

New genera in the family Sergestidae (Crustacea: Decapoda: Penaeidea)

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Abstract.—The sergestid genus *Sergestes* is restricted in definition, and five new genera erected: *Allosergestes*, *Deosergestes*, *Eusergestes*, *Neosergestes*, and *Parasergestes*. These are defined in terms of 23 morphological characters, including features of the appendages, luminescent organs, and petasmata. The species belonging to each are listed, and the type species for each designated. Diagnoses for the remaining genera in the family, *Acetes*, *Peisos*, *Petalidium*, *Sergia* and *Sicyonella* are supplied. A key to the 11 currently recognized sergestid genera is provided.

The meso- and bathypelagic shrimp genus *Sergestes* H. Milne-Edwards, 1830, has proven to be speciose and diverse in the world's oceans. In 1860, Stimpson applied the name *Sergia* to a late mastigopus sergestid larva, which Burkenroad (1945) determined belonged to that group of species of *Sergestes* generally placed in the subgenus *Sergia*. Even though Ortmann (1893) used *Sergia* as a full genus, until fairly recently most authors regarded *Sergestes* as having two large subgenera, *Sergestes* and *Sergia*. Even Yaldwyn's (1957) landmark paper on New Zealand sergestids maintained this position. The reluctance to elevate the subgenera was perhaps due to their sharing two important characters: in both, pereopods 4 and 5 exhibit some reduction, possessing only 6 podomeres, and both bear well-developed gills above pereopod 4. Omori (1974) finally re-introduced *Sergia* as a full genus on the basis of differences in the luminescent organs. This division of the genus *Sergestes* into two genera, the transparent-bodied *Sergestes* s.l., in which the gastrohepatic gland is modified to form the luminescent organs of Pesta, and the opaque-bodied *Sergia*, which lack organs of Pesta, is now

generally agreed upon (see Pérez Farfante, & Kensley 1997). It has long been recognized that both "genera" could be divided into groups of closely related species [e.g., Yaldwyn (1957), Foxton (1972), Judkins (1978), Vereshchaka (2000)], but apart from the unpublished doctoral dissertation of Judkins' (1972), this division was never formally proposed.

The present paper formalizes the separation of five new genera from *Sergestes* as proposed by Judkins (1972). The creation of these genera is based primarily on the 16 characters used by Judkins (1972, Table 1), but with some additional ones. In some cases, e.g., the relatively massive third maxillipeds of three of the new genera, which are clearly a major modification related to feeding, the polarity seems obvious. For others, however, e.g., the setation of the propodus and dactylus of pereopod 5, the polarity remains uncertain.

The division of the opaque-bodied *Sergia* group of species, all of which lack organs of Pesta, presents more complex problems. *Sergia* species may or may not possess dermal photophores and, when present, these may or may not be

equipped with a cuticular lens, but otherwise the genus is much more uniform in morphology of non-reproductive appendages than species in the genera separated from the former *Sergestes*. Judkins (1972) proposed that the three opaque-bodied species groups recognized by Yaldwyn (1957) be elevated to genera: *Sergia* (having lens-less photophores), a second genus having photophores with lenses, and a third genus having a soft sometimes fragile integument and lacking discernable photophores. However, comparison of the petasmata in *Sergia* reveals several groupings that are not congruent with the photophore/integument-based divisions. Vereshchaka (2000) divided the species of *Sergia* into nine groups or isolated species based primarily on photophores and the petasma, but also on the hepatic tubercle/spine, the ocular papilla, the endopod of the first maxilliped, and the posterior branchial lobe on somite XII. Species of Vereshchaka's *S. gardineri*, *S. phorca* and *S. robusta* groups possess lens-less photophores, and his *S. prehensilis*, *S. challengerii*, and *S. lucens* groups have lensed photophores. The isolated species *S. tenuiremis* and *S. inoa*, and species of the *S. japonica* group all lack photophores but do not appear to be a monophyletic primitive group. In some cases the absence of photophores may be the result of loss in response to environmental conditions. The occurrence of lensed photophores in the *S. prehensilis*, *S. challengerii*, and *S. lucens* groups and the similar epibenthic habits of most of their species (Vereshchaka 1994, 2000) suggest a common ancestry. However, the petasma bauplan of the *S. lucens* group is very different from that of the *S. prehensilis* and *S. challengerii* groups, which are closer in petasma plan to species with lens-less photophores or no photophores. Given the similarity of structure of the two types of photophores [see Terao (1917) for lens-bearing photophores, Dennell (1940) for

the lensless type], it can be envisioned that the lens-bearing type could have arisen from the lens-less type on more than one occasion. On the assumption that the characters of the petasma, reflecting species isolating mechanisms closely linked with species-specific mating, are more reliable indicators of relationships than photophores or integumental consistency, Judkins' (1972) division of *Sergia* must be rejected.

