

Fig.1.1. Crustaceans parasitic on fishes. A, Cymothoid isopod, dorsal; B, Peraeopod of cymothoid showing clawed tip; C, Ventral view of cymothoid head showing mouthparts and compound eyes; D, Branchiuran of genus *Argulus*, dorsal; E, *Argulus*, ventral view showing maxillary suckers [Adapted from Rafi, 1988 and Kabata, 1988]

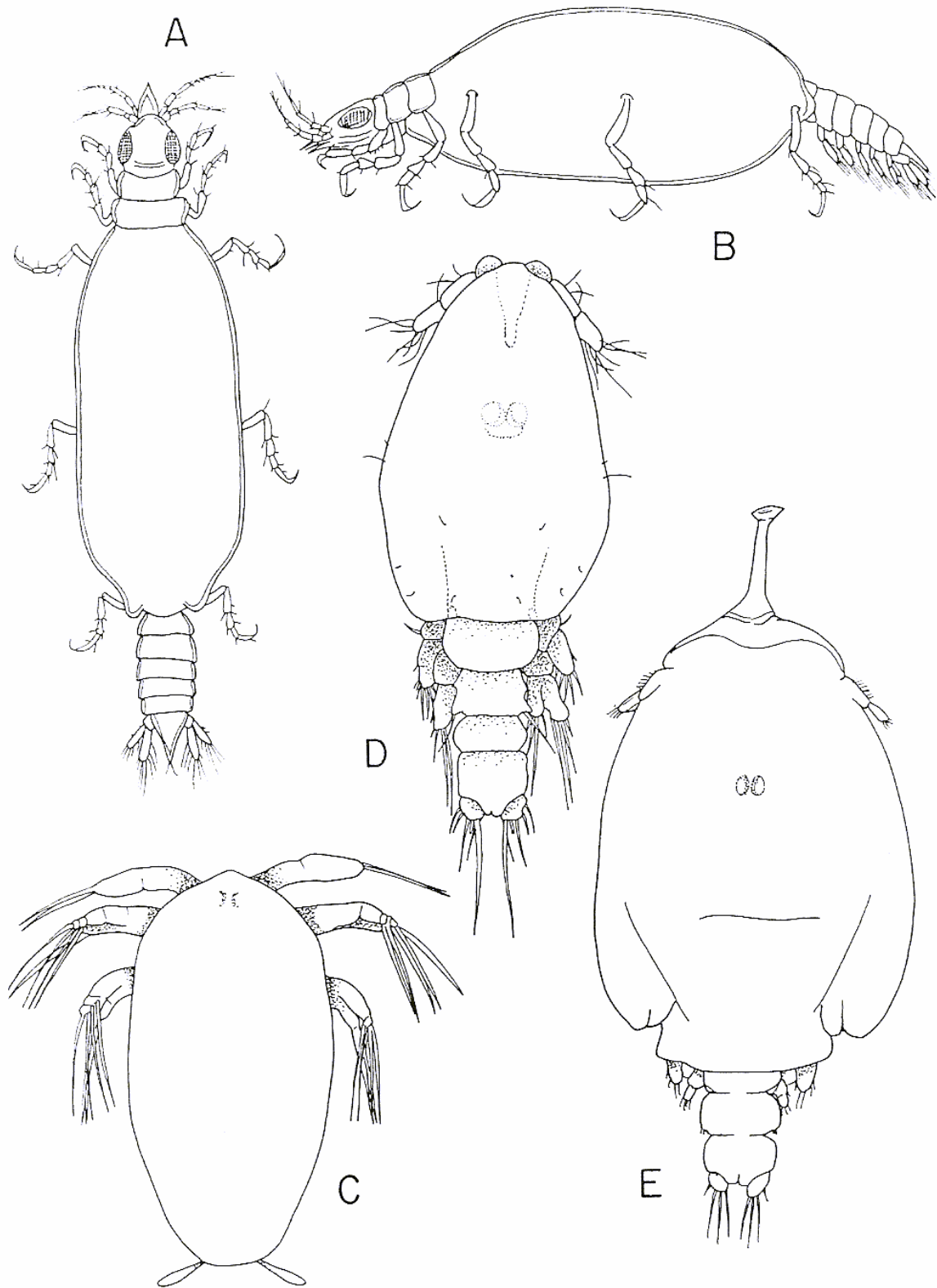


Fig. 1.2. A, Praniza larva of Gnathiid isopod, dorsal; B, Same, lateral; C, Nauplius stage of caligid; D, Copepodid stage of caligid; E, Chalimus stage of caligid. [Adapted from Sars, 1899 and Boxshall, 1974]

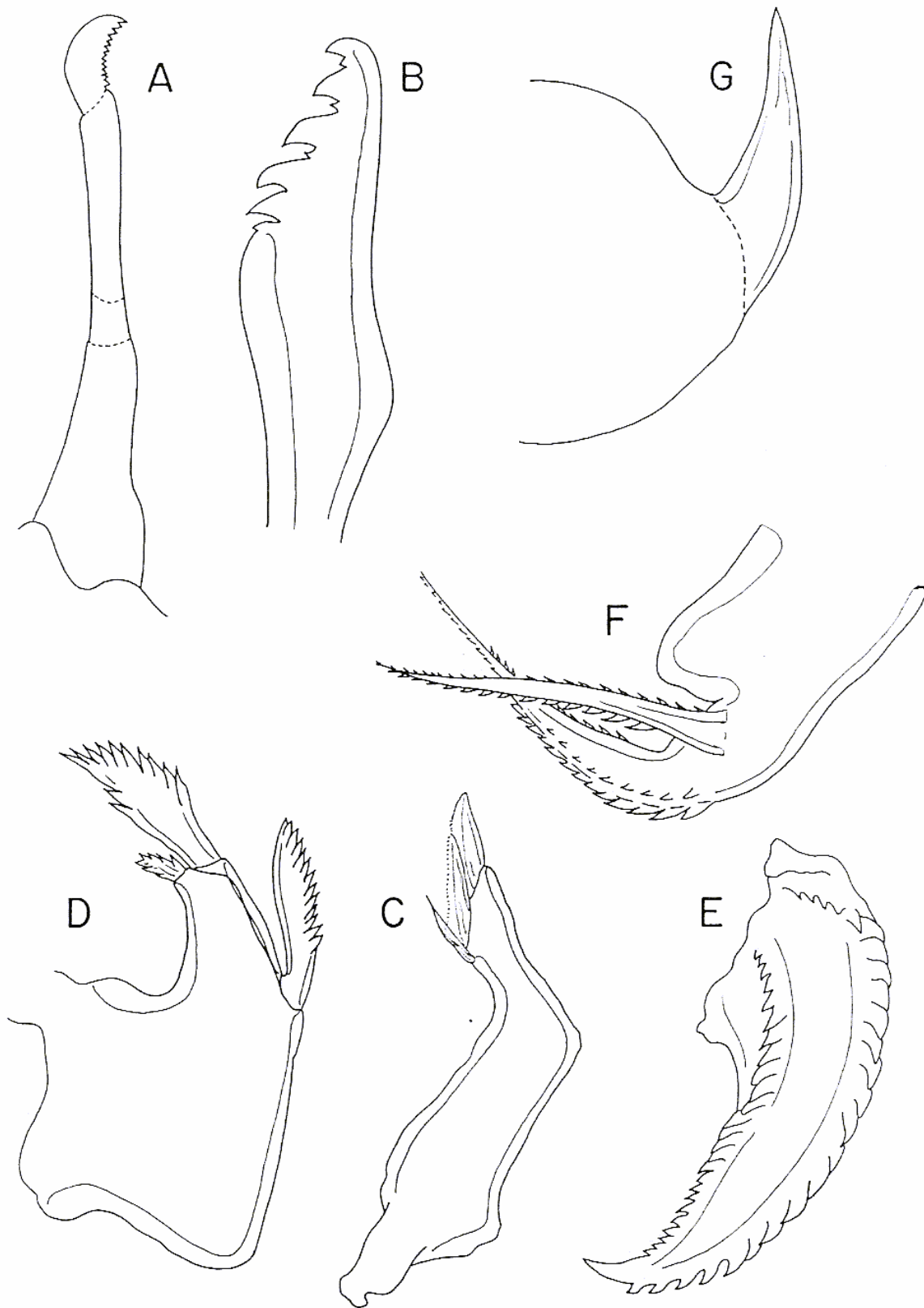


Fig. 2.1. Copepod mandibles. A, Siphonostomatoida, Caligidae; B, Siphonostomatoida, Lernaepodidae; C, Poecilostomatoida, Taeniacanthidae; D, Poecilostomatoida, Ergasilidae; E, Poecilostomatoida, Chondracanthidae; F, Poecilostomatoida, Shiinoidae; G, Cyclopoida, Lernaecidae.

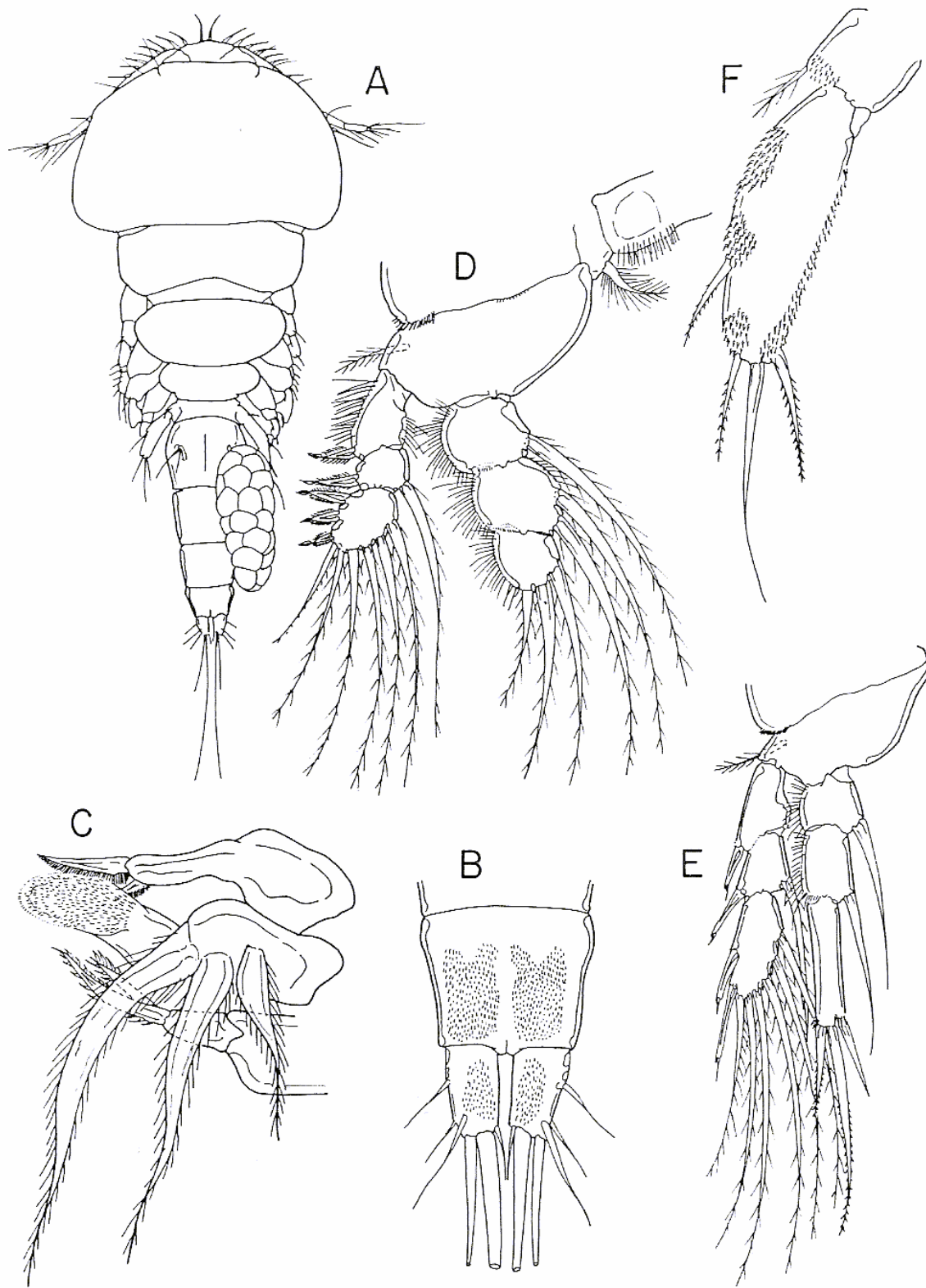


Fig. 3.1. Bomolochidae. *Acantholochus asperatus* (Cressey & Cressey). A, Female, dorsal; B, Anal somite and caudal rami, ventral; C, Mandible, paragnath, maxillule and maxilla; D, Female leg 2; E, Female leg 4; F, Female fifth leg. [Adapted from Cressey & Cressey, 1980]

