AN ILLUSTRATED KEY TO THE MALACOSTRACA (CRUSTACEA) OF THE NORTHERN ARABIAN SEA

PART II: STOMATOPODA

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ABSTRACT: The key deals with 40 stomatopod species belonging to 17 genera and 9 families. Each species is accompanied by illustrations of the key characters. For each species the first reporter is referenced. A schematic diagram is given explaining terminology.

KEY WORDS: Malacostraca - Arabian Sea - Stomatopoda - Key.

INTRODUCTION

Stomatopods or mantis shrimps are inhabitants of littoral regions where they live in bottom crevices or burrows. They are occasionally caught in fish nets and are landed with the trash at fish harbours. The larvae are planktonic. Most aspects of the general biology of species occurring on our coast are hardly understood except that some species are abundant and comparatively common and their material might be collected readily for a variety of studies. The most important is or might be their use as food for human consumption. A preliminary study was undertaken by Tirmizi and Bashir (1975) when individuals of mantis shrimps and penaeid shrimps of the same size were studied and observed that the edible meat in the two was of the same weight.

The species composition in the northern Arabian Sea shows diversification. The earliest records of Stomatopoda in the northern Arabian Sea are in Wood-Mason (1895) of Squilla supplex from Bombay. Out of the 37 species reported from the Arabian Sea about 28 species are known from along the Indian subcontinent (Manning, 1988). Baig (1954) for the first time after partition from Karachi, Pakistan recorded 3 species and then Tirmizi and Manning (1968) from Pakistan in a monographic work reported 17 species and later on Tirmizi and Kazmi (1981) keyed out 19 species. Ahmed et al. (1972) published a list for marine fauna of Pakistan. This list includes 8 species of stomatopods. Lloyd (1908) mentions of Squilla species from southwest coast of Arabia collected by RIMSS Investigator in 1907 and himself reported 6 species from Bombay and Karachi. Of these, the record of Squilla cvatoria (misspelled for oratoria) is considered here to be mistakenly given from Bombay by Lloyd since S. oratoria certainly does not occur south or west of Vietnam (RBM). Chopra (1939) from South Arabian coast reported Lysiosquilla sewelli, Gonodactylus demani var. espinosus, G. demani var. ? espinosus, Eurysquilla sewelli and from Kuria Muria Island Pseudosquilla ciliata. The gonodactylid lot actually contained G. choprai Manning, 1967 and G. incipiens Lancaster, 1903 (Manning, 1990). From
southern Oman Hogarth (1989) reported 3 species. The fauna of Somalia coast is the least known, only 3 species have been reported from there (Manning, 1988). Duris (1987) reported *Echinosquilla guerinii* from the western Indian Ocean (Socotra Island). Ghosh (1990) mentioned 13 species from Lakshadweep, only 4 of these fall in the area studied.

All these species are now included in the present key. In the key, taxa occurring in the Pakistan waters are preceded by an asterisk (*). For nomenclatural changes Manning's works are generally followed. Further, based on Manning's works of 1988 and 1991 a list is prepared for the species occurring in the Gulfs and the Red Sea; these species are not given in the key and are listed below:

Family Coronididae: *Neocoronida trachurus* (von Martens, 1881)
Family Lysiosquillidae: *Lysiosquilla maculata* (Fabricius, 1793)
Family Nannosquillidae: *Acanthosquilla derijardi* Manning, 1970  
  *Acanthosquilla vicina* (Nobili, 1904)  
  *Keppelius hestricotelson* (Barnard, 1958)  
  *Pullosquilla thomassini* Manning, 1978
Family Gonodactylidae: *Gonodactylus acutirostris* de Man, 1898  
  *Gonodactylus mutatus* Lanchester, 1903
Family Protosquillidae: *Chorisquilla spinosissima* (Pfeffer, 1888)
Family Pseudosquillidae: *Pseudosquilla megalophthalma* Bigelow, 1893
Family Squillidae: *Alima neptuni* (Linnaeus, 1768)  
  *Anchisquilla fasciata* (de Haan, 1844)  
  *Carinosquilla carinata* (Serene, 1950)  
  *Clorida fallax* (Bouvier, 1914)  
  *Kempina stridulans* (Wood-Mason, 1895)  
  *Kempina mikado* (Kemp and Chopra, 1921)  
  *Lenisquilla gilesi* (Kemp, 1911)  
  *Lenisquilla lata* (Brooks, 1886)  
  *Leptosquilla schmelzii* (A. Milne Edwards, 1873)  
  *Oratosquilla bristeini* Makarov, 1971  
  *Oratosquilla gonyptes* (Kemp, 1911)  
  *Oratosquilla massavensis* (Kossmann, 1880)  
  *Oratosquilla simulans* (Holthuis, 1967)  
  *Oratosquilla striata* Manning, 1978  
  *Oratosquilla perpensa* (Kemp, 1911)