For each genus, the type species with its type locality is provided. The latter will become important should some of the species currently thought to have an almost cosmopolitan distribution in the oceans, prove to be complexes of cryptic, closely related species, as in the caridean *Acanthephyra purpurea* group elucidated by Kemp (1939). A list of species belonging to each of the genera is provided. In a few cases, due to poor descriptions or lack of material, these placements may be inaccurate; only good fresh material will solve these problems.

The genus *Lucifer*, although at an early stage placed in a separate family (Luciferidae Dana, 1850), has often been treated as a member of the Sergestidae. However, in a key to the dendrobranchiate families and genera, Burkenroad (1983:283) uses such a powerful group of synapomorphies to define the Luciferidae as to leave no doubt regarding the validity of this family (also see Pérez Farfante, & Kensley 1997.)

New and Restricted Genera of *Sergestes* sensu lato

Allosergestes, new genus

Fig. 1A

Diagnosis.—Cuticle semitransparent; photophores absent. Carapace with small hepatic and supraorbital spines present. Organs of Pesta present, antero- and posterolateral organs spheroid. Ocular tubercle present. Antennular peduncle with first and third articles subequal in

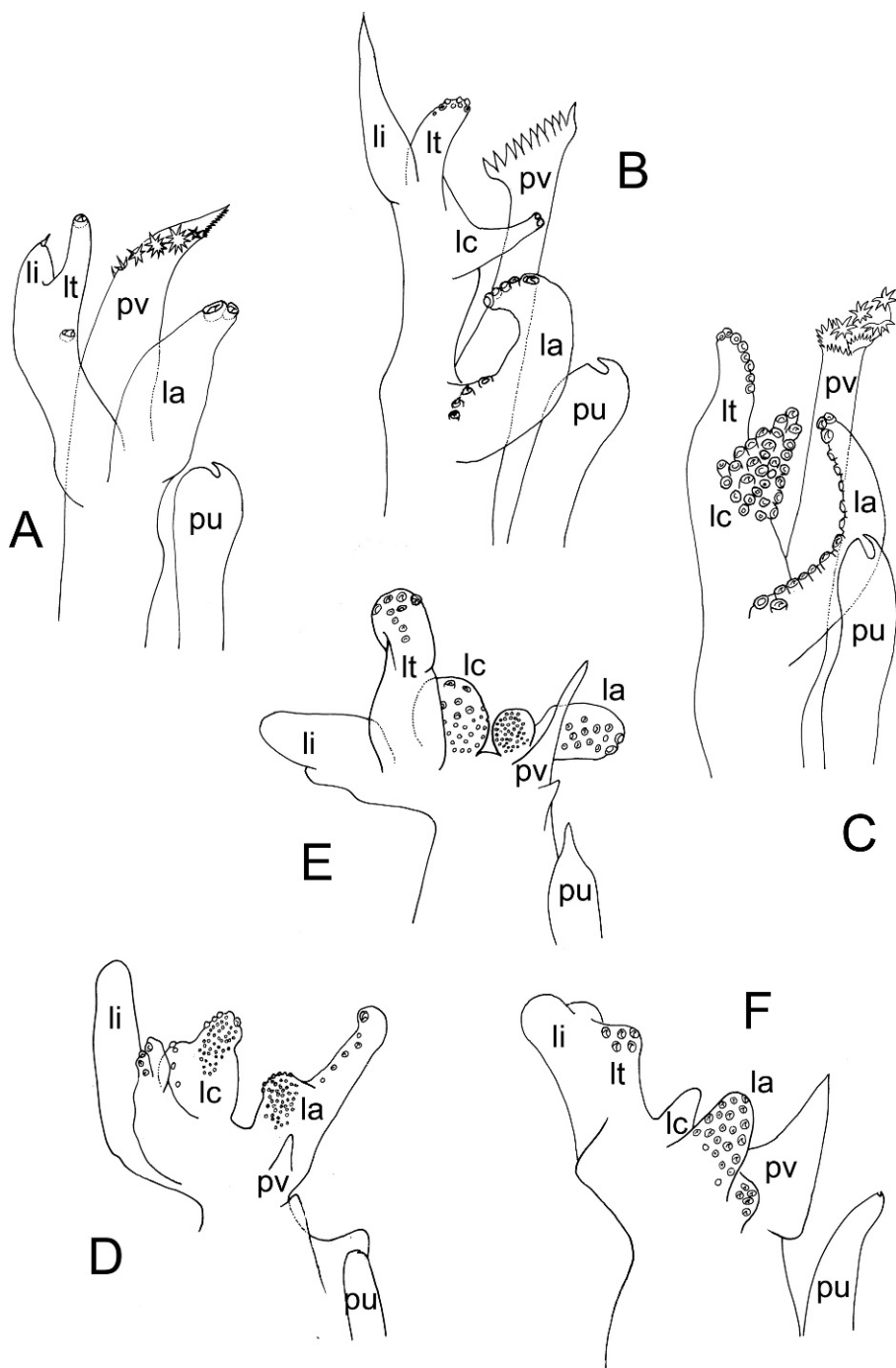


Fig. 1. Petasmata of selected species of genera formally in *Sergestes* sensu lato. A, *Allosergestes sargassi*; B, *Deosergestes curvatus*; C, *Eusergestes arcticus*; D, *Neosergestes edwardsii*; E, *Parasergestes armatus*; F, *Sergestes atlanticus*. c - capitulum; la - lobus armatus; lc - lobus connectens; li - lobus inermis; lt - lobus terminalis; pu - processus uncifer; pv - processus ventralis.