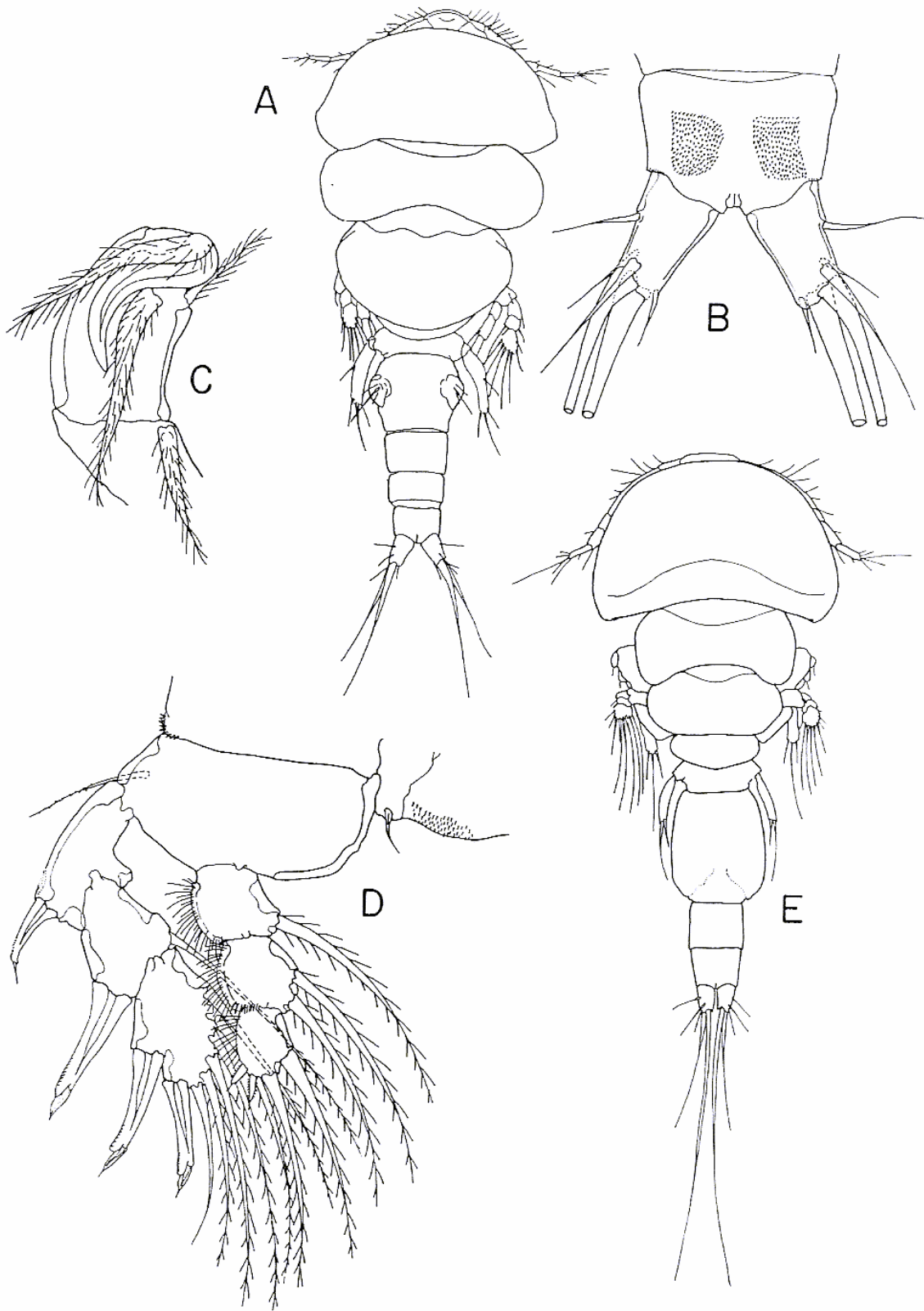


Fig. 3.2. Bomolochidae. *Acantholocus divaricatus* (Cressey & Cressey). A, Female, dorsal. B, Female anal somite and caudal rami, ventral; C, Female maxilliped; D, Female leg 3; E, Male, dorsal. [Adapted from Cressey & Cressey, 1980]

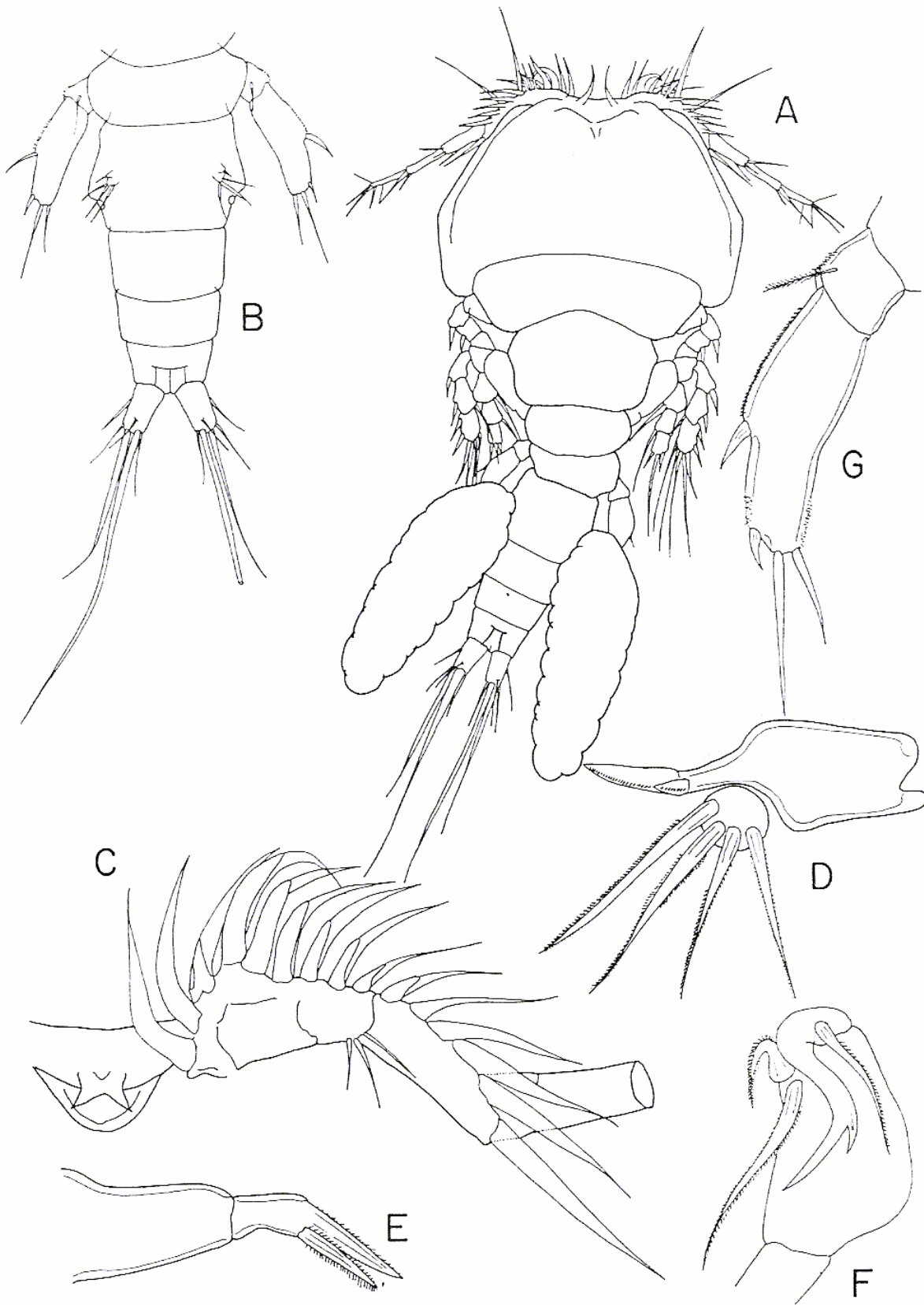


Fig. 3.3. Bomolochidae. *Bomolochus bellones* Burmeister. A, Female, dorsal; B, Female urosome, dorsal; C, Ventral aspect of left part of cephalothorax, showing basal part of antennule and rostrum; D, Mandible and maxillule; E, Maxilla; F, Female maxilliped; G, Female fifth leg. [Adapted from Vervoort, 1962]



