

Figs. 69-74. *Heterometrus (Chersonesometrus) scaber* female; 69. dorsal view; 70. pectines, genital operculum and sternum ventral view. 71-74. *Heterometrus (Chersonesometrus) kanaraensis* male : 71. dorsal view; 72. manus and fingers exterior view; 73. pectines, genital operculum and sternum ventral view; 74. manus of pedipalp ventral view showing trichobothria.

INTERESTING SPECIES RECORDS OF SCORPIONS FROM KERALA

Family ISCHNURIDAE

1. *Chiromachetes fergusoni* Pocock

1899. *Chiromachetes fergusoni* Pocock. *J. Bombay nat. Hist. Soc.* **12** : 744.

Material examined : 1 Female, 5 young ones, Kerala : Quilon district : Thenmala range forest, Kazhuthurutti, 9.viii.1997. Coll. P. M. Sureshan (Reg. No. 10439).

Distribution : India : Kerala : Trivandrum (Type locality), Quilon.

Remarks : The species is endemic to Kerala and reported from the state from a place very near to the type locality after the original description in 1899.

Family SCORPIONIDAE

2. *Heterometrus (Chersonesometrus) kanaraensis* (Pocock)

1900. *Palamnaeus scaber kanaraensis* Pocock, *Fauna Brit. India Arachn.* 93.

1981. *Heterometrus (Chersonesometrus) phipsoni kanaraensis*. *Couzijn. Zool. Verln.* **184** : 151.

Material examined : Kerala : Parambikulam Wildlife Sanctuary : 1 male, Parambikulam, 24.iii.1997, 1 male, Pezhakunnu, 27.iii.1997. Coll. K. C. Gopi (Reg. No. 10664 & 10075); 5 young ones, Kamathalachi, 30.x.1995, 1 female, 1 male, Anchupoolai, 3.ii.1995, 1 female, 1 male, Pulikkal, 1.xi.1995, 3 young ones, Sirkarpathi, 29.x.1995, 1 female, Venkoli, 27.x.1995, Coll. P. M. Sureshan (Reg. Nos. 8450, 8451, 8454, 8456, 8457).

Distribution : India : Karnataka : Kanara (Type locality); Maharashtra : Bombay; Kerala.

Remarks : Though the species is reported for the first time from Kerala it seems commonly distributed in the forested tracts of southern Western Ghats since represented by good numbers in the present collection.

SYSTEMATIC LIST

Family BUTHIDAE

Subfamily BUTHINAE

1. *Lychas (Alterotrichus) hendersoni* Pocock

1897. *Lychas hendersoni* Pocock. *J. Bombay nat. Hist. Soc.*, **11** : 111.

2. *Lychas (Endotrichus) tricarinatus* Simon

1884. *Lychas tricarinatus* Simon. *Ann. Mus. civ. sto. nat. Genova* **20** : 371.

3. *Lychas (Endotrichus) albimanus* Henderson
1919. *Lychas albimanus* Henderson. *Rec. Indian Mus.* **16**(5) : 379-381.
4. *Charmus indicus* Hirst.
1915. *Charmus indicus* Hirst. *Ann. Mag. nat. Hist.*, **15**(8) : 224-225.

Subfamily CENTRURINAE

5. *Isometrus (Reddyanus) brachycentrus* Pocock
1899. *Isometrus brachycentrus* Pocock. *J. Bombay nat. Hist. Soc.* **12** : 263.
6. *Isometrus (Closotrichus) sankeriensis* Tikader & Bastawade
1983. *Isometrus (Closotrichus) sankeriensis* Tikader & Bastawade. *Fauna India. Scorpions.* III. 311.

