



ISSN 2347-2677
IJFBS 2016; 3(3): 05-08
Received: 10-02-2016
Accepted: 02-03-2016

Farzana Yousuf
Department of Zoology and
Marine Reference Collection and
Resource Centre, University of
Karachi, Karachi-75270,
Pakistan.

Quddusi B Kazmi
Department of Zoology and
Marine Reference Collection and
Resource Centre, University of
Karachi, Karachi-75270,
Pakistan.

First subsequent of *Sergestes hamifer* Alcock and Anderson, 1894 (Sergestidae, Crustacea) Collected from the Indian Ocean

Farzana Yousuf, Quddusi B Kazmi

Abstract

Species of sergestidae, *Sergestes hamifer* Alcock and Anderson, 1894 described from Indian Ocean. This species has been previously identified from the Laccadive Sea (now Lakshadweep), Indian Ocean. (8°49'N, 73°18'45'E) by Alcock and Anderson, 1894. It is characterized by a small membranous body, long appendages.

Uropods with exopod about one-third longer than endopod and setose along entire outer margin; exopod of uropodal ramus with spine at about distal third. A revised composition of *Sergestes hamifer* to the species is provided.

Keywords: *Sergestes hamifer*, Indian Ocean, Sergestidae, Crustacea, first subsequent record.

Introduction

The genus *Sergestes* Milne-Edwards, 1830 is divided into 7 distinct species groups: *S. arcticus* (3 species), *S. corniculum* (8 species), *S. atlanticus* (only species), *S. sargassi* (8 species), *S. cornutus* (2 species), *S. vigilax* (7 species) and *S. orientalis* (6 species). The genus *Sergestes* Milne-Edwards, 1830 contains 59 species within these six groups.

These present species was established in 1894 by Alcock and Anderson from Lakshadweep Sea from the Indian Ocean in the IIOE material. The material is described and illustrated.

Systematics

Order

Family SERGESTIDAE

Subfamily SERGESTINAE

Genus *Sergestes* Milne-Edwards, 1830

Sergestes hamifer Alcock and Anderson, 1894

(Figs.1-6)

Sergestes Ortmann, 1893: 33; Pérez Farfante and Kensley, 1997: 196-197 (list only).

Material examined

A total of 75 specimens: 15 males, 30 females, 11 juvenile males, 19 females measuring 3.0-9.5 mm in Carapace length have been collected by three ships of IIOE (Anton Brunn, Discovery and Oshoro Maru).

Description

A relatively small, fragile membranous body (Figure 1A) with long appendages and characteristically prominent laterally directed eye stalks. Carapace (Figure 1B) about equal to combined length of first five abdominal somites. Rostrum short (Figure 1B), horizontal, apically acute, projecting slightly beyond anterior margin of carapace with dorsal margin weakly convex. Strong supraorbital spine and ridge present. Cervical groove distinct, with hepatic spine at its base, suprbranchial ridge. Eye-stalks about two-thirds of first joint of antennular peduncles, and eyes not expanded. Abdomen long and rounded faintly grooved dorsally; telson apically acutely rounded (Figure 1A, 1C); with a small apical spine. First segment of antennular peduncle (Figure 1A, 2A) twice length of second, second and third together subequal to proximal, outer flagellum three times as long as peduncle; inner flagellum in male with deep proximomedial notch and opposed curved spines. Antennal flagellum divided into proximal and distal parts by short section of annuli forming a double band.

Correspondence:
Farzana Yousuf
Department of Zoology and
Marine Reference Collection and
Resource Centre, University of
Karachi, Karachi-75270,
Pakistan.

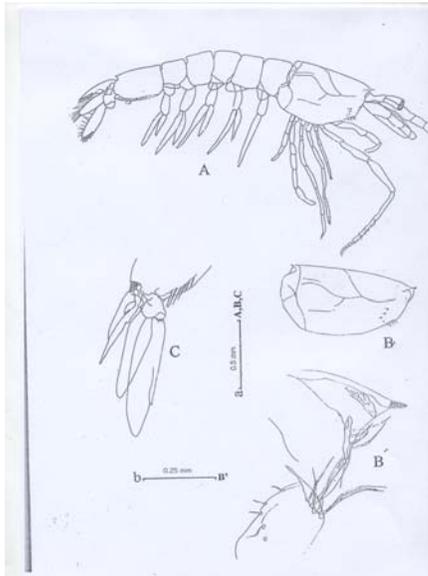


Fig 1: *Sergestes hamifer* Alcock and Anderson, 1894. Adult male; C.L. = 11.5 mm; Station No. 7; Cr. 7; Ship: Oshoro Maru; 19-12-63. A, entire specimen, lateral view; B, carapace; B', rostrum; C, telson and left uropod, lateral view.