A schematic diagram (Fig. 1) is given for the technical terms used in the key. Total length (TL) of the specimens is given when possible. Total length is measured along the midline from the anterior margin of the rostral plate to the posterior apices of the submedian teeth of the telson.
Fig. 1. Terms used in key: a. Squillidae, carinal terminology; b. Lysiosquillidae, propodus and dactylus of mxp.3; c. Eurysquillidae, Gonodactylidae and Pseudosquillidae, telson and last abdominal somite (from Manning, 1977c).

KEY

1. Propodi of mxp.3 and 4 broad, usually beaded or ribbed ventrally.........................2
   - Propodi of mxp.3 and 4 slender, not beaded or ribbed ventrally. At most, submedian marginal teeth of telson with movable apices..............................................6

2. Telson lacking sharp dorsal median carina.........................................................3
   - Telson with sharp dorsal median carina.............................................................6
Endopodal segments of walking legs slender. Proximal portion of outer margin of uropodal endopod lacking proximal fold.................................

A single family Erythrosquillidae Manning and Bruce, 1984.


A sole species: E. megalops Manning and Bruce, 1984.

References: Manning and Bruce, 1984.

Fig. 2. Erythrosquilla megalops Manning & Bruce, 1984: a. anterior part of body, b. lateral process of thoracic somites 5-7; c. last abd. somite, telson and uropod; d. carpus, propodus and dactylus of mxp.3; e. raptorial claw; f. right uropod, ventral view (after Manning and Bruce, 1984).

3. Distal segment of endopod of anterior 2 walking legs broadly ovate or subcircular. Proximal portion of outer margin of uropodal endopod with a strong fold...........

Family Nannosquillidae Manning, 1980.

Cornea subglobular. Rostral plate subquadrate, trispinous anteriorly or with single apical spine. Dorsal surface of telson with fan-shaped row of 5 spines. Movable submedian marginal teeth present on telson........ A single genus: Acanthosquilla Manning, 1963.............................
Distal segment of endopod of anterior 2 walking legs strap-shaped, elongate. Proximal portion of outer margin of uropodal endopod lacking strong fold.......................................................Family Lysiosquillidae Giesbrecht, 1910.

Dorsal surface of telson unarmed. Cornea bilobed. Rostral plate heart-shaped. Dactylus of raptorial claw not inflated basally, with 11-13 teeth.........................

............................................A single species: *Lysiosquilla tredecimdentata* Holthuis, 1941.

References: Baig, 1954 as *Lysiosquilla maculata* (Fabricius, 1793);
Tirmizi and Manning, 1968.

Fig. 3. *Lysiosquilla tredecimdentata* Holthuis, 1941: a.dorsal view (TL.259 mm);
b.anterior part of body; c.last abd. somite,telson and uropod (after Tirmizi and Kazmi, 1981).
4. Telson with 2 pairs of fixed marginal teeth ......................................................... 5

References: Ghosh, 1981.

Fig. 4. *Acanthosquilla humesi* Manning, 1968: a. anterior part of body; b. raptorial claw; c. abd. somite 5 - 6, telson and uropod (after Manning, 1968a).

References: Tirmizi and Manning, 1968.