Family ISCHNURIDAE

7. *Liocheles laeviceps laeviceps* (Pocock)
1890. *Iomachus laeviceps* Pocock. *Ann. Mag. nat. Hist.*, **5**(6) : 242.
8. *Liocheles laeviceps malabarensis* (Pocock)
1900. *Iomachus laeviceps malabarensis* Pocock. *Fauna Brit. India. Arachn.* : 82.
9. *Hormurus australasiae* (Fabr.)
1775. *Scorpio australasiae* Fabr., *Syst. Ent.*, : 399.
1990. *Hormurus australasiae* : Pocock, *Fauna Brit. India, Arachn.*, : 79.
10. *Chiromachetes fergusonii* Pocock
1899. *Chiromachetes fergusonii* Pocock. *J. Bombay nat. Hist. Soc.* **12** : 744.

Family SCORPIONIDAE

Subfamily SCORPIONINAE

11. *Heterometrus (Heterometrus) keralaensis* Tikader and Bastawade
1983. *Heterometrus (Heterometrus) keralaensis* Tikader and Bastawade. *Fauna of India. Scorpions.* III. 528.
12. *Heterometrus (Heterometrus) malapuramensis* Tikader and Bastawade
1983. *Heterometrus (Heterometrus) malapuramensis* Tikader and Bastawade. *Fauna of India. Scorpions.* III. 533.

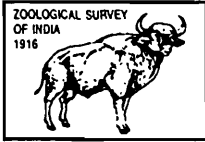
13. *Heterometrus (Srilankametrus) gravimanus* (Pocock).
 1894. *Scorpio gravimanus* Pocock. *Ann. Mag. nat. Hist.* **13**(6) : 75
 1900. *Palamnaeus gravimanus* Pocock. *Fauna Brit. India. Arachn.* 90.
 1981. *Heterometrus (Srilankametrus) indus indus* Couzijn. *Zool. Verln.* **184** : 121.
14. *Heterometrus (Chersonesometrus) granulomanus* Couzijn
 1981. *Heterometrus (Chersonesometrus) granulomanus* (Couzijn). *Zool. Verln.* **184** : 142.
15. *Heterometrus (Chersonesometrus) scaber* (Thorell)
 1877. *Pandinus scaber* Thorell. *Atti. Soc. Ital.* **19** : 202.
 1981. *Heterometrus (Chersonesometrus) scaber scaber* Couzijn. *Zool. Verln.* **184** : 144.
16. *Heterometrus (Chersonesometrus) kanaraensis* (Pocock)
 1900. *Palamnaeus scaber kanaraensis* Pocock. *Fauna Brit. India. Arachn.* : 93.
 1981. *Heterometrus (Chersonesometrus) phipsoni kanaraensis* Couzijn. *Zool. Verln.* **184** : 151.

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REFERENCES

- Bastawade, D. B. 1986a. New species of scorpion of the genus *Lychas* (Buthidae : Scorpionida) from Nasik district, Maharashtra, India. *J. Bombay nat. Nist. Soc.* **83**(3) : 634-637.
- Bastawade, D. B. 1986b. The first record of the family Ischnuridae (Scopionida : Arachnida) from Nasik district, Maharashtra with description of a new species of a genus *Iomachus* Pocock. *Entomon* **12**(2) : 101-014.
- Bastawade, D. B. 1992. A first record of the genus *Scorpiops* Peters (Scorpiopsidae (= Vaejovidae) : Scorpionida) from Mahadeo hills, Madhya Pradesh, India with description of a new species *Scorpiops (Scorpiops) pachmarhicus*. *J. Bombay nat. Hist. Soc.* **89**(1) : 99-103.
- Pocock, R. I. 1900. Fauna of British India. Arachnida. London. 1-279.
- Tikader, B. K. and D. B. Bastawade, 1983. Fauna of India. Scorpions. III. Calcutta. i-xiii & 1-671.
- Indra, T. J. 2001. Scorpion. Fauna of conservation Area series II. Fauna of Nilgiri Biosphere reserve : 55-58.



