



TWO NEW RECORDS OF THE GENUS *POLINICES* AND ONE OF THE *NATICA* (NATICIDAE: GASTROPODA: MOLLUSCA) FROM INDIA

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INTRODUCTION

The Naticidae is a cosmopolitan family of sand-dwellers Mesogastropods under the Phylum Mollusca. This family is well represented and morphologically homogenous group of marine gastropods, living in habitats from the intertidal zone to deep sea.

The work of Indian naticids very scarce and so far from the available literature and reports of the faunistic surveys the first collection of Indian Naticids started through Investigator I (1908-1911) and Investigator II (1908-1911 & 1921-1926). Among the important earlier workers, Comber (1906) listed 7 species from Bombay coast; Crichton (1940) recorded 4 species, Gravely (1942) reported 17 species of Naticids from the Madras coast; Hornell (1951) recorded 7 species from the coast of Bombay; Satyamurti (1952) reported 12 species from Krusadai Island; Menon *et al.*, (1961) listed 4 species from Gulf of Kutch; Subramuniam *et al.*, (1952) reported 12 species of Naticids from Bombay Coast. Mookherjee (1985) reported 24 species of Naticids along with the other mesogastropods from Coromandal Coast. Tikadar *et al.*, (1986) recorded 10 species from the Andaman and Nicobar Islands. Pinn (1990) reported 14 species from the coast of Puducherry. Subba Rao (1990) reported 15 species of naticids from the coast of Odisha. Subba Rao and Surya Rao (1991) recorded 7 species of Naticids from Lakshadweep. Subba Rao *et al.*, (1992) recorded 8 species of naticids from West

Bengal. Apte (1998) recorded 12 species of *Natica* from Indian coast. Subba Rao and Dey (2000) catalogued 24 species from Andaman and Nicobar Islands. Subba Rao (2003) reported about 23 species under 5 genera in his book Indian Sea Shell (Part-I). Venkataraman *et al.*, (2005) listed 37 species of Naticids from Gulf of Kutch, Gulf of Manner, Lakshadweep and Andaman and Nicobar Islands. Subba Rao *et. al.*, (2005) listed 3 species from Gulf of Kachchh, Ramakrishna *et.al.*, (2007) recorded 9 from Andhra Pradesh. Surya Rao and Sastry (2008) listed 5 species from Gujarat. During our recent works of Indian Naticids the authors came across of three species of naticids brought by the different survey parties from Tamil Nadu and Andhra Pradesh which are new record from India.

The classification adopted here Vaught (1989)

Class GASTROPODA
Subclass PROSOBRANCHIA
Order MESOGASTROPODA
Superfamily NATICOIDEA
Family NATICIDAE

Genus *Polinices* Montfort, 1810
Polinices (Lunatia) catena (de Costa)
Subgenus *Lunatia* Gray, 1847

Common Name: Necklace Moon
Fig. 1-3

1778. *Euspira catena* de Costa, *Historia Naturalis Testaceorum Britanniae*, 12:254, pl17.

1983. *Polinices catena* : Abbott and Dance, *Compendium of Seashell* 411, p 105.

Material Examined: Andhra Pradesh: (i) 1 ex., Surya Lanka beach, near Kakinada, Coll. S. Barua and party, 2.i.2002.

Measurement: (in mm)

Length	Width	Height
27.50	24.50	19.10

Diagnosis: Shell moderate in size, spire moderately elevated, suture deep, subsutural area with low concavity, penultimate whorl is 5, sculptures with very faint axial growth striae; aperture semi-ovate, parietal callus prominent and anterior of its partly folded over the umbilicus; umbilicus grooves deep and slender. Shell without operculum.

Light brownish or purplish brown in colour.

Remark: A rare species recorded from Surya Lanka beach, near Kakinada, Andhra Pradesh is a new record from India. Earlier recorded from N.W. Europe; Mediterranean Sea. It is commonly found in sand in shallow water.

Sub Genus *Mammilla* Schumacher, 1817

Polinices (Mammilla) fibrosa (Gray)

Common Name: **Breast-Shaped Moon**

Fig. 4-5

1850. *Polinices (Mammilla) fibrosa* Gray, *Eydoux*, 82 pl. 122 fig. 4.

1972. *Polinices (Mammilla) fibrosa* Cernohorsky, *Marine Shells of the Pacific*, 101, pl. 27, fig. 3.

2000. *Polinices (Mammilla) fibrosa* Kabat, *Zool. Med. Leiden* 73(25), 354, figs 2-3.

Material Examined: Tamil Nadu: 1 ex., Tuticorin fishing harbour, Coll. A. K. Mukhopadhyay and Party, 12.ix.2006, Regd.No.M26185/5.

Measurement: (in mm)

Length	Width	Height of Aperture
21.55	16.80	10.10

Diagnosis: Shell 21.55 mm in length, pyriformly-ovate, light in weight, smooth with a dull surface texture apart from fine axial growth-striae; aperture wide and semi-ovate, outer lip is frequently angulated at the lower third; parietal

callus folded over the umbilicus without completely covering the deep umbilicus groove; nuclear whorls white.