length; stylocerite absent. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 much longer than pereopod 3; dactylus consisting of 5 articles. Ischium of pereopods 1 and 2 bearing spine. Fingers of chela of pereopod 2 unequal. Pereopod 3, posterior arthrobranchia lamellar. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose on both margins. Petasma with pars media elongate; processes somewhat elongate, consisting of lobus inermis, lobus terminalis, lobus armatus, and processus ventralis; processus ventralis distally expanded, fringed, or bearing stellate spines. Appendix masculina of pleopod 2 with proximalmost spines on medial margin much longer than those immediately following. Outer margin of lateral uropodal ramus setose for distal 60–80% of length, lacking tooth.

Type species.—By present designation, *Sergestes sargassi* Ortmann, 1893.

Type locality.—Florida Current, Sargasso Sea.

Etymology.—Derived from the Greek ‘*allos*’ meaning other, of another kind or race, plus the root generic epithet ‘*sergestes*’.

Species.—*A. index* (Burkenroad, 1940); *A. nudus* (Illig, 1914); *A. pectinatus* (Sund, 1920); *A. pestifer* (Burkenroad, 1937); *A. sargassi* (Ortmann, 1893); *A. verpus* (Burkenroad, 1940).

Deosergestes, new genus

Fig. 1B

Diagnosis.—Cuticle semitransparent; photophores absent. Carapace with hepatic spine present, supraorbital spine present or absent. Organs of Pesta present, anterolateral organs lobelike, posterior organs fringelike. Ocular tubercle present. Antennular peduncle with first article much longer than third; stylocerite mobile. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 subequal in length to pereopod 3; dactylus consisting of 6 or

7 articles. Ischium of pereopods 1 and 2 bearing spine. Fingers of chela of pereopod 2 unequal. Pereopod 3, coxa having at least one mesial tooth; posterior arthrobranchia above pereopod 3 well developed. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose on both margins. Petasma with pars media elongate; processus ventralis distally expanded, bearing fringe of spines; lobus armatus strong, usually straight, occasionally curved, bearing several hooks; distalmost lobus inermis, lobus terminalis, and proximal lobus connectens characteristically in trifid arrangement. Appendix masculina of pleopod 2 with proximalmost spines on medial margin much longer than those immediately following. Outer margin of lateral uropodal ramus setose for distal 60–80% of length, lacking tooth.

Type species.—By present designation, *Sergestes curvatus* Crosnier & Forest, 1973.

Type locality.—South-west Indian Ocean off South Africa, 35°42'S, 24°40'E, 500 m.

Etymology.—Derived from the Greek ‘*deo*’ meaning to bind, plus the root generic epithet ‘*sergestes*’.

Species.—*D. coalitus* (Burkenroad, 1940); *D. corniculum* (Krøyer, 1855); *D. curvatus* Crosnier & Forest, 1973; *D. disjunctus* (Burkenroad, 1940); *D. erectus* (Burkenroad, 1940); *D. henseni* (Ortmann, 1893); *D. nipponensis* (Yokoya, 1933); *D. paraseminudus* (Crosnier & Forest, 1973); *D. pediformis* (Crosnier & Forest, 1973); *D. rubroguttatus* (Wood-Mason, 1891); *D. seminudus* (Hansen, 1919).

Eusergestes, new genus

Fig. 1C

Diagnosis.—Cuticle semitransparent; photophores absent. Carapace with hepatic and supraorbital spines present. Organs of Pesta present, anterolateral organs lobe-like, posterior organs fringe-

like. Ocular tubercle absent. Antennular peduncle with first article much longer than third; stylocerite mobile. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 subequal in length to pereopod 3; dactylus consisting of 6 articles. Ischium of pereopods 1 and 2 bearing spine. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa with mesial tooth; posterior arthrobranchia above pereopod 3 well developed. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose only on posterior margin. Petasma with pars media elongate; processus ventralis distally expanded, bearing spines; lobus terminalis distalmost, lobus connectens triangular and bearing numerous hooks, lobus armatus strong, curved, bearing several hooks along inner margin. Appendix masculina of pleopod 2 with proximalmost spines on medial margin much longer than those immediately following. Outer margin of lateral uropodal ramus setose for distal 30% of length, with tooth present.