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ADDITIONS TO THE ECHINODERM FAUNA OF GREAT NICOBAR ISLAND, BAY OF BENGAL

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INTRODUCTION

Great Nicobar is the southernmost island of the Andaman and Nicobar Islands located in the Bay of Bengal. Sastry (1999) gave an account of 18 species of echinoderms known till then from this Island. During the recent intensive explorations one of us (SP) collected material of 33 species of asteroids, ophiuroids echinoids and holothurians. Of these, only six species namely, *Dactylosaster cylindricus* (Asteroidea), *Ophiocoma dentata*, *Ophiocoma erinaceus*, *Ophiocoma scolopendrina*, *Ophiomastix annulosa* (Ophiuroidea), and *Echinometra mathaei* (Echinoidea), have been reported earlier. The present report adds 27 species to the echinoderm fauna of the Great Nicobar Island. Thus the echinoderm fauna of the Great Nicobar Island comprises of 45 species. Clark and Rowe (1971) gave details of distribution in the Indo-West Pacific region and keys for the identification (up to genus only in case of holothurians). Details of description, distribution and keys for the holothurians reported herein can be found in James (1987a,b,c, 1995a,b). Since all the species are already known from other islands, these have been briefly listed below, with details of localities of collection. The material is deposited in the collections of the Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai-608 502. Though all the species are already known from Andaman and Nicobar Islands, with only a few new to Nicobar group, the present report is considered necessary keeping in view the requirement of faunal diversity of individual islands for declaration and management of Protected Areas.

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Phylum ECHINODERMATA

Class ASTEROIDEA

Order PAXILLOSIDA

Family ASTROPECTINIDAE

1. *Astropecten polyacanthus* Mueller and Troschel

Material : Poonam Nalla, 22.02.2002, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

Order VALVATIDA

Family ARCHASTERIDAE

2. *Archaster typicus* (Mueller and Troschel)

Material : Chingen, 02.02.2003, one spec.; Pigeon Island, 12.02.2003, one spec.

Family OPHIDIASTERIDAE

3. *Dactylosaster cylindricus* (Lamarck)

Material : Trinket Choplong Bay, 28.02.2002, one spec.; Indira Point, 03.02.2003, one spec.

4. *Linckia guildingi* Gray

Material : Galathea Bay, 11–13.02.2002, one spec.; Vijaya Nagar, 02.03.2002, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

5. *Linckia laevigata* (Linnaeus)

Material : Trinket Choplong Bay, 28.02.2002, one spec.; Pigeon Island, 17.03.2002, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

6. *Linckia multifora* (Lamarck)

Material : Alexandra Bay, 17.02.2003, one spec.

Family ASTEROPSEIDAE

7. *Asteropsis carinifera* (Lamarck)

Material : Prem Nalla, 20.02.2002, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

Class OPHIUROIDEA

Family OPHIOTHRICIDAE

8. *Macrophiothrix longipeda* (Lamarck)

Material : Swarup Nalla, 27.01.2003, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

Family OPHIOCOMIDAE

9. *Ophiarthrum elegans* Peters

Material : Alexandra Bay, 17.02.2003, one spec.; Inhengloi, 14.02.2003, one spec.; Kopenheat, 17.02.2003, four specs.; Pilo Bet, 16.02.2003, arm bits; Pilo Bhabi, 17.02.2003, one spec.; Sastry Nagar, 27.01.2003, four specs.

Remark : The species is newly recorded from Nicobar group of islands.

10. *Ophiarthrum pictum* Mueller and Troschel

Material : Sastry Nagar, 27.01.2003, one spec.

11. *Ophiocoma dentata* Mueller and Troschel

Material : Poonam Nalla, 26.01.2003, one spec.

12. *Ophiocoma erinaceus* Mueller and Troschel

Material : Chingen, 02.02.2003, arm bits, Indira Point, 03.02.2003, two specs.; Inhengloi, 14.02.2003, one spec.; Keechad Nalla, 16.02.2003, two specs.; Lakshmi Nagar, 07.03.2002, one spec.; Pigeon Island, 17.03.2002, one spec.; Pilo Bet, 16.02.2003, one spec.; Poonam Nalla, 22.02.2002, four specs.; Sastry Nagar, 27.01.2003, three specs.; Vijaya Nagar, 25.01.2003, two specs.