Operculum is corneous and orange brown. Cream in colour ornamented with 3 board dark brown bands. Parietal callus is dark chocolate brown.

Remarks: This species is uncommon and first record from India (Tamil Nadu).

Elsewhere: Indonesia Philippines, and Papua New Guinea, Suva, Fiji and Pago Pago, Samoa. Japan, Australia.

Genus *Natica* Scopoli, 1777

Natica stellata Hedley

Common Name : Starry Moon

Fig. 6

1913. *Natica stellatus* Hedley, *Proc. Linn. Soc.(N.S.W)* 38, 20: 299.

1956. *Natica stellata*: Kaicher, *Indo-Pacific sea-shells*, pl. fig.5.

1961. *Natica stellata*: Ripplingale & Mc Michael, *Great Barrrier reefshells*, p. 92, pl. 11, fig. 16.

1971. *Natica stellata*: Cernohorsky, *Rec. Auckland Inst. Mus.* 8: 176

Material Examined: Tamil Nadu: (i) 2 exs, China mutton fishing harbour near Kanyakumari, Coll. A.K. Mukhopadhyay, 8.ix.2006, Regd.No.M-26149/5.

Measurements: (in mm)

Length	Width	Height of Aperture
31.10	31.65	20.90
28.50	29.10	20.85

Diagnosis: Shell up to 31 mm in length, width of the shell is higher than the length; spire exerted, solid, smooth apart from fine growth striae which is prominent at sutures; aperture semi-ovate, pink parietal callus forms a tongue shaped extension over the umbilicus leaving only a small transverse umbilical opening.

Operculum calcareous with 2-3 marginal ribs. Orange in colour, ornamented with one dark orange central zone and two spiral rows or irregular white blotches.

Remarks: This species is very uncommon and a new record from India: Elsewhere: Indo-Pacific.

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REFERENCES

- Apte, D. 1998. The book of Indian shells, *Bombay Natural History Society*, pp.1-114.
- Comber, E. 1906. A list of marine mollusks in the Bombay Natural History Society's collection, *J. Bombay nat Hist. Soc.*, **17**: 207-215.
- Crichton, M.D. 1940. Marine shells of Madras. *J. Conch. Lond.*, **21**: 193-212.
- Gravely, F.H. 1942. Shells and other animal remains found on the Madras beach (Mollusca: Gastropoda) *Bull. Madras Govt. Mus. New Ser.* **5(2)**: 1-110, 17 text figure.
- Hornell, J. 1951. *Indian Mollusks*. 96 pp. Bombay Natural History Society, Bombay.
- Menon, P.K.B., Dattagupta, A.K. and Das Gupta, D. 1961. On the marine fauna of the Gulf of Kutch. part II. Gastropoda. *J. Bombay nat Hist. Soc.* **58(2)**: 475-494.
- Mookherjee, H.P., 1985. Contribution to the molluscan fauna of India, Part III. Marine molluscs of the Coromandel Coast, Palk strait and Gulf of Mannar- Gastropoda: Mesogastropoda (Pt. 2). *Rec. zool. Surv. India Occ. Paper No.*, **75**: 1-93, 15 pls.
- Pinn, F. 1990. *Sea Snails of Pondicherry*, 116 + 14 pp, 215 figs. Nehru Science Centre, Pondicherry.
- Satyamurti, S. T. 1952. The mollusca of the Krusadai Island (In the Gulf of Manaar). *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, **1(2)** pt. 6: 1-267, pls. 1-34.
- Subba Rao, N.V. and Dey, A. 2000. Catalogue of Marine molluscs of Andaman and Nicobar Islands. *Rec. zool. Surv. India: Occ. Paper No.*, **187**: 1-323.
- Subba Rao, N.V. and Mookherjee, H. P. 2000. On a collection of Mollusca from the Mahanadi Estuary, Orissa. *Recent Research in Estuarine Biology*, ed. By R. Natarajan, Hindustan Publishing Corporation, New Delhi, pp.165-176.
- Subba Rao, N.V. and Sastry, D.R.K. 2005. Fauna of Marine National Park, Gulf of Kachchh (Gujarat): *An overview, Conservation Area Series* **23**: 1-79, Plates I-VIII.
- Subba Rao, N.V. and Surya Rao, K.V. 1991. Mollusca of Lakshadweep. *State Fauna series*, **2: Fauna of Lakshadweep**: 273-362. *Zool. Surv. India*.
- Subba Rao, N.V., Surya Rao, K.V. and Maitra, S. 1990. Marine molluscs of Orissa. *Zool. Surv. India: State Fauna series*, **1: Fauna of Orissa (Part 3)**: 1-175.
- Subba Rao, N.V., Dey, A. and Barua, S. 1992. Estuarine and marine molluscs of West Bengal. *State Fauna series*, **3: Fauna of West Bengal (Part-9)**: 129-268. *Zool. Surv. India*.
- Subba Rao, N.V. 2003. *Indian Sea Shell (Part-I) Polyplacophora and Gastropoda*. Occ. Paper **192** i.-x, 1-146 (Published by The Director, Zoological Survey of India, Kolkata).
- Vaught, K. C. 1989. *A classification of living Mollusca* Edited by T. Abbott and K. J. Boss, *American Malacologists Inc.*, Melbourne, Florida, U.S.A., pp 1-189.
- Venkataraman, K., Jeyabaskaran, R., Raguram, K.P., Alfred, J.R.B., 2004. Bibliography and checklist of Corals and coral Reef Associated Organisms of India, *Rec. zool. Surv. India. Occ. Paper No.* **226**: 1-468.