Type species.—By present designation, *Sergestes arcticus* Krøyer, 1855.

Type locality.—Off Greenland.

Etymology.—Derived from the Greek 'eu' meaning true or original, plus the root generic epithet 'sergestes'.

Species.—*E. arcticus* (Krøyer, 1855); *E. similis* (Hansen, 1903).

Neosergestes, new genus

Fig. 1D

Diagnosis.—Cuticle semitransparent; photophores absent. Carapace with hepatic and supraorbital spines present. Organs of Pesta present, antero- and posterolateral organs spheroid. Ocular tubercle absent. Antennular peduncle with first and third articles subequal in length; stylocerite fixed. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 much longer than pereopod 3; dactylus consisting of 6 articles and 2 terminal spines. Ischium of pereopods 1 and 2 bearing

spine. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa lacking mesial tooth; posterior arthrobranchia above pereopod 3 lamellar. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose only on posterior margin. Petasma with lobes and processes short, rounded, especially lobus connectens and lobus armatus; pars media broad; processus ventralis apically acute. Appendix masculina of pleopod 2 with spines gradually decreasing in size apically. Outer margin of lateral uropodal ramus setose for entire length, lacking tooth.

Type species.—By present designation, *Sergestes edwardsii* Krøyer, 1855.

Type locality.—Atlantic Ocean at 20°N, unknown longitude; 10°22'N, 21°16'W; 7°N, 30°W.

Etymology.—Derived from the Greek 'neos' meaning new, young, or recent, plus the root generic epithet 'sergestes'.

Species.—*N. brevispinatus* (Judkins, 1978); *N. consobrinus* (Milne, 1968); *N. edwardsii* (Krøyer, 1855); *N. geminus* (Judkins, 1978); *N. gibbilobatus* (Judkins, 1978); *N. orientalis* (Hansen, 1919); *N. semissis* (Burkenroad, 1940); *N. tantillus* (Burkenroad, 1940).

Parasergestes, new genus

Fig. 1E

Diagnosis.—Cuticle semitransparent; photophores absent. Carapace with hepatic and supraorbital spines present. Organs of Pesta present, antero- and posterolateral organs spheroid. Ocular tubercle present or absent. Antennular peduncle with first and third articles subequal in length; stylocerite absent. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 much longer than pereopod 3; dactylus consisting of 4 articles. Ischium of pereopods 1 and 2 bearing spine. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa having mesial tooth; posterior arthrobranchia

above pereopod 3 lamellar. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose only on posterior margin. Petasma with lobes and processes short, often rounded, especially lobus connectens and lobus armatus; pars media broad; processus ventralis apically acute. Appendix masculina of pleopod 2 with spines gradually decreasing in size apically. Outer margin of lateral uropodal ramus setose for distal 60–80% of length, lacking tooth.

Type species.—By present designation, *Sergestes armatus* Krøyer, 1855.

Type locality.—North Atlantic in region of 7°37'N, 22.5°W.

Etymology.—Derived from the Greek 'para' meaning beside or near, plus the root generic epithet 'sergestes'.

Species.—*P. armatus* (Krøyer, 1855); *P. diapontius* (Bate, 1881); *P. extensus* (Hanamura, 1983); *P. halia* (Faxon, 1893); *P. stimulator* (Burkenroad, 1940); *P. vigilax* (Stimpson, 1860).

Sergestes H. Milne-Edwards, 1830

Fig. 1F

Diagnosis.—Cuticle semitransparent; photophores lacking. Carapace with hepatic and supraorbital spines present. Organs of Pesta present, antero- and posterolateral organs spheroid. Ocular tubercle absent. Antennular peduncle with first and third articles subequal; stylocerite fixed. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 subequal in length to pereopod 3; dactylus consisting of 7 or 8 articles. Ischium of pereopods 1 and 2 bearing spine. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa lacking mesial tooth; posterior arthrobranchia above pereopod 3 lamellar. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose only on posterior margin. Petasma with lobes and processes, especially lobus connectens and lobus armatus, short, rounded; pars media

broad; processus ventralis apically acute. Appendix masculina of pleopod 2 with spines absent, or with spines gradually decreasing in size apically. Outer margin of lateral uropodal ramus setose for distal 30% of length, with tooth present.

Type species.—By monotypy, *Sergestes atlanticus* H. Milne-Edwards, 1830.

Type locality.—North Atlantic Ocean near Azores.

Species.—*S. atlanticus* H. Milne-Edwards, 1830; *S. cornutus* Krøyer, 1855.

