N102	55.42	25.57	23.13	47.05	43.39	0.54	0.92	8.37	0.15	13.89	0.25	32.78	0.42	15.10	2.00
N50	38.47	17.72	16.32	31.28	28.80	0.57	0.92	7.19	0.19	5.27	0.14	11.13	0.47	18.69	2.00
N07	56.18	24.68	22.38	48.41	42.73	0.51	0.88	7.77	0.14	12.43	0.22	31.03	0.40	13.83	2.01
N13	62.56	27.79	26.04	52.97	47.47	0.52	0.90	9.59	0.15	16.74	0.27	45.27	0.37	15.33	2.02
N71	45.71	20.75	18.85	36.73	33.78	0.56	0.92	8.98	0.20	7.12	0.16	17.88	0.40	19.65	2.03
N38	54.14	23.67	21.88	44.64	39.57	0.53	0.89	9.50	0.18	10.97	0.20	28.04	0.39	17.55	2.03
N19	56.34	25.40	24.04	48.18	44.23	0.53	0.92	8.16	0.14	15.31	0.27	34.40	0.45	14.48	2.04
N02	52.90	23.65	21.27	43.35	39.47	0.55	0.91	9.55	0.18	11.67	0.22	26.61	0.44	18.05	2.04
N70	49.88	22.23	20.68	41.31	37.94	0.54	0.92	8.57	0.17	9.51	0.19	22.93	0.41	17.18	2.06
N05	51.96	22.80	20.29	42.24	38.23	0.54	0.91	9.72	0.19	9.81	0.19	24.04	0.41	18.71	2.06
N04	55.28	24.04	22.75	44.91	41.14	0.54	0.92	10.37	0.19	12.78	0.23	30.23	0.42	18.76	2.11
N12	51.67	22.26	20.27	41.13	37.73	0.54	0.92	10.54	0.20	9.12	0.18	23.31	0.39	20.40	2.13
<i>P. (P.) chindeensis</i> Form B (28 specimens)															
N63	59.27	28.67	26.27	52.74	43.82	0.54	0.83	6.53	0.11	17.14	0.29	44.64	0.38	11.02	1.72
N22	40.44	20.07	19.11	36.32	31.00	0.55	0.85	4.12	0.10	7.92	0.20	15.51	0.51	10.19	1.72
N61	51.77	25.07	23.45	44.89	39.17	0.56	0.87	6.88	0.13	12.94	0.25	30.44	0.43	13.29	1.80
N103	62.25	29.06	26.44	52.90	45.28	0.55	0.86	9.35	0.15	17.75	0.29	47.83	0.37	15.02	1.83
N57	57.12	26.41	24.74	49.91	42.42	0.53	0.85	7.21	0.13	16.01	0.28	37.32	0.43	12.62	1.84
N20	45.50	21.78	19.95	37.94	33.41	0.57	0.88	7.56	0.17	8.22	0.18	19.77	0.42	16.62	1.84
N41	51.37	24.24	22.13	45.44	39.49	0.53	0.87	5.93	0.12	12.51	0.24	27.56	0.45	11.54	1.84
N30	57.04	27.13	24.59	50.02	43.84	0.54	0.88	7.02	0.12	16.25	0.28	38.05	0.43	12.31	1.84
N112	52.96	25.16	22.47	43.96	38.68	0.57	0.88	9.00	0.17	12.18	0.23	29.94	0.41	16.99	1.85
N47	45.69	21.80	19.96	38.62	34.22	0.56	0.89	7.07	0.15	8.71	0.19	19.88	0.44	15.47	1.86
N08	51.58	24.49	22.54	44.19	38.98	0.55	0.88	7.39	0.14	12.00	0.23	28.47	0.42	14.33	1.86
N32	58.15	26.92	25.22	50.88	43.79	0.53	0.86	7.27	0.13	16.54	0.28	39.48	0.42	12.50	1.86
N65	56.11	25.87	23.63	47.25	40.66	0.55	0.86	8.86	0.16	13.10	0.23	34.30	0.38	15.79	1.87
N26	46.58	21.46	19.92	40.66	35.05	0.53	0.86	5.92	0.13	8.69	0.19	19.91	0.44	12.71	1.87
N14	56.51	26.40	24.25	48.72	42.75	0.54	0.88	7.79	0.14	13.92	0.25	36.18	0.38	13.79	1.88
N46	39.52	18.47	17.33	32.58	28.63	0.57	0.88	6.94	0.18	5.72	0.14	12.65	0.45	17.56	1.88
N53	51.49	23.90	22.00	43.66	38.28	0.55	0.88	7.83	0.15	11.28	0.22	27.07	0.42	15.21	1.89
N69	56.17	26.47	23.56	49.23	44.22	0.54	0.90	6.94	0.12	14.12	0.25	35.03	0.40	12.36	1.91
N101	54.59	24.51	22.73	45.79	39.31	0.54	0.86	8.80	0.16	12.64	0.23	30.41	0.42	16.12	1.91
N62	65.21	29.39	27.21	55.15	47.53	0.53	0.86	10.06	0.15	20.99	0.32	52.15	0.40	15.43	1.91
N18	50.71	22.72	21.34	43.78	37.69	0.52	0.86	6.93	0.14	10.68	0.21	24.59	0.43	13.67	1.92
N10	49.71	23.53	21.81	41.23	37.53	0.57	0.91	8.48	0.17	11.31	0.23	25.51	0.44	17.06	1.92

N110	50.94	23.34	21.46	44.15	39.23	0.53	0.89	6.79	0.13	10.22	0.20	25.51	0.40	13.33	1.94
N58	63.50	28.46	26.72	56.51	49.18	0.50	0.87	6.99	0.11	18.79	0.30	48.29	0.39	11.01	1.94
N51	48.20	21.62	20.17	37.87	33.17	0.57	0.88	10.33	0.21	8.77	0.18	21.02	0.42	21.43	1.95
N01	53.17	23.16	21.20	43.27	38.06	0.54	0.88	9.90	0.19	10.46	0.20	26.11	0.40	18.62	2.02
N03	48.43	21.00	19.36	39.93	35.20	0.53	0.88	8.50	0.18	8.29	0.17	19.69	0.42	17.55	2.03
N31	44.37	19.58	18.63	36.14	32.88	0.54	0.91	8.23	0.19	7.53	0.17	16.19	0.47	18.55	2.06

Clearing up an Observation Regarding a Predacious Snail – Frog Interaction in Cuba

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The senior author here clarifies a slight miscommunication with the second author, who took the pictures of the snail *Oleacina cyanozoaria* feeding on a *Eleutherodactylus* species frog. It seems that Tomás Michel, a member of the field trip where he was in 2013, found the frog in the same spot where the snail was and put the stressed amphibian on its path. However, this event still reflects a potential for opportunistic predatory behavior. The investigational scenario was in fact set in situ with endemic animals of the region, and the *Oleacina* snail indeed fed on the frog and didn't reject it, suggesting that these carnivorous snails could kill those small frogs if given the chance. We won't discard the idea that these tiny frogs could be in the diet of this aggressive species. We can attest that of all the predatory snails of the island nothing compares in voraciousness with *Oleacina cyanozoaria*. The photos of the paper where the frog is being eaten speak by themselves. A recent report of carnivorous *Ariophanta* and *Macrochlamys* snails eating skins of dead frogs in India (Yadav *et al.*, 2021) show scavenging on dead vertebrates, but our paper shows for the first time the feeding on an alive vertebrate by a terrestrial snail. As we said in our paper, little is known about *Oleacina* species feeding habits, and this paper helps to ascertain its feeding habits.

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