Third maxillipeds (Figure 2B, 2C) far exceed all other appendages in length and stoutness. Dactylus (Figure 2 C) with seven subsegments, first longer than second, proximal two together about as long as distal four; inner margin of dactylus bearing constant number of large spines and variable number of shorter ones, large spines consisting of single long distal spines on subsegments 1 to 5 and single shorter mesial spines on subsegments 1 and 2; outer margin of dactylus bearing single distal spines on subsegments 1, 2 and 4 and one or two short mesial spines on subsegments 1 and 2, subsegment 7 bearing two terminal spines.

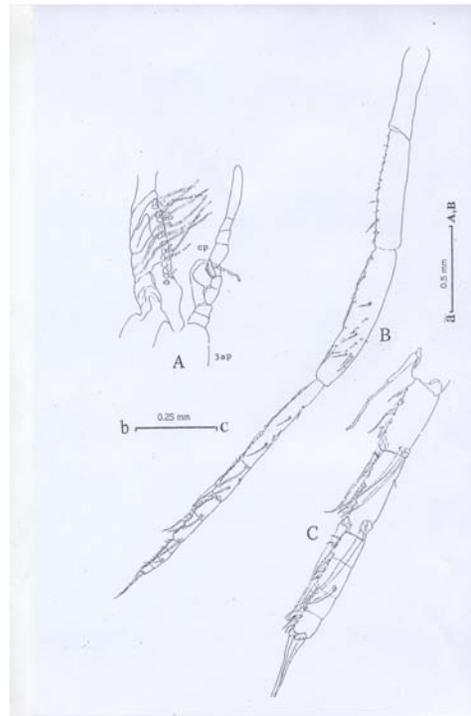


Fig 2: *Sergestes hamifer* Alcock and Anderson, 1894. Adult male; C.L. = 11.5 mm; Station No. 7; Cr. 7; Ship: Oshoro Maru; 19-12-63. A, clasping organ of lower antennular flagellum (left), ventral view; 3ap, 3rd segment of antennular peduncle; I-VII, 1st to 7th segments; cp, clasping process; B, left third maxilliped; C, dactylus of the same, further enlarged.

Pereopods short and slender (Fig. 3A-3G), first pereopod small Fig. A. Second and third pereopod longest (Figs. 3B, 3C, 3C'), distinctly chelate, last three joints of fourth pereopod remarkably compressed and lamellar (Fig.3D).

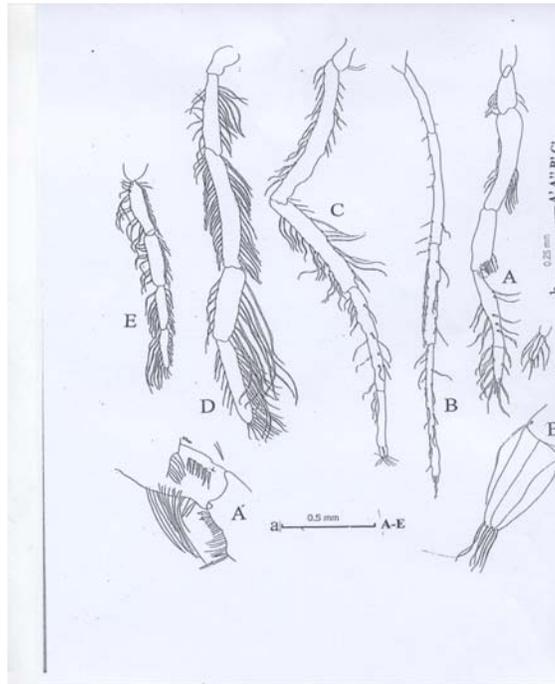


Fig 3: *Sergestes hamifer* Alcock and Anderson, 1894. Adult female; C.L. = 9.0 mm; Station No. 73; Cr. I; Ship: Meteor. Fig. A, left first pereopod; A' carpo-podal articulation, enlarged; B, left second pereopod, B', chela of second pereopod, further enlarged; C, left third pereopod; D, left fourth pereopod; E, left fifth pereopod.