Sergia Stimpson, 1860

Fig. 2A–F

Diagnosis.—Cuticle opaque-red; lens-bearing or lensless photophores present or absent. Carapace lacking hepatic and supraorbital spines. Organs of Pesta absent. Ocular tubercle present or absent. Antennular peduncle with first article much longer than third; stylocerite mobile. Maxillule with palp. Maxilliped 1 with palp. Maxilliped 3 subequal in length to pereopod 3; dactylus consisting of 4, 6, or 7 articles. Ischium of pereopods 1 and 2 lacking spine. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa bearing mesial tooth; posterior arthrobranchia above pereopod 3 well developed. Pereopods 4 and 5 each having 6 podomeres. Branchiae present above pereopod 4. Two distal podomeres of pereopod 5 setose along both margins. Petasma, except in *S. lucens* species group (Vereshchaka 2000), with pars media elongate; lobus inermis usually apically acute, occasionally rounded; lobus armatus strong, curved or straight, rarely small, occasionally with small lobus accessorius at its base; processus ventralis usually apically acute, rarely rounded or truncate, with hooks. Petasma in *S. lucens* with processus ventralis enlarged and armed with hook(s), lobus connectens and lobus terminalis inferior in size to processus ventralis, and lobus inermis reduced or absent. Appendix masculina of pleopod 2 with proximalmost spines of

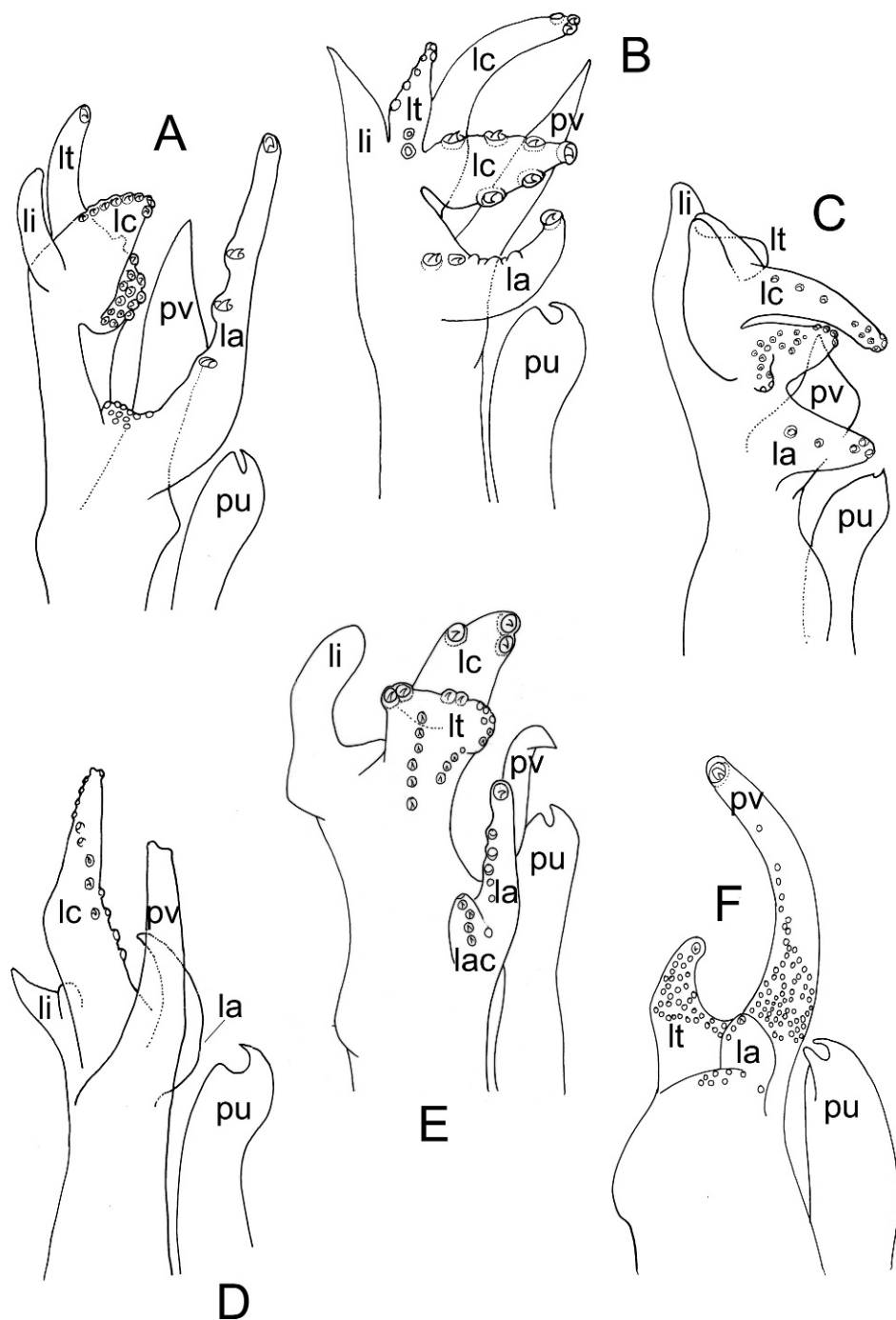


Fig. 2. Petasmata of selected species of *Sergia*. A, *S. creber*; B, *S. grandis*; C, *S. inequalis*; D, *S. japonica*; E, *S. fulgens*; F, *S. lucens*. c - capitulum; la - lobus armatus; lc - lobus connectens; li - lobus inermis; lt - lobus terminalis; pu - processus uncifer; pv - processus ventralis.

medial margin much longer than those immediately following. Outer margin of lateral uropodal ramus setose for distal 30% of length, with tooth present.