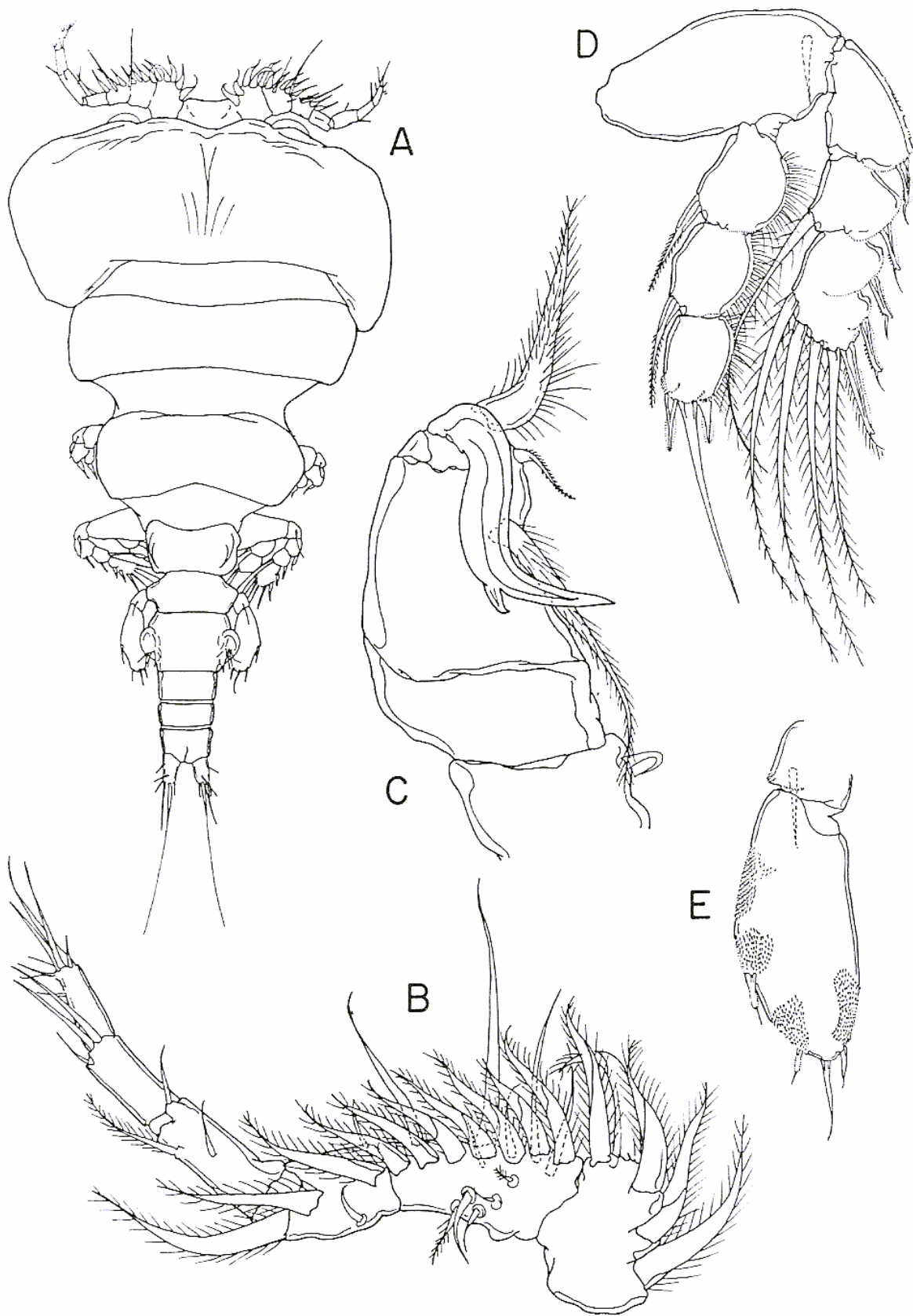


Fig. 3.4 Bomolochidae. *Bomolochus nitidus* Wilson. A, Female, dorsal; B, Antennule, ventral; C, Female maxilliped; D, Female fourth leg; E, Female fifth leg. [Adapted from Cressey, 1983]

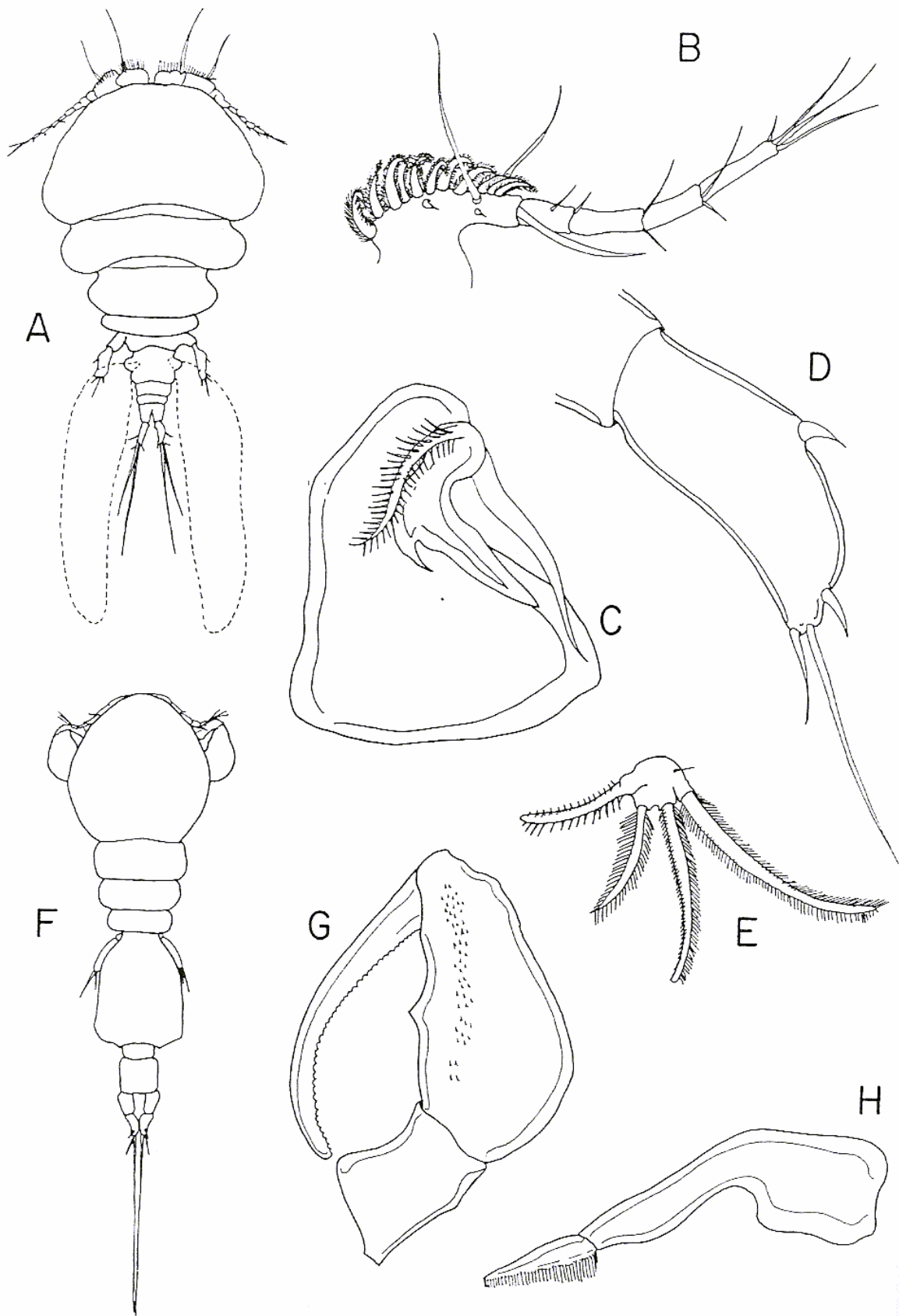


Fig. 3.5. Bomolochidae. *Bomolochus xenomelanirisi* Carvalho. A, Female, dorsal; B, Antennule, ventral; C, Mandible; D, Maxillule; E, Maxilliped; F, Female fifth leg; G, Male, dorsal; H, Male maxilliped. [Adapted from Carvalho, 1955a]



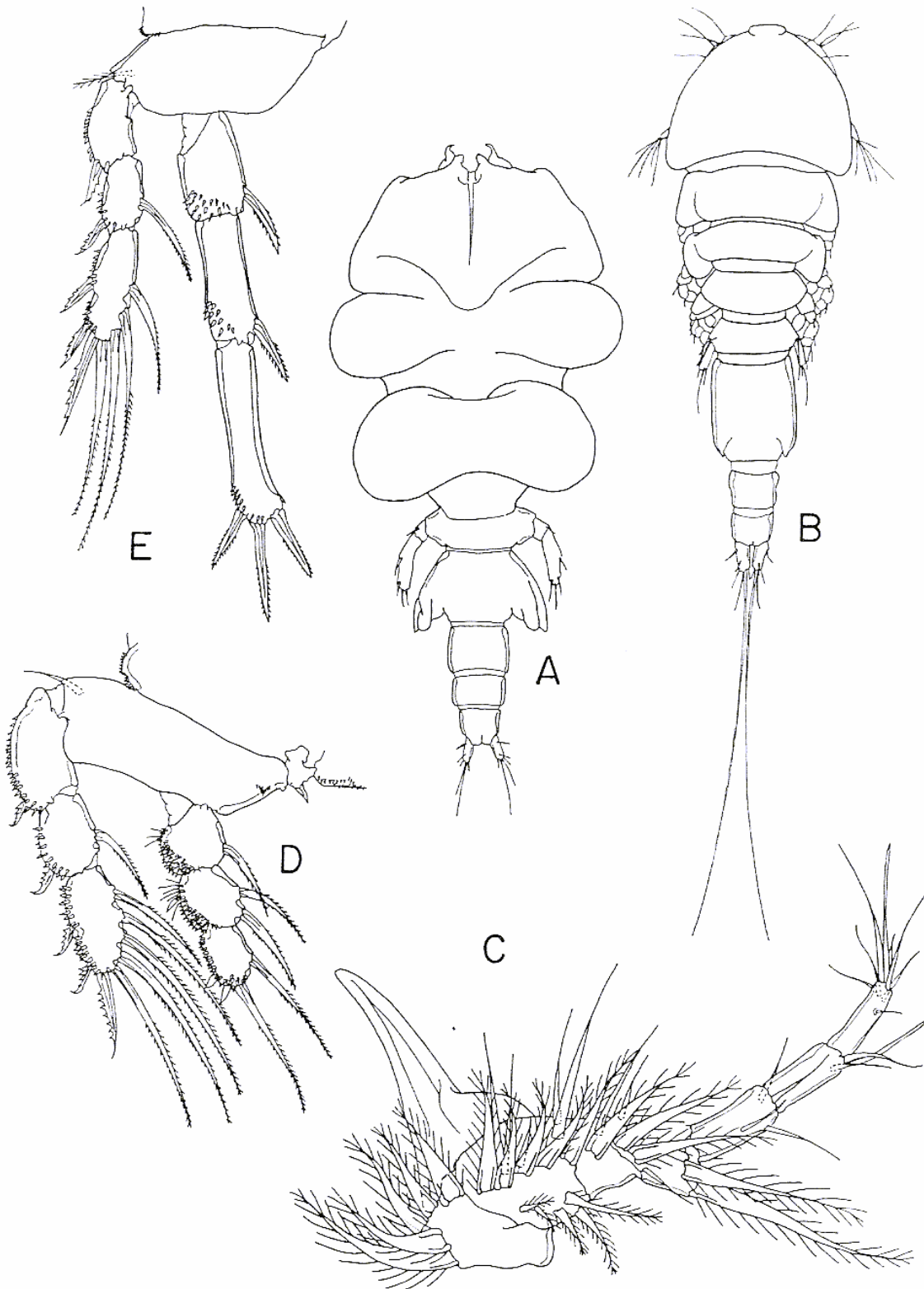


Fig. 3.6. Bomolochidae. *Ceratocolax euthynni* Vervoort. A, Female, dorsal. B, Male, dorsal. C, Female antennule. D, Female leg 3. E, Female, leg 4. [Adapted from Cressey & Cressey, 1980]