Fig. 5. *Acanthosquilla acanthocarpus* (Claus, 1871): a. dorsal view (TL.52 mm); b. raptorial claw; c. telson and uropod (after Tirmizi and Kazmi, 1981).
Distal lobe on outer margin of dactylus of claw much the larger. Submedian denticles of telson in oblique rows. Rostral plate rectangular, with apical median projection. Dactylus of claw with 5–6 teeth. *A. multifasciata* (Wood-Mason, 1895)


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6. Four or more intermediate marginal denticles present on telson ........................................................... 7
   - No more than 2 intermediate marginal denticles present on telson ......................................................... 22
   - Posterolateral angles of carapace deeply emarginate. Upper margin of propodus of claw with row of large, erect spines and intervening smaller spines ................................................................. Family Harpiosquillidae Manning, 1980.

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Fig. 6. *Acanthosquilla multifasciata* (Wood-Mason, 1895): a. dorsal view; b. anterior part; c. raptorial claw; d. telson (after Wood-Mason, 1895).

8. Fifth thoracic somite with a lateral spine

8. Fifth thoracic somite rounded laterally. Dactylus of raptorial claw with 8 teeth. Indistinct submedian carinae on thoracic and first 5 abd. somites

References: Tirmizi and Manning, 1968.

Fig. 7. *Harpiosquilla harpax* (de Haan, 1844): a. dorsal view; b. anterior part of body; c. outline of lateral processes of exposed thoracic somites; d. last two abd. somites, telson and uropod (after Manning, 1968a).

\[ \text{H. annandalei} \text{ (Kemp, 1911) } \]

References: Manning, 1969b.

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Fig. 8. *Harpiosquilla annandalei* (Kemp, 1911): a: dorsal view (after Kemp, 1913); b: anterior part of body; c: lateral processes of thoracic somites 5-7 (b, c after Manning, 1969b).
Submedian carinae of abd. somite 5 unarmed. Distal segment of uropodal exopod with inner half dark, not black.......................... *H. raphidea (Fabricius, 1798)

References: Tirmizi and Manning, 1968.

Fig. 9. Harpiosquilla raphidea (Fabricius, 1798): a. dorsal view; b. front; c. raptorial claw, male (after Manning, 1969b).
10. Cornea small, usually not as broad as stalk. Ocular scales fused. Submedian teeth of telson with movable apices. *Clorida* Eydoux and Souleyet, 1842..................11
- Cornea small or large always broader than stalk. Ocular scales separate. Submedian teeth of telson with fixed apices............................................................14
11. Abd. somites 1-5 with faint but distinct submedian carinae.................................12
- Abd. somites 1-5 without trace of submedian carinae........................................13
12. Lateral processes of thoracic somite 5 directed straight outward........................


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Fig. 10. *Clorida latreillei* Eydoux and Souleyet, 1842: a. dorsal view (TL. 43 mm); b. anterior part of body; c. telson of breeding male; d. uropod (after Tirmizi and Kazmi, 1981)
Lateral process of thoracic somite 5 bent obliquely forward ....................................................... C. bombayensis (Chhapgar and Sane, 1968)

References: Chhapgar and Sane, 1967 as Squilla bombayensis
Reference to change: Ghosh and Manning, 1988.

Fig. 11. Clarida bombayensis (Chhapgar and Sane, 1968): a. dorsal view; b. raptorial claw; c. last abd. somite, telson and uropods (after Chhapgar and Sane, 1967).
13. Mandibular palp absent.................. *C. microphthalmalma* (H. Milne Edwards, 1837)

References: Wood-Mason, 1895 as *Chloridella microphthalmalma* (H. Milne Edwards, 1837); Tirmizi and Manning, 1968 as *Chlorida microphthalmalma* (H. Milne Edwards, 1837)

Fig. 12. *Chlorida microphthalmalma* (H. Milne Edwards, 1837): a. dorsal view (TL 32 mm); b. eyes; c. raptorial claw; d. telson and uropod of female; e. uropod (after Tirmizi and Kazmi, 1981).
- Mandibular palp present. ...................... *C. denticauda* (Chhapgar and Sane, 1968)
  References: Chhapgar and Sane, 1967 as *Squilla denticauda*.
  Reference to change: Ghosh and Manning, 1988