Type species.—By monotypy, *Sergia remipes* Stimpson, 1860 [based on late mastigopus larva].

Type locality.—Pacific Ocean at 27.5°N, 138.5°E.

Species.—*S. bigemnea* (Burkenroad, 1940); *S. bisulcata* (Wood-Mason, 1891); *S. burukovskii* Vereshchaka, 2000; *S. challengerii* (Hansen, 1903); *S. crosnieri* Vereshchaka, 2000; *S. erythraeensis* Iwaski & Couwelaar, 2001; *S. extenuata* (Burkenroad, 1940); *S. filicta* (Burkenroad, 1940); *S. fulgens* (Hansen, 1919); *S. gardineri* (Kemp, 1913); *S. grandis* (Sund, 1920); *S. hansjacobii* Vereshchaka, 1994; *S. inequalis* (Burkenroad, 1940); *S. inoa* (Faxon, 1893); *S. japonica* (Bate, 1881); *S. jeppesensi* Vereshchaka, 2000; *S. kensleyi* Vereshchaka, 2000; *S. laminata* (Burkenroad, 1940); *S. lucens* (Hansen, 1922); *S. maxima* (Burkenroad, 1940); *S. oksanae* Vereshchaka, 2000; *S. phorca* (Faxon, 1893); *S. plumbea* (Illig, 1927); *S. prehensilis* (Bate, 1881); *S. regalis* (Gordon, 1939); *S. robusta* (Smith, 1882); *S. scintillans* (Burkenroad, 1940); *S. splendens* (Sund, 1920); *S. stellata* (Burkenroad, 1940); *S. talismani* (Barnard, 1947); *S. tenuiremis* (Krøyer, 1855); *S. umitakae* Hashizume & Omori, 1995; *S. vityazi* Vereshchaka, 2000; *S. wolffi* Vereshchaka, 1994.

shorter than or subequal in length to pereopod 3. Pereopods 1 and 2 lacking ischial spine. Fingers of pereopod 2 chela equal. Pereopod 3 coxa with at least one tooth in most species. Pereopods 4 and 5 lacking, pereopod 5 represented by pair of genital protuberances in male. Single arthrobranchia present above where pereopod 4 would have been. Petasma with pars media relatively elongate, with number of distal processes usually reduced to processus ventralis and capitulum. Appendix masculina of pleopod 2 bearing few marginal hooks. Outer margin of lateral uropodal ramus with setose portion subequal to, or shorter than non-setose portion; tooth present or absent on lateral margin.

Type species.—By original designation, *Acetes indicus* H. Milne-Edwards, 1830.

Type locality.—Ganges River.

Species.—*A. americanus americanus* Ortmann, 1893; *A. americanus caroliniae* Hansen, 1933; *A. binghami* Burkenroad, 1934; *A. chinensis* Hansen, 1919; *A. erythraeus* Nobili, 1905; *A. indicus* H. Milne-Edwards, 1830; *A. intermedius* Omori, 1975; *A. japonicus* Kishinouye, 1905; *A. johani* Nataraj, 1947; *A. marinus* Omori, 1975; *A. natalensis* Barnard, 1955; *A. paraquavensis* Hansen, 1919; *A. serrulatus* (Krøyer, 1855); *A. sibogae australis* Colefax, 1940; *A. sibogae sibogae* Hansen, 1919; *A. sibogae sibogalis* Achuthankutty & George, 1973; *A. vulgaris* Hansen, 1919.

Other Sergestid Genera

Acetes H. Milne-Edwards, 1830

Fig. 3A

Diagnosis.—Cuticle transparent, lacking photophores. Carapace with supraorbital and hepatic spines present. Organs of Pesta absent. Tiny ocular tubercle present. Antennular peduncle with third article shorter or subequal to first in female, much longer than first in male; stylocerite fixed. Maxillule lacking palp. Maxilliped 1 lacking palp. Maxilliped 3

Peisos Burkenroad, 1945

Fig. 3B

Diagnosis.—Cuticle lacking photophores. Carapace with supraorbital and hepatic spines. Organs of Pesta absent. Tiny ocular tubercle present. Antennular peduncle with third article subequal to first in male, shorter than first article in female; stylocerite fixed. Maxillule with palp reduced to low conical tubercle. Maxilliped 1 with palp. Maxilliped 3 shorter than pereopod 3. Pereopods 1