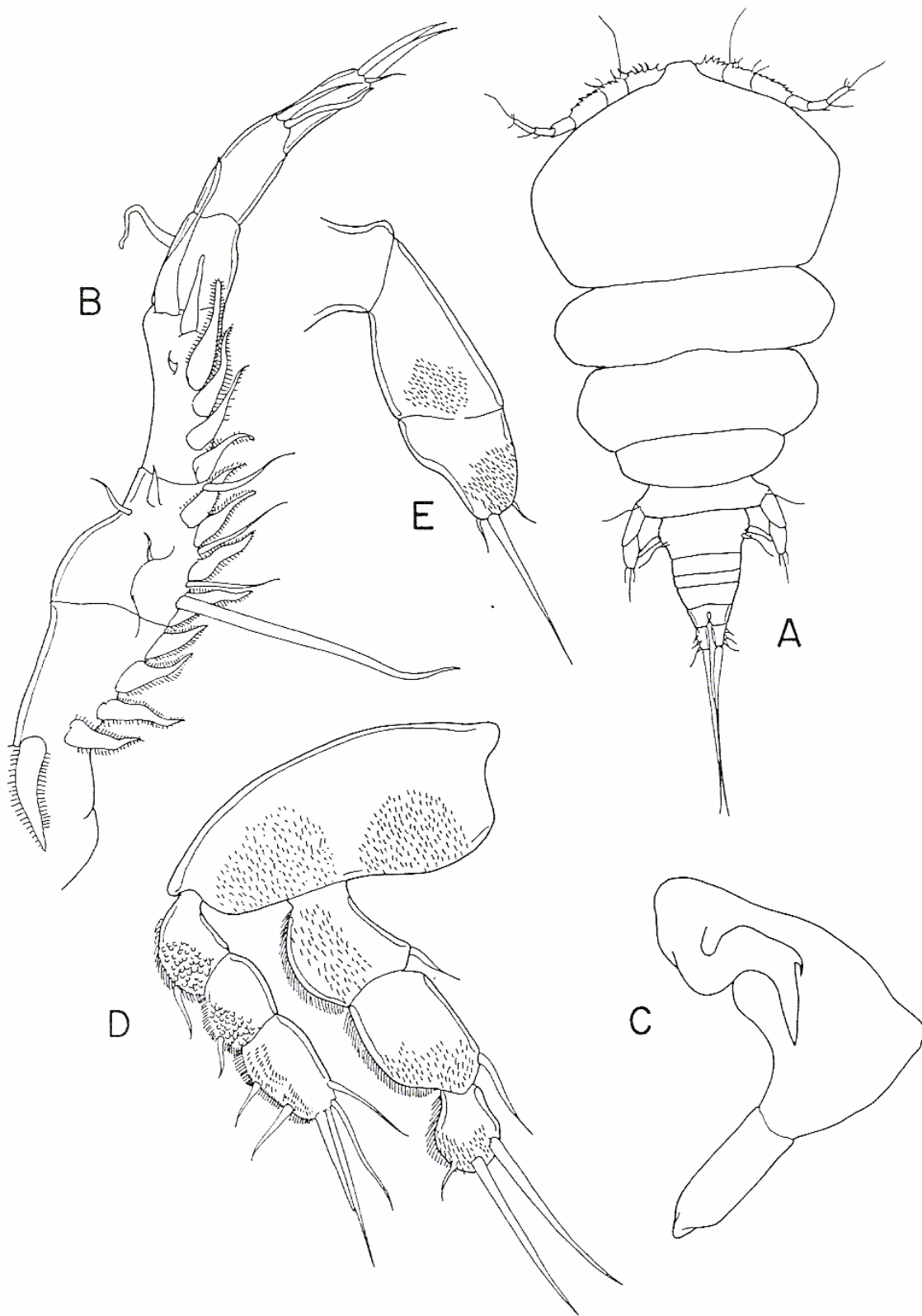


Fig. 3.7. Bomolochidae. *Orbitacolax dactylopterus* (Carvalho). A, Female, dorsal; B, Antennule; C, Female maxilliped; D, Leg 2; E, Fifth leg. [Adapted from Carvalho, 1958]

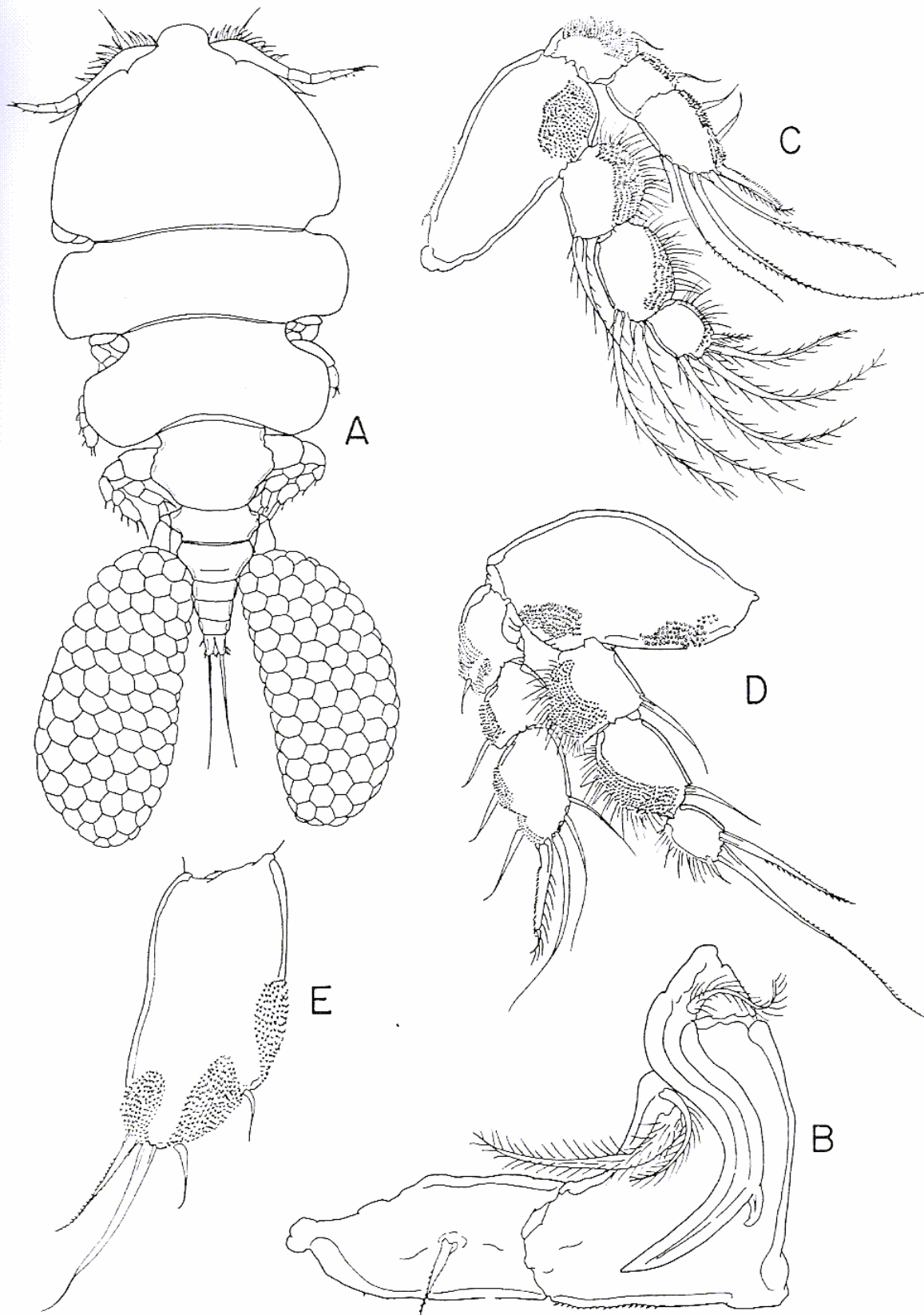


Fig. 3.8. Bomolochidae. *Orbitacolax haplogenyos* (Yamaguti & Yamasu). A, Female, dorsal; B, Female maxilliped; C, Leg 2; D, Leg 4; E, Fifth leg. [Adapted from Yamaguti & Yamasu 1959 and Cressey & Cressey, 1989]

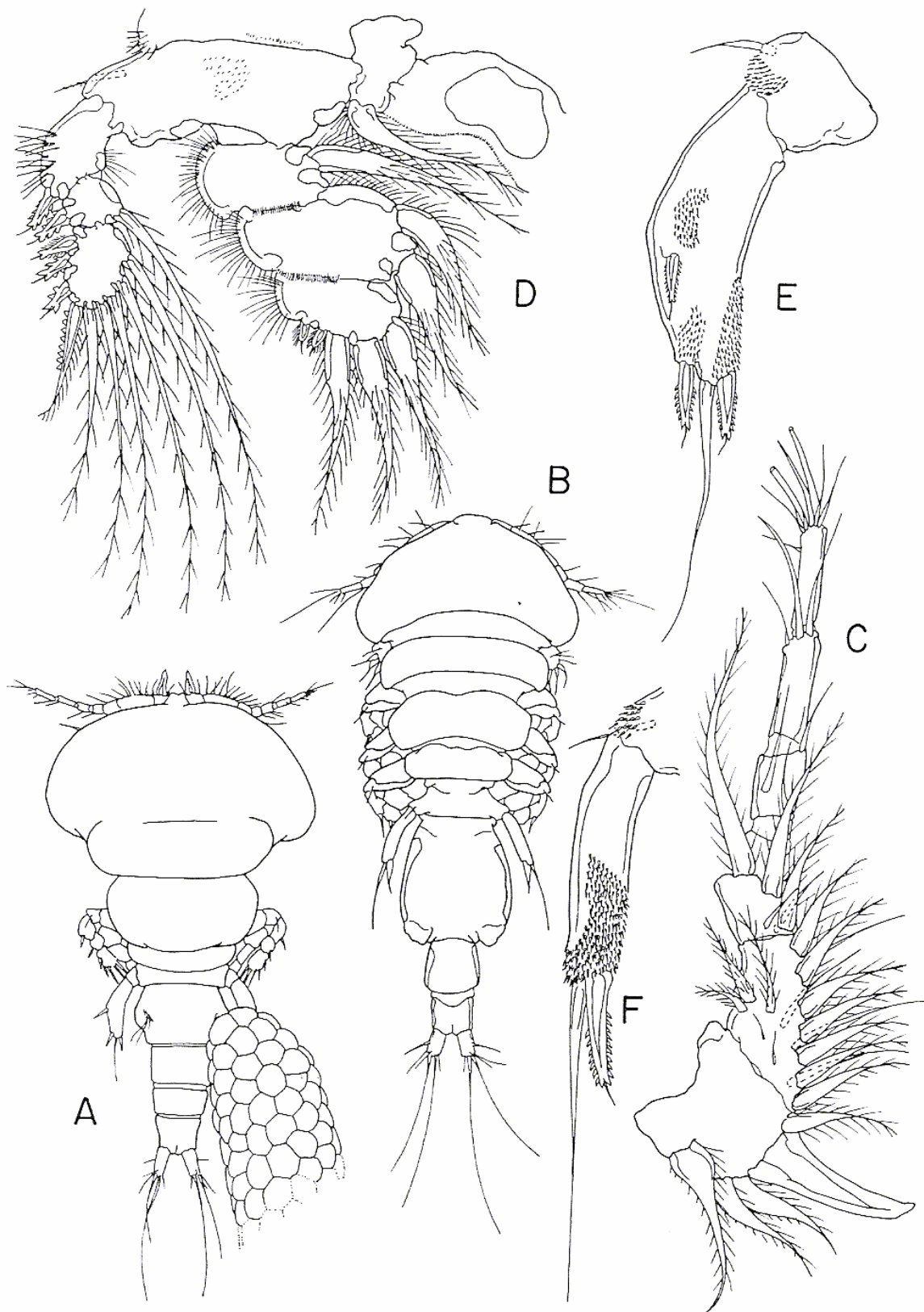


Fig 3.9. Bomolochidae. *Unicolax collateralis* Cressey & Cressey. A, Female, dorsal. B, Male, dorsal. C, Female antennule. D, Female leg 2. E, Female leg 5. F, Male leg 5. [Adapted from Cressey & Cressey, 1980]