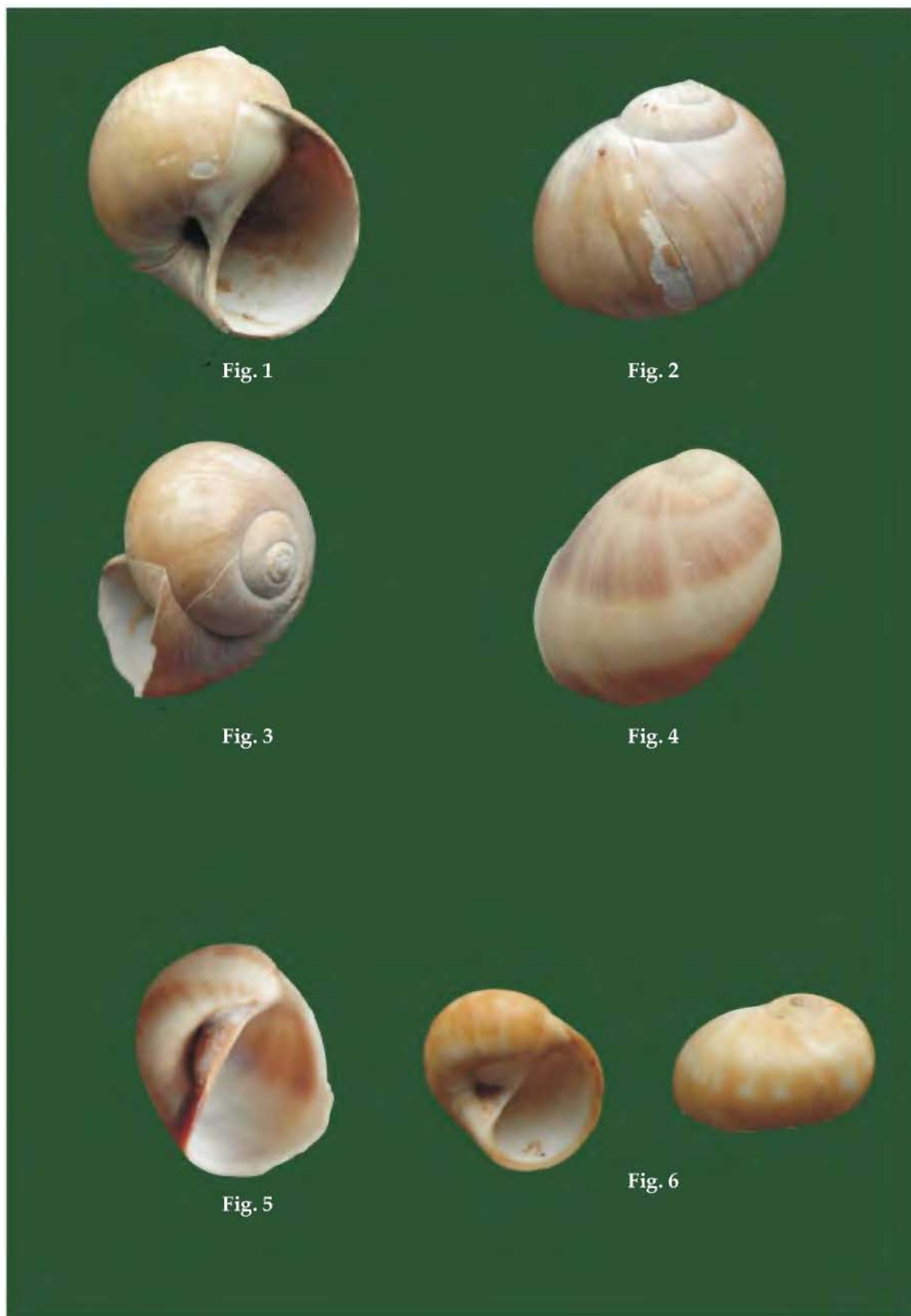


Fig. : 1-3. *Polinices (Iunatia) catena* (De costal) ; **Fig. 4-5.** *Polinices (Mammilla) fibrosa* (Gray) ; **Fig. 6.** *Natica stellata* (Hedley)