13. *Ophiocoma scolopendrina* (Lamarck)

Material : Alexandra Bay, 17.02.2003, seven specs.; Chingen, 02.02.2003, four spec.; Dongi Nalla, 20.01.2003, one spec.; Galathea Bay, 11–13.02.2002, two specs.; Galathea Bay, 01.02.2003, seven specs.; Indira Point, 03.02.2003, eight specs.; Inhengloi, 14.02.2003, one spec.; Keechad Nalla, 16.02.2003, two specs.; Kopenheat, 17.02.2003, one spec.; Magar Nalla, 21.01.2003, three specs.; Pigeon Island, 17.03.2003, one spec.; Pigeon Island, 12.02.2003, three specs.; Pilo Bet, 16.02.2003, two spec.; Pilo Bhabi, 17.02.2003, three specs.; Poomam Nalla, 26.01.2003, four specs.; Prem Nalla, 20.02.2002, one spec.; Prem Nalla, 23.01.2003, three spec.; Sastry Nagar, 27.01.2003, one spec.; Sippy Nalla, 22.01.2003, three specs.; Swarup Nalla, 27.01.2003, one spec.; Vijaya Nagar, 25.01.2003, three specs.

14. *Ophiomastix annulosa* (Lamarck)

Material : Chingen, 02.02.2003, one spec.; Indira Point, 03.02.2003, two specs.; Inhengloi, 14.02.2003, one spec.; Keechad Nalla, 16.02.2003, one spec.; Kopenheat, 17.02.2003, one spec.; Lakshmi Nagar, 07.03.2002, one spec.; Pigeon Island, 17.03.2002, an arm only; Pilo Bet, 16.02.2003, one spec.; Poonam Nalla, 22.02.2002, one spec.; Prem Nalla, 20.02.2002, one spec.; Prem Nalla, 23.01.2003, arm bits; Sastry Nagar, 27.01.2003, one spec.; Swarup Nalla, 27.01.2003, one spec.; Vijaya Nagar, 02.03.2002, one spec.; Vijaya Nagar, 25.01.2003, one spec.

Family OPHIURIDAE

Subfamily OPHIOLEPIDINAE

15. *Ophioplocus imbricatus* (Mueller and Troschel)

Material : Galathea Bay, 11–13.02.2002, one spec.; Sippy Nalla, 22.01.2003, one spec.

Remark : The species is newly recorded from Nicobar group of islands.

Class ECHINOIDEA

Order DIADEMATOIDA

Family DIADEMATIDAE

16. *Diadema savignyi* Michelin

Material : Galathea Bay, 11–13.02.2002, one spec.; Magar Nalla, 21.01.2003, one spec.; Poonam Nalla, 22.02.2002, one spec.; Prem Nalla, 20.02.2002, one spec.; Vijaya Nagar, 02.03.2002, one spec.; Vijaya Nagar, 25.01.2003, one spec.

Remarks : The defferentiating characters of *Diadema savignyi* and *D. setosum* are not easy to observe in presserved specimens. The tridentate pedicellariae are very few and presence or absence of a red ring around anal region cannot be ascertained in preserved specimens. As such, the material of *D. setosum* reported earlier (Sastry, 1999) could belong to the species reported here or *vice versa*.

17. *Echinothrix calamaris* (Pallas)

Material : Pigeon Island, 17.03.2002, one spec.; Prem Nalla, 20.02.2002, two specs.

Remark : The species is newly recorded from Nicobar group of islands.

18. *Echinothrix diadema* (Linnaeus)

Material : Lakshmi Nagar, 07.03.2002, two specs.; Poonam Nalla, 22.02.2002, one spec.