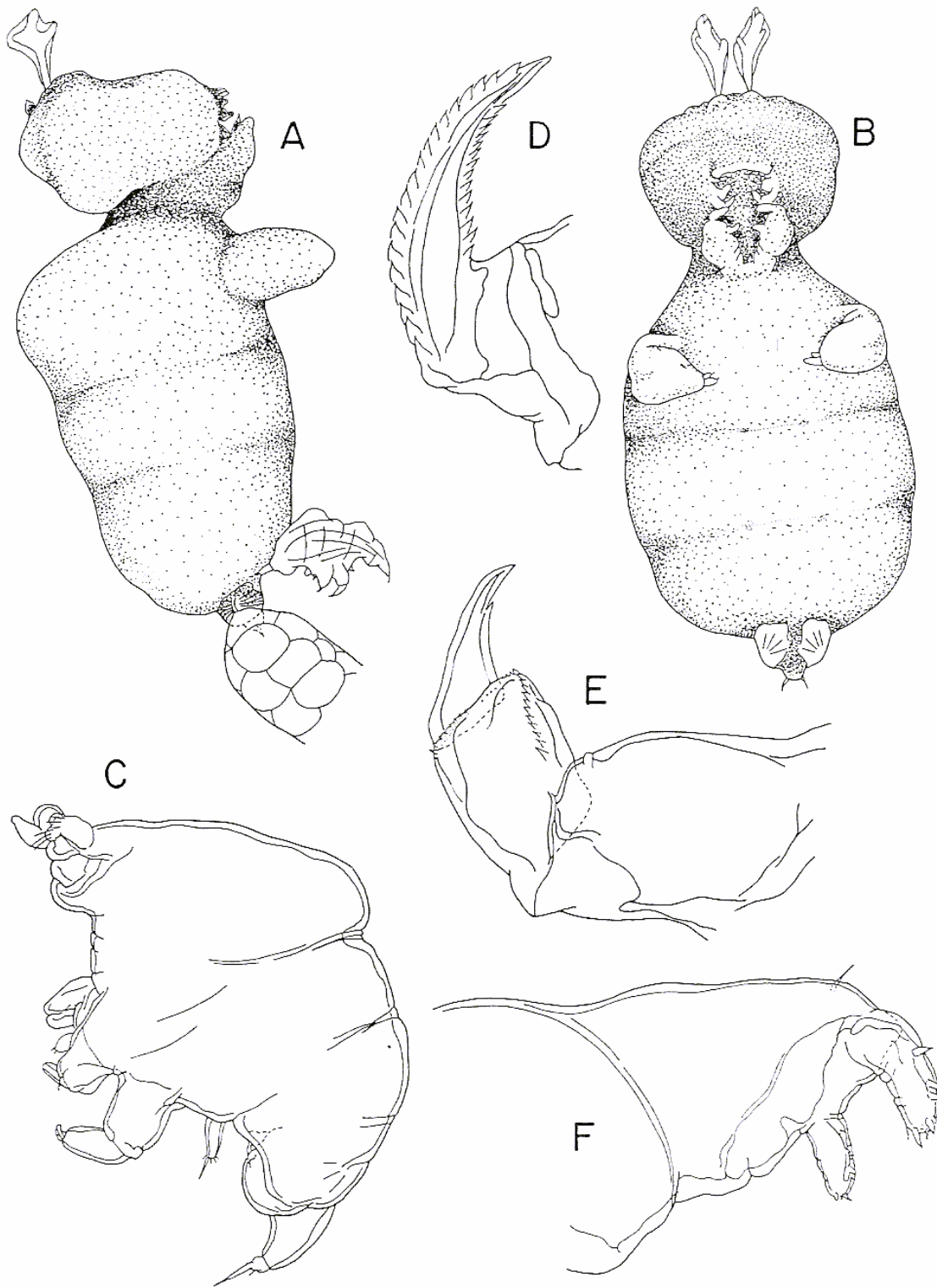


Fig. 3.10. Chondracanthidae. *Blaes prionoti* Krøyer. A, Female, lateral with male attached; B, Female, ventral; C, Male, lateral; D, Mandible; dorsal; E, Female maxilliped; F, Leg 1, anterior. [Adapted from Ho, 1970]



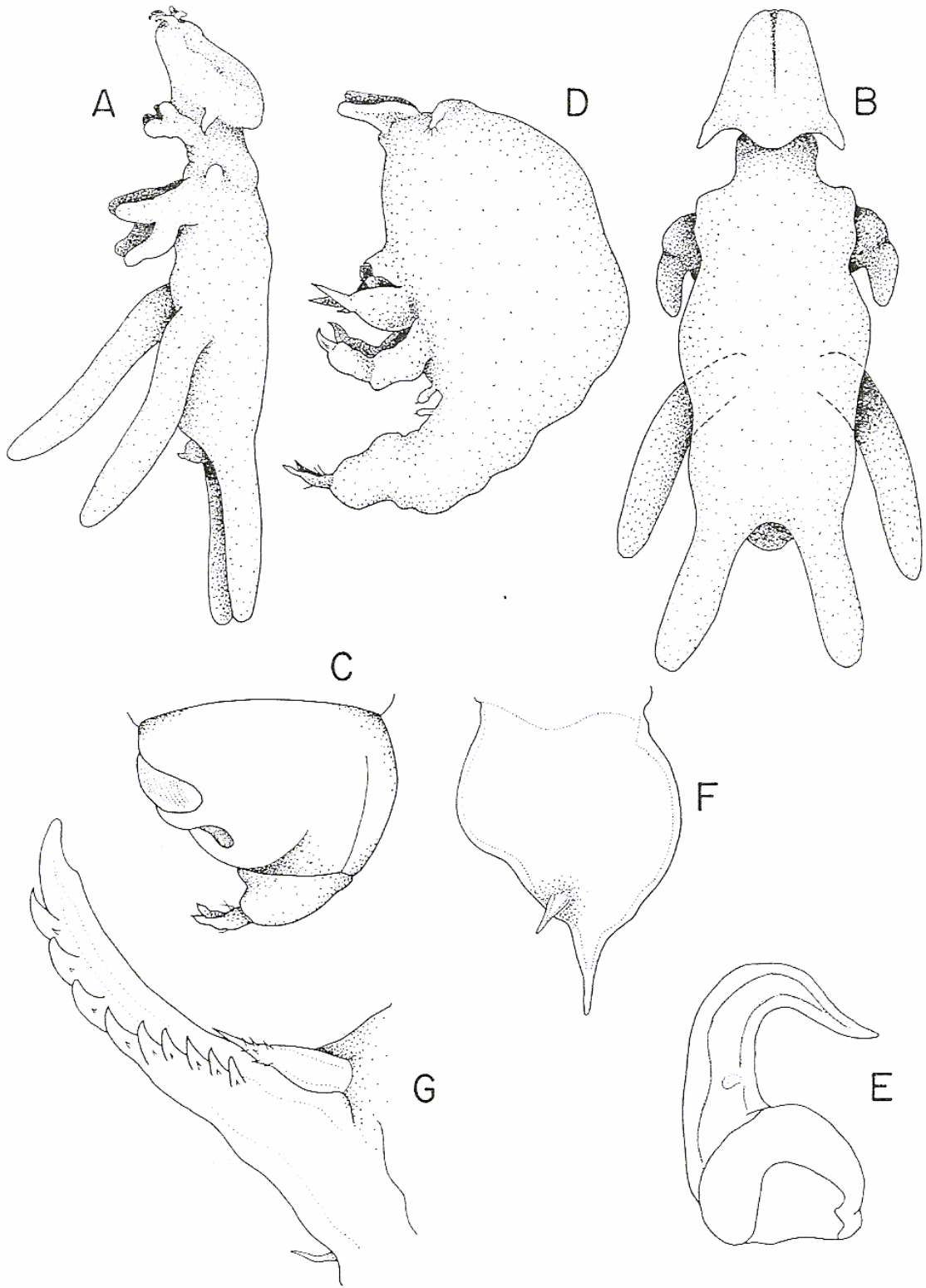


Fig. 3.11. Chondracanthidae. *Chondracanthus merluccii* (Holten). A, Female, lateral; B, Female, dorsal; C, Genitoabdomen, dorsolateral; D, Male, lateral; E, Female antenna, ventral; F, Female maxillule, ventral; G, Female maxillary claw. [Adapted from Kabata, 1979a]

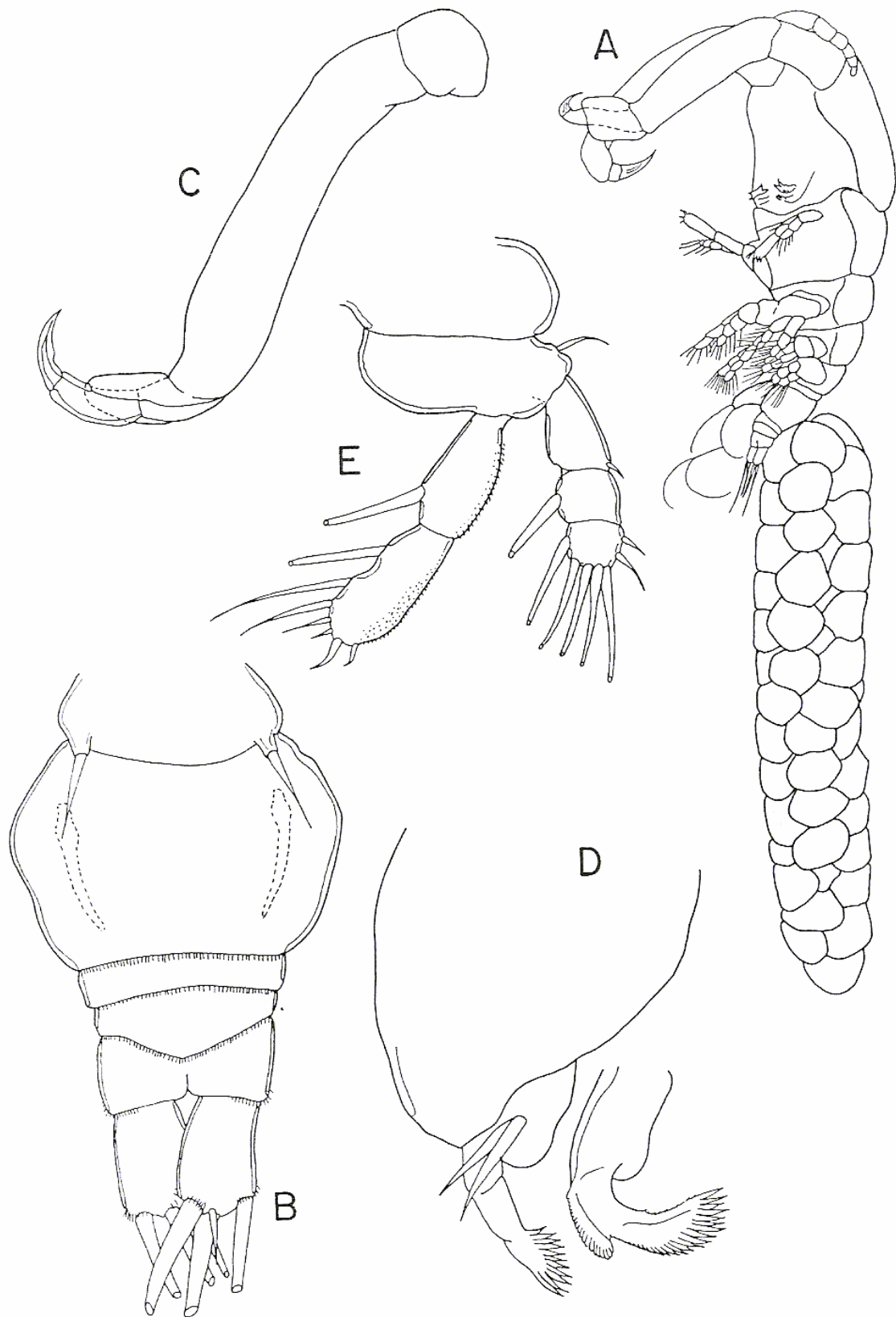


Fig. 3.12. Ergasilidae. *Acusicola cunula* Cressey & Collette. A, Female, lateral; B, Female urosome, ventral; C, Female antenna; D, Mouthparts; E, Leg 1. [Adapted from Cressey & Collette, 1970]