Petasma in male (Figure 4A, 4B, 4C, 4D, 4E, 4F, 4G) right and left both with lobus armatus curved medially and not extending to more than three-fifths the length of processus ventralis (pv), Processus ventralis (pv) not reduced and armed, in addition to a row of simple spinules, with one to three large stellate spines; lobus terminalis (lt), bearing a small slender lobus inermis (li), closely applied to its median edge lobus terminalis (lt), slender, with single terminal hooks basally joined to lobus inermis (li), bearing a terminal spine lobus connectens (lc), covered with large hooks, lobus terminalis (lt), with few distal hooks, processus uncifer (pu) not reduced and with distal hook.

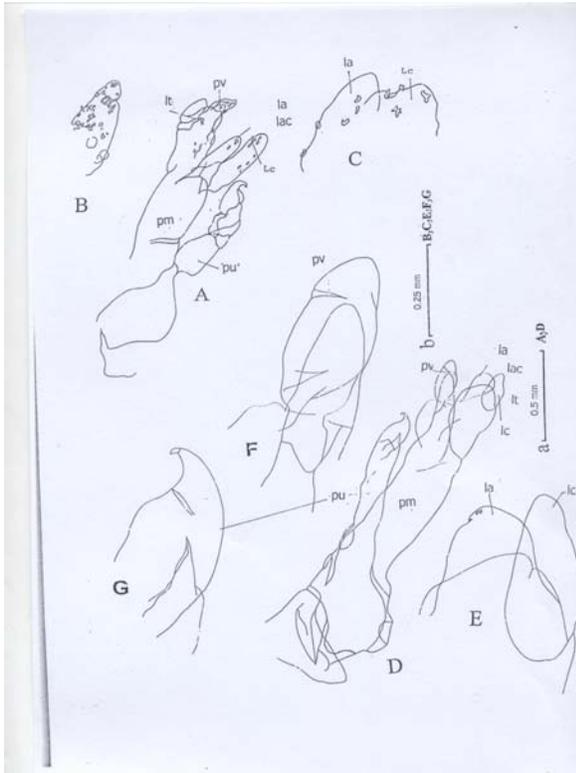


Fig 4: *Sergestes hamifer* Alcock and Anderson, 1894. Adult male; C.L. = 11.5 mm; Station No. 7; Cr. 7; Ship: Oshoro Maru; 19-12-63. A, petasma (left), dorsal view; pb, process basalis; pu, process uncifer; pe, pars externa; pm, pars media; sh, sheath; pv, process ventralis; la, lobus armatus; lac, lobus accessorius; lc, lobus connectens; lt, lobus terminalis; li, lobus inermis; pa, pars astrigens; B, li and lt, further enlarged; C, lc, further enlarged; D, pu, further enlarged; E, petasma (right), dorsal view; pb, process basalis; pu, process uncifer; pe, pars externa; pm, pars media; sh, sheath; pv, process ventralis; la, lobus armatus; lac, lobus accessorius; lc, lobus connectens; lt, lobus terminalis; li, lobus inermis; pa, pars astrigens; F, li and lt, further enlarged; G, lc, further enlarged; H, pu, further enlarged.

Thelycum of female (Figure 5) with third coxa and sixth thoracic sternite. Thoracic sternite 6 anteriorly forming operculum (op) projecting posteriorly over common slit-like aperture of sperm receptacles; posterior half of sternite with low transverse ridge terminating beneath proximal projections (pp) on coxa in two low, anteriorly directed sternal protuberances (pb) and with shallow groove extending along midline between transverse ridge and sperm receptacle aperture so that margin of coxa proximal to it appears concave on postero-medial angle, a tridentate process, two outer teeth being small, the median tooth strong, incurved.