Fig. 13. *Clorida denticauda* (Chhapgar and Sane, 1968): a. dorsal view; b. raptorial claw; c. abd. somite 6, telson and uropods (after Chhapgar and Sane, 1967).
- Lateral processes of thoracic somites 5-7 bilobed. Four or more epipods present...
  ..........................................................................................................................16

Fig.14. *Alimopsis supplex* (Wood-Mason, 1895): a. dorsal view; b. anterior part of body (after Wood-Mason, 1895); d. telson and uropod (after Kemp, 1913).
15. Lateral process of thoracic somite 5 with a large black spot. Apex of rostral plate narrow.................................................................*C. scorpio (Latreille, 1828)
References: Tirmizi and Manning, 1968

Fig. 15. Cloridopsis scorpio (Latreille, 1828): a. dorsal view (TL 71mm); b. eye; c. rostrum and anterior part of carapace; d. lateral process of thoracic somite 5; e. last abd. somite, telson and uropod (after Tirmizi and Kazmi, 1981).
- Lateral process of thoracic somite 5 lacking a large black spot. Apex of rostral plate broad.................................................. *C. immaculata* (Kemp, 1913)

References: Tirmizi and Manning, 1968.

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Fig. 16. *Cloridopsis immaculata* (Kemp, 1913): a. anterior part of body (after Kemp, 1913); b. rostral plate; c. lateral process of thoracic somite 5 (after Tirmizi and Manning, 1968).
16. Carapace with full complement of carinae. Inner margin of basal prolongation of uropod with at most serrations or tubercles .................................................................
- Carapace usually with reduced complement of carinae. Inner margin of basal prolongation of uropod with spines. Telson without dorsal tubercles. ........................................
.................................................................................................................A single species: *Squilloides leptosquilla* (Brooks, 1886).

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Fig. 17. *Squilloides leptosquilla* (Brooks, 1886): a. dorsal view; b. eye; c. lateral processes of thoracic somites 5-7; d. outline of submedian teeth and denticles of telson; e. basal prolongation of uropod (a after Brooks, 1886, b-e after Manning, 1968b).
17. Cornea expanded, very large, width about 1/3 carapace length. Dactylus of raptorial claw with 10-18 teeth (rostral plate without median carina) ..........

.......................................................................................... A sole species: *Natosquilla investigatoris* (Lloyd, 1907)

References: Lloyd, 1907 as *Squilla investigatoris* Lloyd, 1907
Reference to change: Manning, 1978b.

Fig. 18. *Natosquilla investigatoris* (Lloyd, 1907): a. dorsal view (after Lloyd, 1908);
b. anterior part of body; c. thoracic somites 5-7; d. raptorial claw; (after Manning, 1978b); e. telson (b-e after Chopra, 1939).
- Cornea width less than 1/3 carapace length (if cornea equal to or larger than 1/3 carapace length, then rostral plate with median carina). Dactylus of raptorial claw with 5 or 6 teeth. *Oratosquilla* Manning, 1963 ................................................................. 18


References: Lloyd, 1908 as *Squilla hemichista*
Reference to change: Kemp, 1913; Tirmizi and Manning, 1968

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Fig. 19. *Oratosquilla nepa* (Latreille, 1820). a. dorsal view (TL, 92 mm); b. carapace; c. last abd. somite, telson and uropod (after Tirmizi and Kazmi, 1984).
- Anterior bifurcation of median carina of carapace absent, or when present open anterior to dorsal pit. Cornea large, set obliquely on stalk.................................19

19. Anterior branches of bifurcation of median carina of carapace present, well-formed, median carina interrupted at base of bifurcation (dactylus of raptorial claw with 6 teeth).............................................................*O. interrupta*(Kemp, 1911).

References: Baig, 1954 as *Squilla interrupta* Kemp, 1911;
Tirmizi and Manning, 1968.