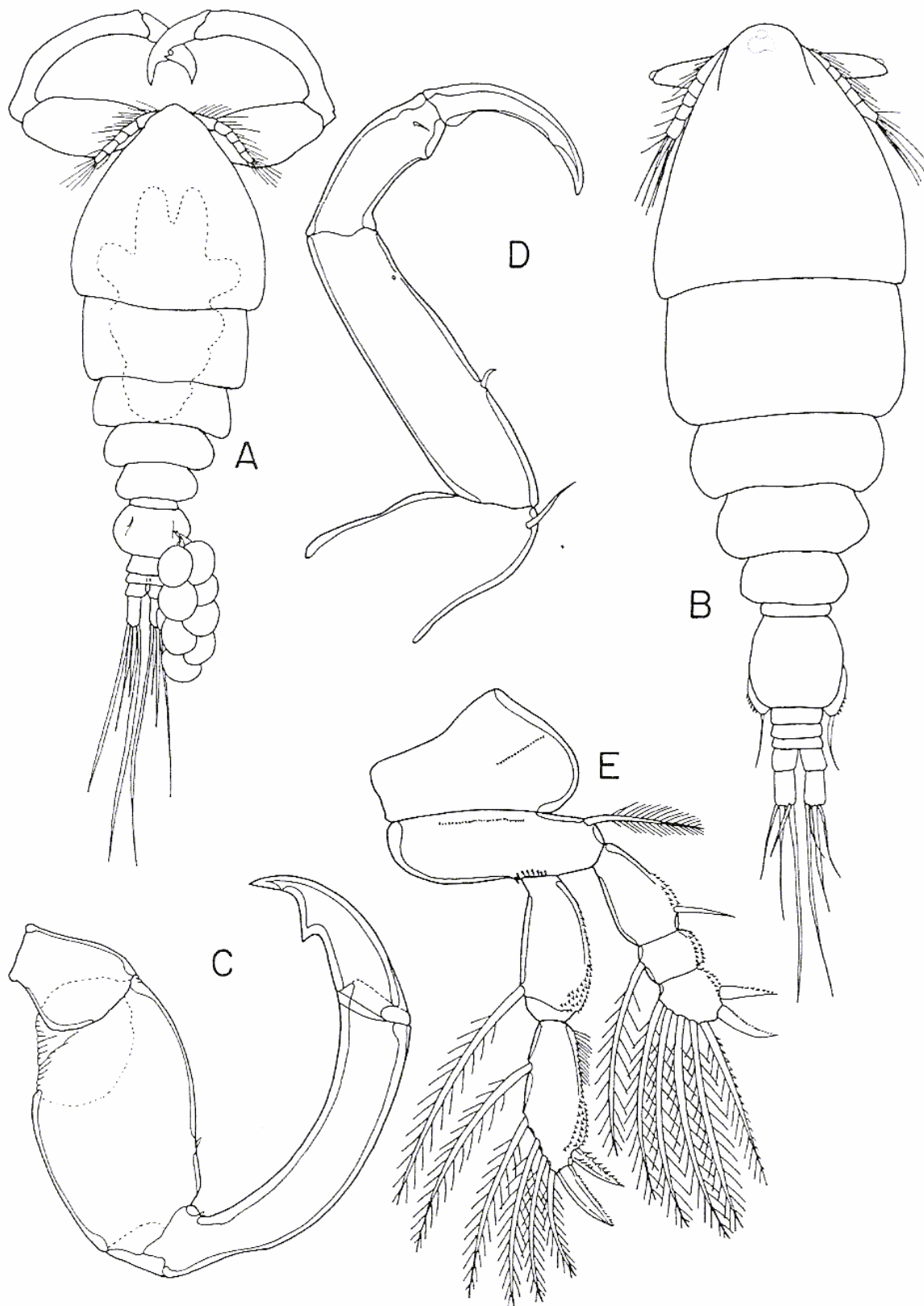


Fig. 3.13. Ergasilidae. *Ergasilus euripedesi* Montú. A, Female, dorsal; B, Male, dorsal; C, Female antenna; D, Male antenna; E, Female leg 1. [Original drawings]

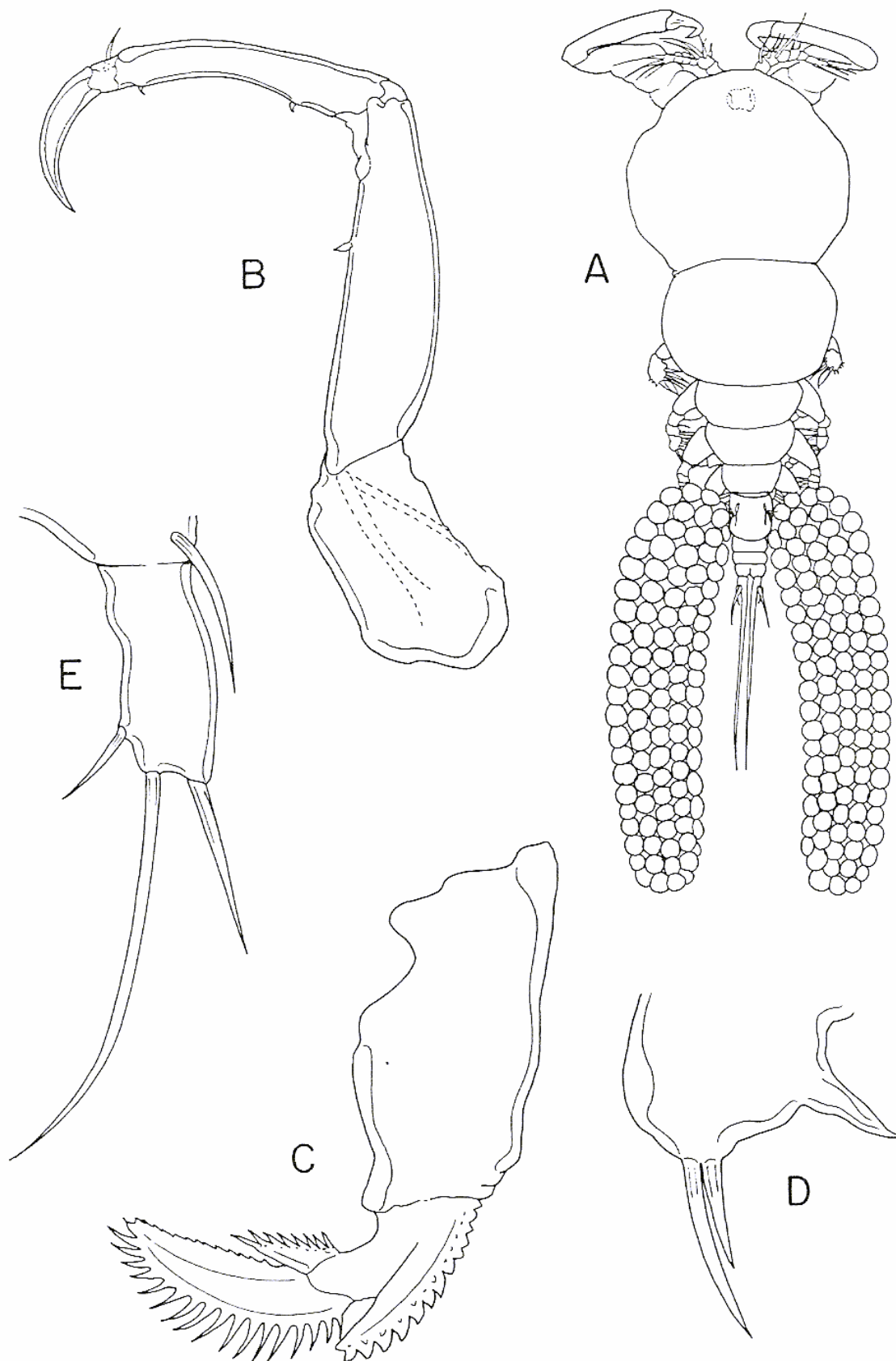


Fig. 3.14. Ergasilidae. *Ergasilus lizae* Krøyer. A, Female, dorsal; B, Antenna; C, Mandible; D, Maxillule; E, Fifth leg. [Adapted from Ben Hassine, 1983 and Kabata, 1979a]