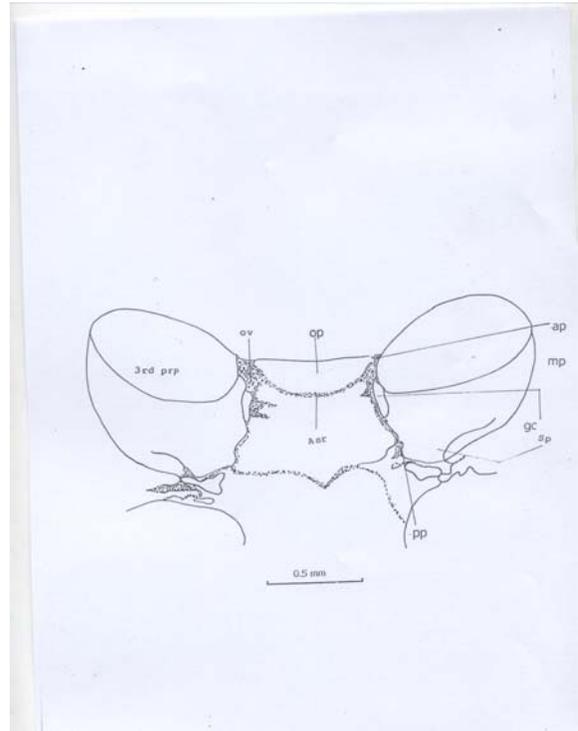


Fig 5: *Sergestes hamifer* Alcock and Anderson, 1894. Adult female; C.L. = 9.0 mm; Station No. 73; Cr. I; Ship: Meteor. female exterior sexual organ, ventral view; thelycum and coxae of third pereiopods, postero-ventral view; op, operculum; ap, anterior protuberance; gc, genital cavity; pxp, proximal process; mp, median protuberance; pp, posterior protuberance.

Uropods with exopod (Figure 1A, 1C) about one-third longer than endopod and setose along entire outer margin; exopod of uropodal ramus with spine at about distal third.

Distribution

S. hamifer is not reported from any area after its first discovery from the Laccadive Sea (now Lakshadweep), Indian Ocean. (8°49'N, 73°18'45"E) by Alcock and Anderson, 1894. The IIOE material contains *Sergestes hamifer* from different areas the present study reveals that the species has an extended distribution, it extends in the Western Indian Ocean upto Madagascar and on the eastern side the Bay of Bengal. Judkin's report of 1978 on *Sergestes semissis* and not of *S. hamifer* from the same area puts Alcock and Anderson's species. (Figure 6).

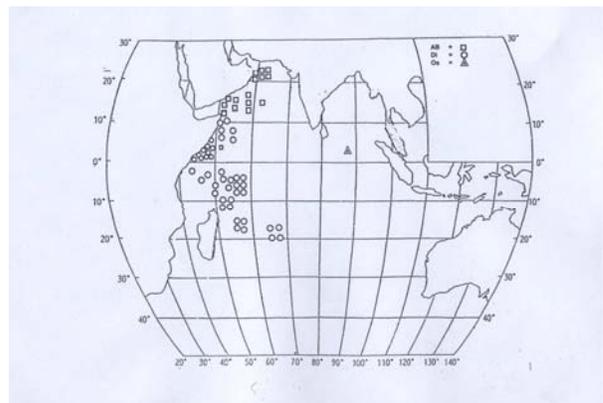


Fig 6: Distribution of *Sergestes hamifer* in IIOE

Remarks

The present specimens are tentatively identified as *S. hamifer*. The original description of the holotype lacks taxonomically useful lectures such as that of petasma and the lycum. *S. hamifer* can be included in the *Sergestes edwardsii* species group.

References

1. Alcock A, Anderson AR. Natural history notes from H.M. Indian Marine survey steamer Investigator, Commander C. F. Oldham, R.N., commanding. Series 11, No. 14. An account of a recent collection of deep-sea Crustacea from the Bay of Bengal, Laccadive Sea. J Asiat Soci Bengal. 1894; 63:141-185.
2. Farfante IP, Kensley B. Penaeoid and Sergestoid Shrimps and prawns of the world. Mem. du. Mus. Nat. 1 D'Hist. Natur 1997; 196-197. (list only).
3. Judkins DC. Pelagic shrimps of the *Sergestes edwardsii* species group (Crustacea: Decapoda: Sergestidae). Smith. Contrb. Zool 1978; 256:1-33.
4. Milne –Edwards H. Descriptions des Genres Glaucothoe, Sicyonia, Sergestes et Acete de l' ordre des Crustaces Decapodes. Ann. Sci. Nat. Zool 1830; XIX:333-352,4 Pls.
5. Yaldwyn JC. Deep-water Crustacea of the genus *Sergestes* (Decapoda, Natantia) from Cook Strait, New Zealand. Zoo. Publ. Vict. Univ 1957; 22:1-27.