Fig. 20. *Oratosquilla interrupta* (Kemp, 1911): a. dorsal view (TL. 88 mm); b. rostrum and anterior part of carapace; c. lateral processes of abd. somites 5-7; d. basal prolongation of uropod. (b-d after Tirmizi and Kazmi, 1981).
Anterior branches of bifurcation of median carina of carapace completely absent, area of bifurcation usually smooth, polished (occasionally arms of bifurcation represented by broken lines or by lines of pigment; entire branches rarely present) .................................................. 20


References: Kemp, 1913 as *Squilla woodmasoni* (part); Tirmizi and Manning, 1968. Reference to change: Tirmizi and Manning, 1968

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Fig. 21. *Oratosquilla hesperia* (Manning, 1968): a. dorsal view (TL.51 mm); b. anterior part of body; c. lateral processes of thoracic somites 5-7; d. telson and uropod (b,c after Manning, 1968a).
Anterior width behind the anterolateral angles almost invariably more than 1/2 of its length in median line including rostrum. Anterior bifurcation with almost low prominences indicating position of bifurcation often indicated by pigment only. Dactylus of raptorial claw with 6 teeth....................O. woodmasoni (Kemp, 1911)

References: Lloyd. 1907 as Squilla polita Bigelow, 1891
Reference to change: Kemp, 1913

Fig. 22. Oratosquilla woodmasoni (Kemp, 1911): a. anterior part of body; b. raptorial claw; (after Dingle et al. 1977); c. lateral processes of thoracic somites 5-7; d. submedian teeth and denticles of telson; e. basal prolongation of uropod (a, c-e after Manning, 1978b).
- Anterior width of carapace less than 1/2 median length. Dactylus of raptorial claw with 5 teeth. .................................................. *O. quinquedentata* (Brooks, 1886)

References: Chhapgar and Sane, 1968 as *Squilla quinquedentata* Brooks, 1886

Reference to change: Manning, 1978b

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Fig. 23. *Oratosquilla quinquedentata* (Brooks, 1886): a. dorsal view (from Dingle et al., 1977); b. anterior part of body; c. lateral processes of thoracic somites 5-7; d. submedian denticles of telson; e. basal prolongation of uropod (b-e after Manning, 1978b).

21. Ischiomeral articulation of claw terminal, merus not projecting. Dactylus of raptorial claw not inflated basally, lacking prominent projection on outer margin posteriorly beyond articulation. ................................................................. 22
- Ischiomeral articulation of raptorial claw subterminal, merus projecting posteriorly beyond articulation. Dactylus of raptorial claw inflated basally, prominent, rounded projection on outer margin.................................................................24

22. Body loosely articulated. Dactylus of claw with 4 or more teeth..........................
.........................................................................................................................Family Eurysquillidae Manning, 1977..................................................23

- Body compact. Dactylus of raptorial claw with no more than 3 teeth....................
............................................................................................................................Family Pseudosquillidae Manning, 1977

Eyes subcylindrical, long, cornea rounded. Raptorial plate ovate. Raptorial claw slender, dactylus armed with 3 teeth. Telson with sharp median carina and 3 pairs of dorsal carinae. Submedian teeth of telson long, movable, submedian denticles completely absent............................................A single species: *Pseudosquilla ciliata* (Fabricius, 1787).

References: Chopra, 1939; Manning, 1990.

Fig. 24. *Pseudosquilla ciliata* (Fabricius, 1787): a. dorsal view; b. mxp. 3-5 (after Manning, 1968b), c. last abd. somite telson and uropod (a,c after Manning, 1977c).

References: Chhapgar and Sane, 1968 as M. pilaensis (de Man, 1887);
Tirmizi and Manning, 1968.
Reference to change: Manning, 1990

Fig. 25. Manningia amabilis Holthuis, 1967: a. dorsal view; b. lateral processes of thoracic somites 5-8; c. raptorial claw; d. telson; e. uropod (after Holthuis, 1967).
- Dactylus of raptorial claw with 7 teeth. Basal prolongation of uropod unarmed on inner margin...............A single species: *Eurysquilla sewelli* (Chopra, 1939)

References: Chopra, 1939 as *Lysiosquilla sewelli*

Reference to change: Manning, 1963

Fig. 26. *Eurysquilla sewelli* (Chopra, 1939): a. carapace and exposed thoracic somites; b. raptorial claw; c. two abd. somites and telson (after Chopra 1939 as *Lysiosquilla sewelli*).