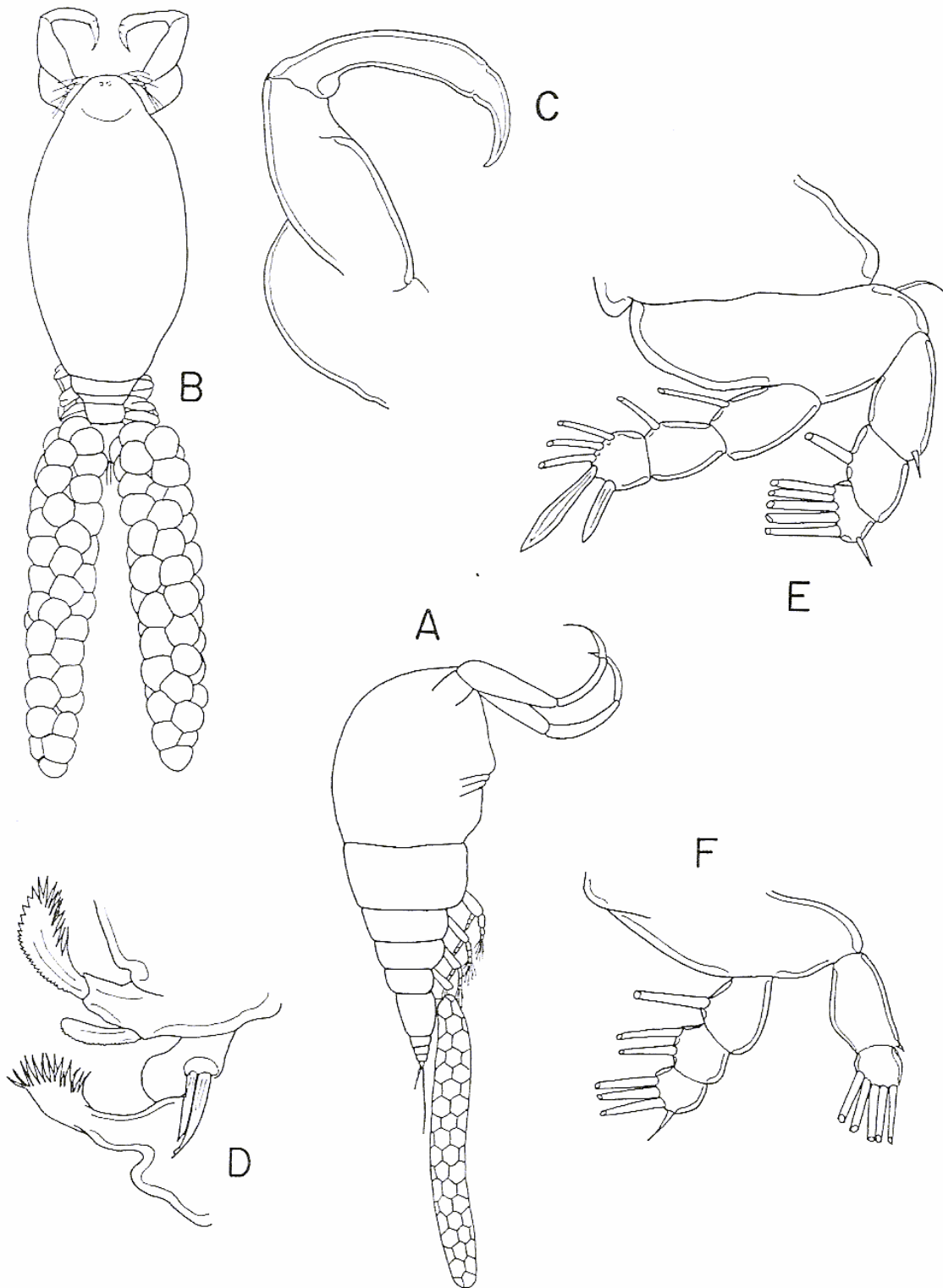


Fig. 3.15. Ergasilidae. *Ergasilus longimanus* Krøyer and *Ergasilus orientalis* Yamaguti. A, *Ergasilus longimanus* female, lateral; B, *Ergasilus orientalis* female, dorsal; C, Antenna; D, Mouthparts; E, Leg 1; F, Leg 4. [Adapted from Krøyer, 1863 and Yamaguti, 1939]



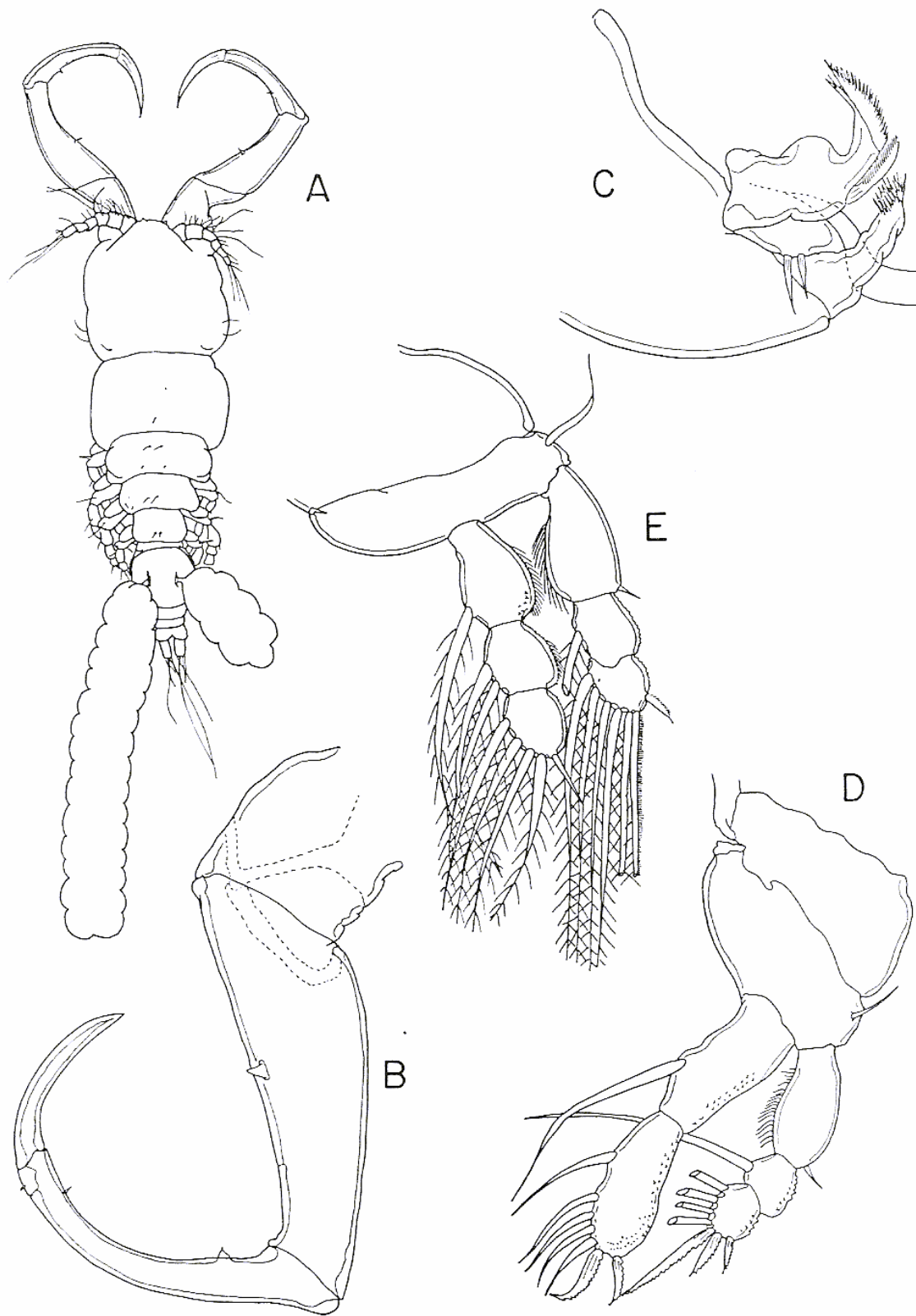


Fig. 3.16. Ergasilidae. *Ergasilus versicolor* Wilson. A, Female, dorsal; B, Antenna; C, Mouthparts; D, Leg 1; E, Leg 2. [Adapted from Carvalho, 1962 and Kabata, 1988]

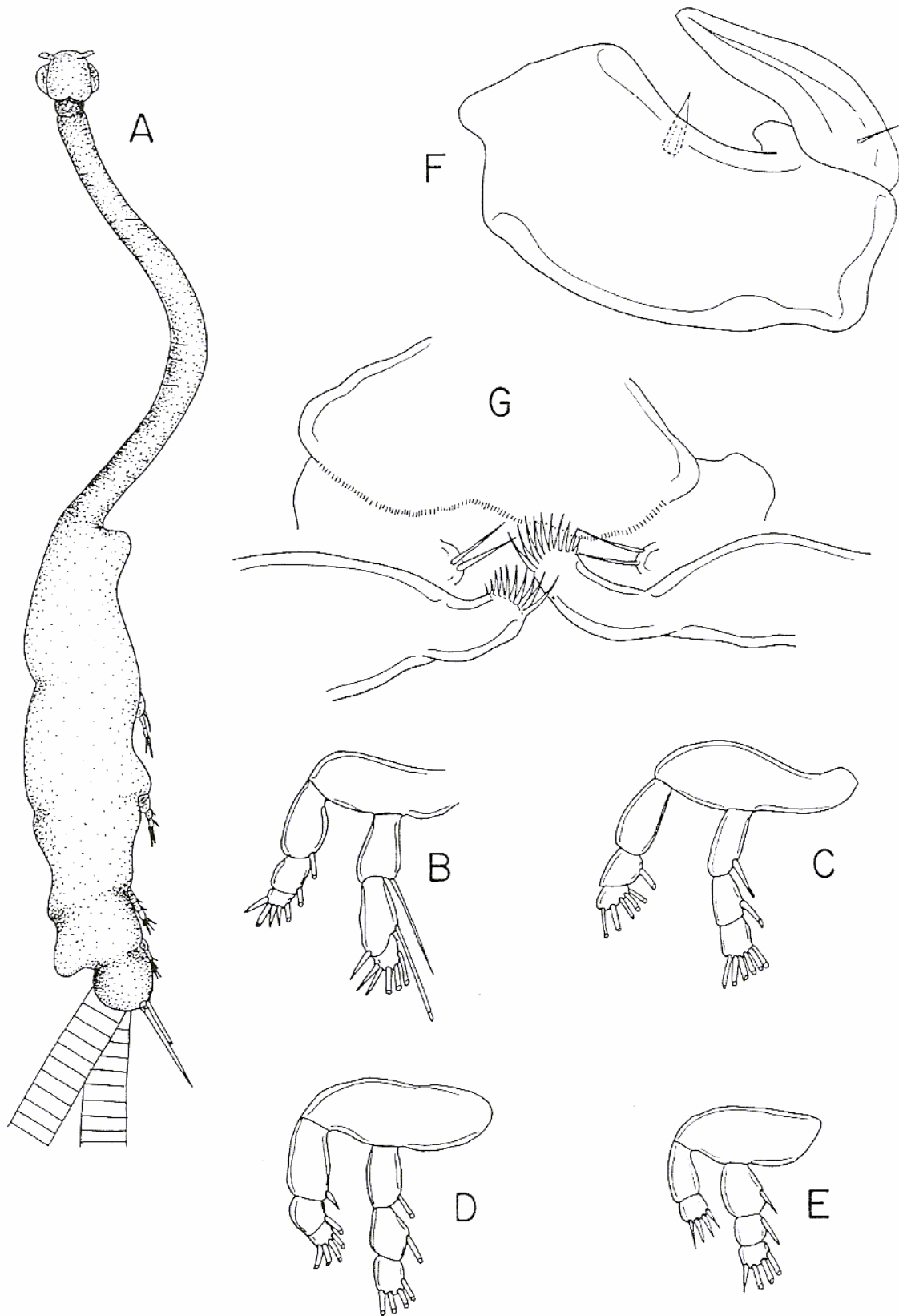


Fig. 3.17. Ergasilidae. *Therodamas serrani* Krøyer. A, Adult female; B, Leg 1; C, Leg 2; D, Leg 3; E, Leg 4; *Therodamas dawsoni* Cressey F, Antenna; G, Mouthparts. [Adapted from Krøyer, 1863 and Cressey, 1972a]