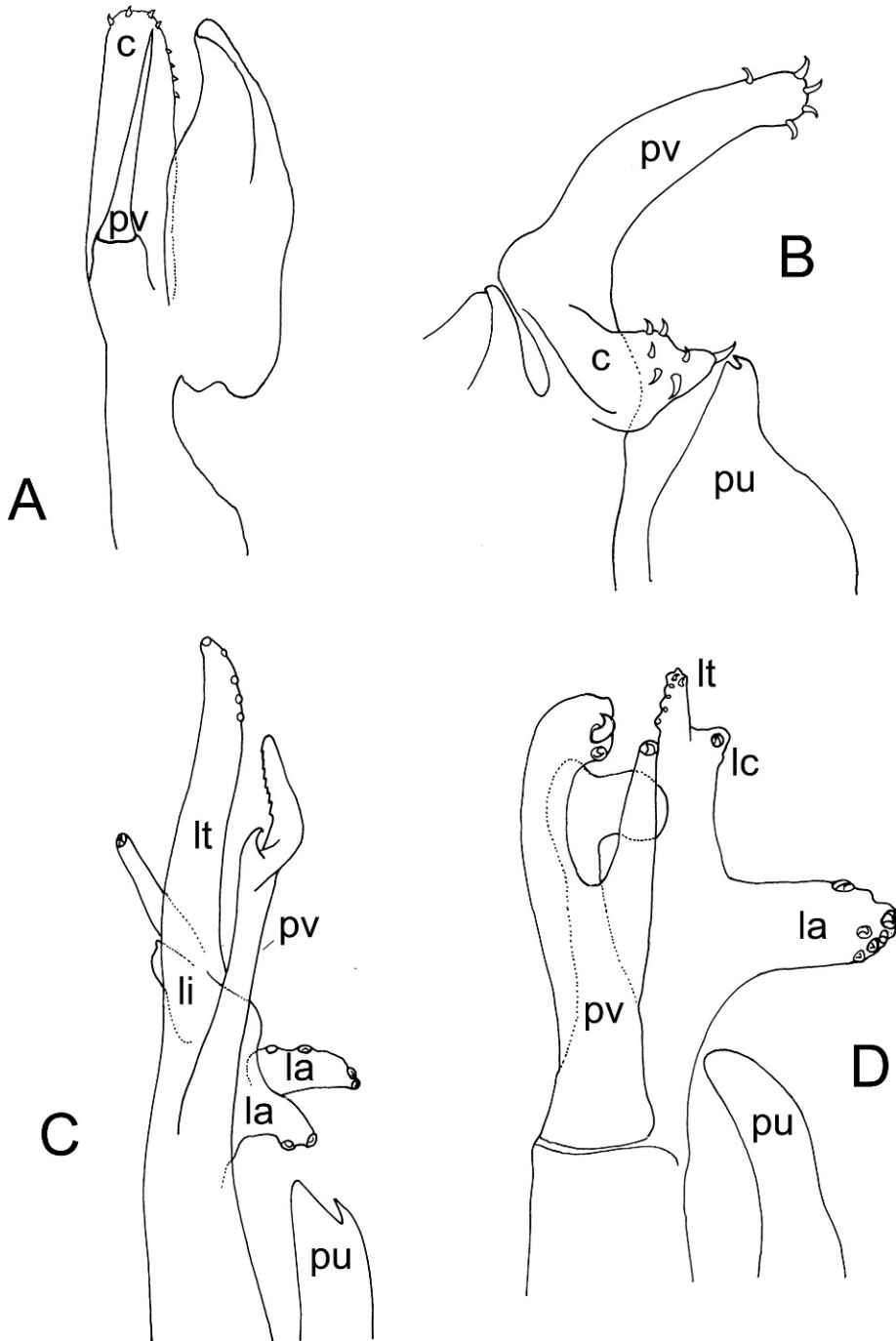


Fig. 3. Petasmata of selected species of other sergestid genera. A, *Acetes indicus*; B, *Peisos petrunkevitchi*; C, *Petalidium foliaceum*; D, *Sicyonella maldivensis*. c - capitulum; la - lobus armatus; lc - lobus connectens; li - lobus inermis; lt - lobus terminalis; pu - processus uncifer; pv - processus ventralis.

and 2 lacking ischial spines. Fingers of chela of pereopod 2 subequal. Pereopod 3, coxa lacking tooth; single arthrobranchia present. Pereopod 4 consisting of 5 podomeres; arthrobranchia present. Pereopod 5 represented by pair of vestigial conical tubercles in male, consisting of 3 podomeres in female. Petasma with pars media relatively short but not broad; bearing short capitulum and elongate processus ventralis. Appendix masculina bearing pair of marginal hooks. Outer margin of lateral uropodal ramus setose for less than two-fifths of length, bearing tooth.

Type species.—By original designation, *Petisos petrunkevitchi* Burkenroad, 1945.

Type locality.—Montevideo, Uruguay.