24. Articulation of segments of uropodal exopod subterminal, proximal segment projecting posteriorly beyond articulation..................................Family Gonodactylidae Giestbrecht, 1910..........................................................26

- Articulation of segments of uropodal exopod terminal, proximal segment not projecting posteriorly beyond articulation..................................

..........................................................................................Family Protosquillidae Manning, 1980

25. Dorsal bosses of telson not extending posteriorly past mid length, posterior margin of telson with 4 pairs of teeth. *H. pulchella* (Miers, 1880)

References: Tirmizi, 1966, as *Protosquilla pulchella* Miers, 1880.

Fig. 27. *Haptosquilla pulchella* (Miers, 1880): a. dorsal view (TL. 40 mm); b. eye; c. raptorial claw; d. telson and uropod; e. uropod (after Tirmizi and Kazmi, 1981).
Dorsal bosses of telson extending almost to posterior margin; posterior margin of telson with 3 pairs of teeth. 

*H. Ienzi* (Holthuis, 1941)

References: Tirmizi, 1966 as Protosquilla Ienzi Holthuis, 1941

Fig. 28. *Haptosquilla lenzi* (Holthuis, 1941): a. dorsal view (TL, 33 mm); b. eyes and ophthalmic scales; c. carapace and rostrum; d. raptorial claw; e. last abd. somite, telson and uropod (after Tirmizi and Kazmi, 1981).
26. Anterior margins of lateral plates of carapace convex, extending well anterior to base of rostral plate .............................................................................................................. 27
- Anterior margins of lateral plates of carapace straight or slightly concave, not extending anteriorly past base of rostral plate.

Dorsal spines of telson with fleshy apices. Uropodal endopod with erect dorsal spines ................................................................. A single species: *Echinosquilla guerinii* (White, 1861).
References: Duris, 1987

![Fig. 29. *Echinosquilla guerinii* (White, 1861): a. dorsal view (from Manning, 1969a); b. anterior region; c. raptorial claw; d. last abd. somites, telson and uropods; e. uropod, ventral view (after Miyake and Hashiguchi, 1965).]
27. Rostral plate not trispinous, anterolateral angles rounded or acute but not spiniform. *Gonodactylus* Berthold, 1827 .......................................................... 28
   Rostral plate sharply trispinous. Distal most spines on outer margin of proximal segment of uropodal exopod enlarged, strongly recurved. *Mesacturoides* Manning, 1978 .................................................................................................. 35

28. Median area of telson with 5 longitudinal carinae. Basal prolongation of uropod with lobe between apical spines. Sixth abd. somite with median carinule .......................................................................................................................... 29

References: Chhapgar and Sane, 1968

Fig. 30. *Gonodactylus falcatus* (Forskal, 1775). a. rostrum and ocular scales; b. last abd. somite and telson; c. basal prolongation of uropod (after Manning, 1978a).

- Median area of telson with 3 longitudinal carinae. Basal prolongation of uropod lacking lobe between apical spines. Sixth abd. somite lacking median carinule. .......................................................................................................................... 29
29. Ocular scales broad, almost as wide as rostral plate, dorsally flattened 30

Reference: Ghosh, 1990

Fig. 31. *Gonodactylus viridis* Serene, 1954: a, rostral plate and ocular scales; b, sixth abd. somite, telson, and uropod (after Manning, 1978c).

- Ocular scales narrow, slender, about as wide as rostral spine 31
30. Lateral margins of rostral plate subparallel, anterolateral angles rounded 34
Lateral margin of rostral plate divergent, anterolateral angles sharp..............

*G. smithii* Pocock, 1893

References: Tirmizi and Manning, 1968; Ghosh, 1990 as *G. arabica*
Reference to change: RBM

Fig. 32. *Gonodactylus smithii* Pocock, 1893: a. dorsal view (TL. 67.5 mm); b. rostrum; c. telson and uropod; d. uropod (after Tirmizi and Kazmi, 1981).
31. Dorsal surface of telson lacking spinules ........................................................... 32
- Dorsal surface of telson ornamented with spinules ............................................ 33
32. Distal segment of uropodal exopod lacking distal ventral spine ....................... 

References: Chopra 1939 as *G. demani* var. ?espinosus
Reference to change: Manning, 1990.

Fig. 33. *Gonodactylus choprai* Manning 1967: a. rostral plate; b. last abd. somite, telson and uropod; c. uropod (after Manning, 1967b).
Distal segment of uropodal exopod with distal ventral spines

G. incipiens Lanchester, 1903.

References: Chopra, 1939 as G. demanii var. ? espinosus
Reference to change: Manning, 1990

Fig. 34. Gonodactylus incipiens Lanchester, 1903: a. rostral plate and ocular scales; b. claw (after Caldwell and Dingle, 1975); c. last abd. somite, telson and uropod; c’. submedian teeth of telson (after Manning, 1967b); d. uropod (after Manning, 1991).
33. Inner margin of uropodal endopod largely lacking setae, few setae present basally, inner margin of endopod smooth.................................. \textit{G. demanii} Henderson, 1893.

References: Tirmizi and Manning, 1968
Reference to change: Manning, 1990

\textbf{Fig.35.} \textit{Gonodactylus demanii} Henderson, 1893: a. front (after Ingle, 1963); b. last abd. somite, telson and uropod, c. uropod (after Manning, 1967b).
- Inner margin of uropodal endopod completely lined with setae. *G. lanchesteri* Manning, 1967

References: Kemp, 1913 as *G. spinosus*; Tirmizi and Manning, 1968
Reference to change: Manning, 1990

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Fig. 36. *Gonodactylus lanchesteri* Manning, 1967: a. dorsal view (TL 30 mm); b. anterior part of body; c. telson and uropod (after Tirmizi and Kazmi, 1981).
34. Telson with accessory median carinae, apices of carinae with small spines, marginal teeth blunt. $G. \text{affinis}$ de Man, 1902.
Reference: Manning, 1978c

Fig. 37. *Gonodactylus affinis* de Man, 1902: a. lateral processes of thoracic somites 6-8; b. last abd. somite, telson and uropod (after Manning, 1978c); c. uropod (from Manning, 1968a as $G. \text{segregatus}$).
No accessory median carinae................................................................. 35

35. Carinae of telson inflated, marginal teeth blunt. Lateral teeth of telson present

............................................................................................................. *G. botti* Manning, 1975.

References: Tirmizi and Manning, 1968 as *G. chiragra* (Fabricius, 1781)
Reference to change. Manning, 1990

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Fig. 38. *Gonodactylus botti* Manning, 1975: a. dorsal view (TL. 53 mm); b. anterior part of carapace and rostrum; c. claw (distal part); d. telson and uropod (after Tirmizi and Kazmi, 1981).
- Carinae of telson slender. Marginal teeth sharp. Lateral teeth absent............................................................
............................................................................................................G. platysoma (Wood-Mason, 1895)
Reference: Ghosh, 1990

Fig. 39. Gonodactylus platysoma (Wood-Mason, 1895): a. dorsal view (after Kemp, 1913); b. rostral plate and ocular scales (after Ghosh, 1990); c. last abd. somite and telson (after Dingle et al., 1977).
36. Numerous intermediate denticles present on telson. .................................

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*M. fimbriatus (Lenz, 1905)

References: Tirmizi and Kazmi, 1980 as Mesacturoides raymondi
Reference to change: Manning, 1990

Fig. 40. Mesacturoides fimbriatus (Lenz, 1905): a. dorsal view (TL. 31.5 mm); b. anterior part of body; c. raptorial claw; d. last abd. somite, telson and uropod; e. uropod (after Tirmizi and Kazmi, 1980).
- Intermediate margins of submedian and intermediate teeth each with one denticle

\[ M. \text{brevisquamatus} \ (\text{Paulson, 1875}) \]

References: Hogarth, 1989 as \textit{Mesacturus brevisquamatus} (Paulson, 1875)

Fig. 41. \textit{Mesacturoides brevisquamatus} (Paulson, 1875): a. anterior part of body; b. last abd. somites and telson (from Kemp, 1913); c. uropod (a,c after Ingle, 1963).

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