Species.—*P. petrunkevitchi* Burkenroad, 1945.

Petalidium Bate, 1881

Fig. 3C

Diagnosis.—Cuticle lacking photophores. Carapace having minute hepatic spine, lacking supraorbital spine. Organs of Pesta absent. Ocular tubercle present. Antennular peduncle with third article subequal to or slightly shorter than first; stylocerite fixed. Maxillule and maxilliped 1 each with well-developed palp. Maxilliped 3 not longer or more robust than pereopod 3, propodus and dactylus not subdivided. Pereopod 2, fingers of chela subequal. Pereopod 3, coxa 3 lacking tooth; posterior arthrobranchia lamellar. Branchiae present or absent above pereopod 4. Pereopods 4 and 5 each of 6 podomeres, two distal podomeres setose only on posterior margin. Petasma with pars media elongate; processes, especially lobus terminalis and distally bifurcate processus ventralis relatively elongate; lobus armatus usually bipartite; lobus connectens and lobus inermis short. Appendix masculina of pleopod 2 relatively elongate, 3–4 times longer than wide, bearing few distal marginal hooks. Outer margin of lateral uropodal ramus

setose for about distal fifth, bearing tiny tooth distally.

Type species.—By monotypy, *Petalidium foliaceum* Bate, 1881.

Type locality.—Off Marion Island, 46°46'S, 45°31'E, 2516 m.; South of Australia, 47°25'S, 130°22'E, 3935 m.

Species.—*P. foliaceum* Bate, 1881; *P. obesum* (Krøyer, 1859); *P. suspiciosum* Burkenroad, 1937.

Sicyonella Borradaile, 1910

Fig. 3D

Diagnosis.—Cuticular photophores lacking. Carapace having supraorbital and hepatic spines. Organs of Pesta lacking. Ocular tubercle lacking. Antennular peduncle with third article much shorter than first; stylocerite fixed. Maxillule and maxilliped 1 each with palp. Maxilliped 3 longer and more robust than pereopod 3; dactylus consisting of 4 articles. Pereopods 1 and 2 lacking ischial spines. Pereopod 2, fingers of chela subequal. Pereopod 3, coxa lacking tooth. Two branchiae present above pereopod 4. Pereopods 4 and 5 each of 7 podomeres. Last 2 podomeres of pereopod 5 setose on posterior margin only. Petasma with pars media and processes relatively elongate; lobus armatus short, straight; processus ventralis consisting of 2 or 3 strong lobes. Appendix masculina of pleopod 2 short, ovate, bearing few distal marginal setae. Outer margin of lateral uropodal ramus setose for distal 20%, bearing tooth.

Type species.—By monotypy, *Sicyonella maldivensis* Borradaile, 1910.

Type locality.—Maldive Islands, Indian Ocean.

Species.—*S. antennata* Hansen, 1919; *S. elegans* Calman, 1913; *S. inermis* (Paulson, 1875); *S. maldivensis* Borradaile, 1910.

Key to the Genera of the Family Sergestidae

- 1. Pereopod 4 present, pereopod 5 present or absent 2

- Pereopods 4 and 5 absent *Acetes*
- 2. Pereopod 4 of fewer than 7 podomeres 3
- Pereopod 4 consisting of 7 podomeres *Sicyonella*
- 3. Pereopods 4 and 5 consisting of 6 podomeres 4
- Pereopod 4 consisting of 5 podomeres; pereopod 5 vestigial in male, of 3 podomeres in female *Peisos*
- 4. Processus ventralis of petasma not bifurcate; outer margin of lateral uropodal ramus setose for 30% or more of length 5
- Processus ventralis of petasma distally bifurcate; outer margin of lateral uropodal ramus setose for 20% or less of length *Petalidium*
- 5. Organs of Pesta present; body semi-transparent 6
- Organs of Pesta absent; body opaque *Sergia*
- 6. Maxilliped 3 much longer than pereopod 3 7
- Maxilliped 3 subequal in length to pereopod 3 9
- 7. Last 2 podomeres of pereopod 5 setose only on posterior margin . . . 8
- Last 2 podomeres of pereopod 5 setose on both margins . . *Allosergestes*
- 8. Outer margin of lateral uropodal ramus setose for entire length; dactylus of maxilliped 3 consisting of 6 articles *Neosergestes*
- Outer margin of lateral uropodal ramus not setose for entire length; dactylus of maxilliped 3 consisting of 4 articles *Parasergestes*
- 9. Two distal podomeres of pereopod 5 setose only on posterior margin; outer margin of lateral uropodal ramus setose for distal 1/3, having tooth 10
- Two distal podomeres of pereopod 5 setose on both margins; outer margin of lateral uropodal ramus setose for distal 2/3, lacking tooth *Deosergestes*
- 10. Third article of antennular peduncle subequal to or longer than first *Sergestes*
- Third article of antennular peduncle much shorter than first . . . *Eusergestes*

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