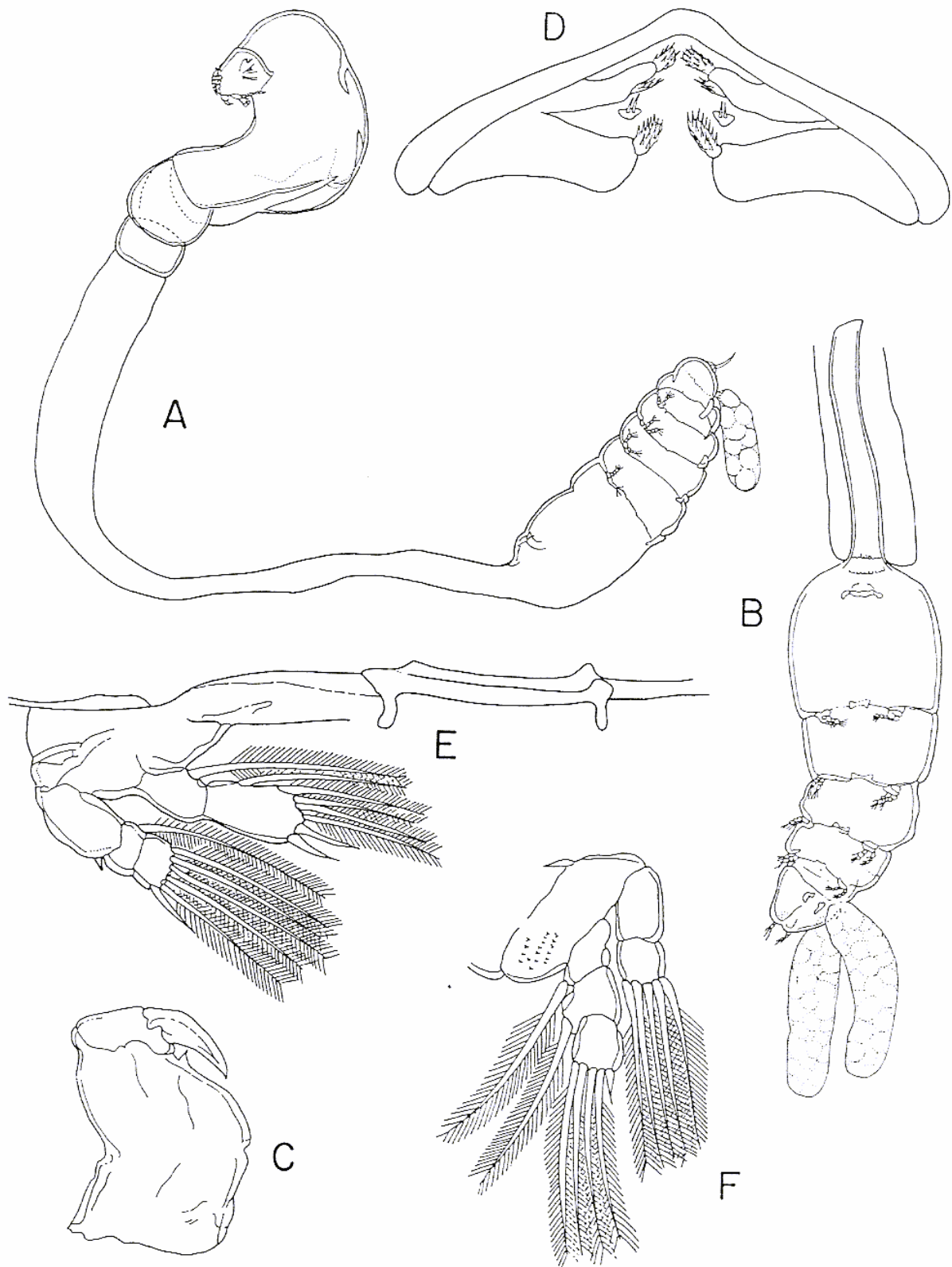


Fig. 3.18. Ergasilidae. *Therodamas tamarae* Amado & da Rocha. A, Female, lateral; B, Trunk, ventral; C, Antenna; D, Mouthparts in situ; E, Leg 1. F, Leg 4. [Adapted from Amado & da Rocha, 1996]

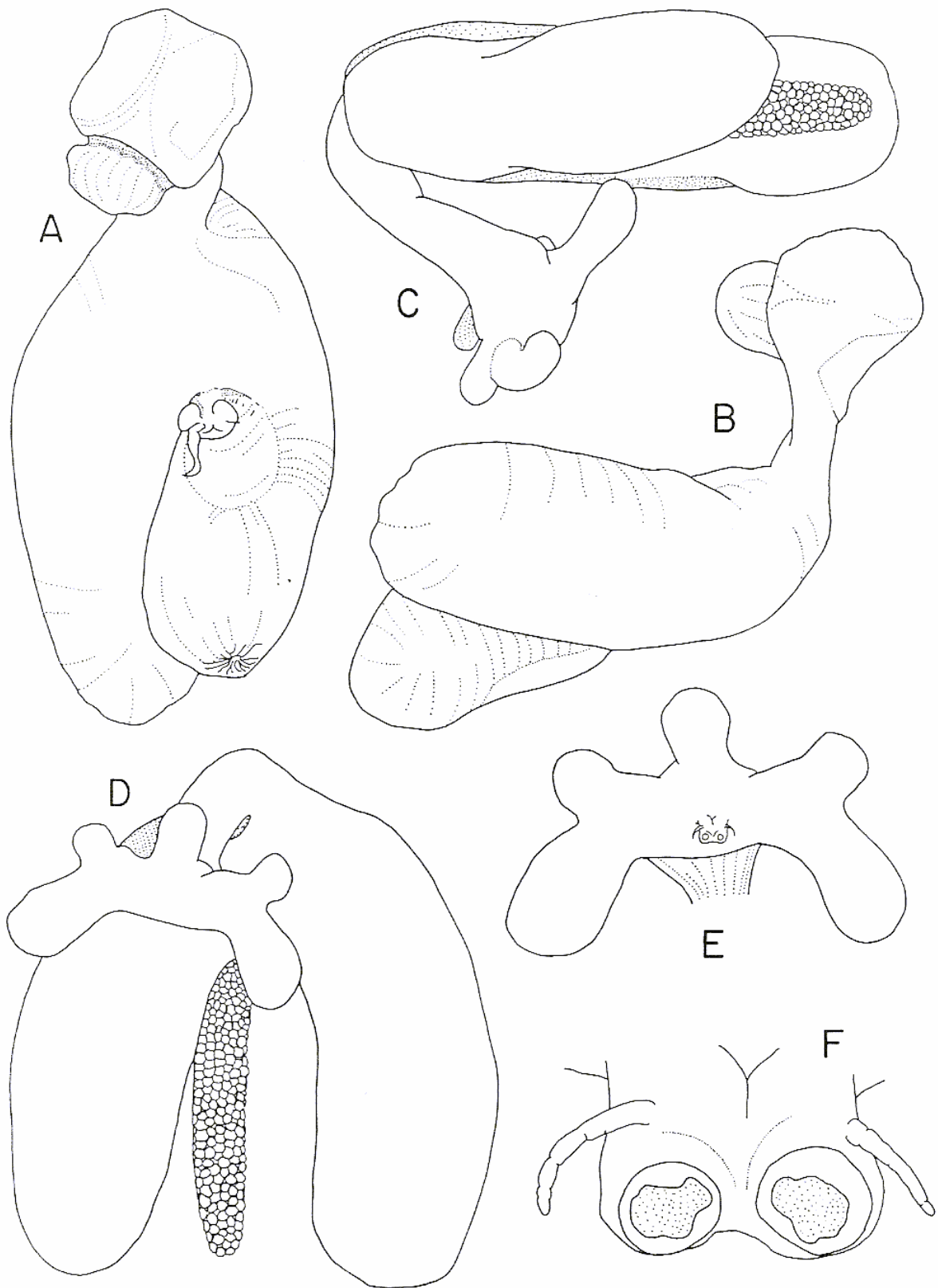


Fig. 3.19. Lernaesoleidae. A, *Bobkabata kabatabobbus* Hogans & Benz female, ventral; B, Female, lateral. C, *Lernaesolea lycodis* Wilson female, lateral; D, Female, ventral; E, Cephalothorax; F, Antennal region. [Adapted from Hogans & Benz, 1990]

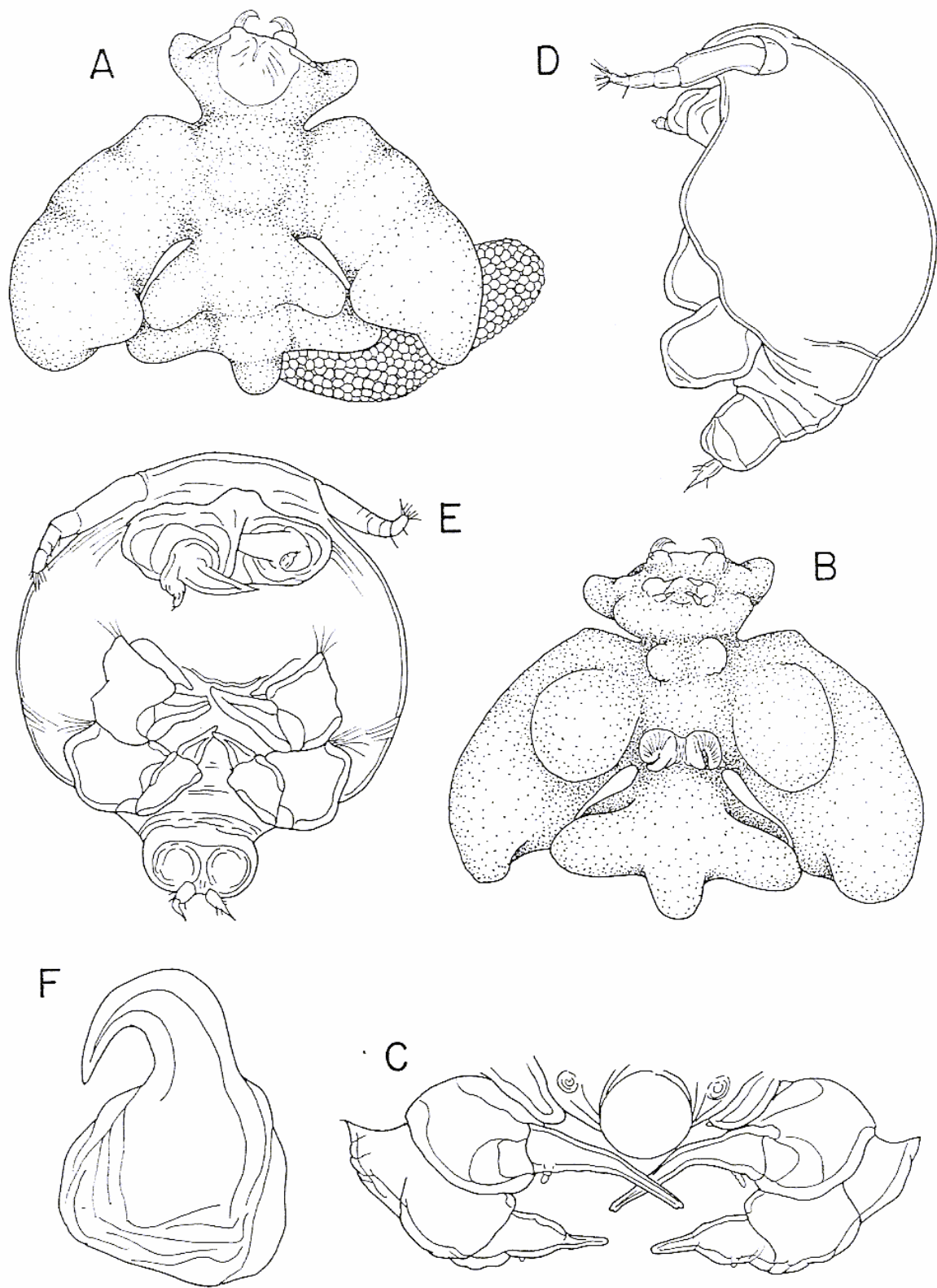


Fig. 3.20. Phorodidae. A, *Pharodes tortugensis* Wilson female, dorsal; B, Female, ventral; C, Mouthparts; D, Male, lateral; E, Male, ventral; F, Antenna. [Adapted from Ho, 1971]



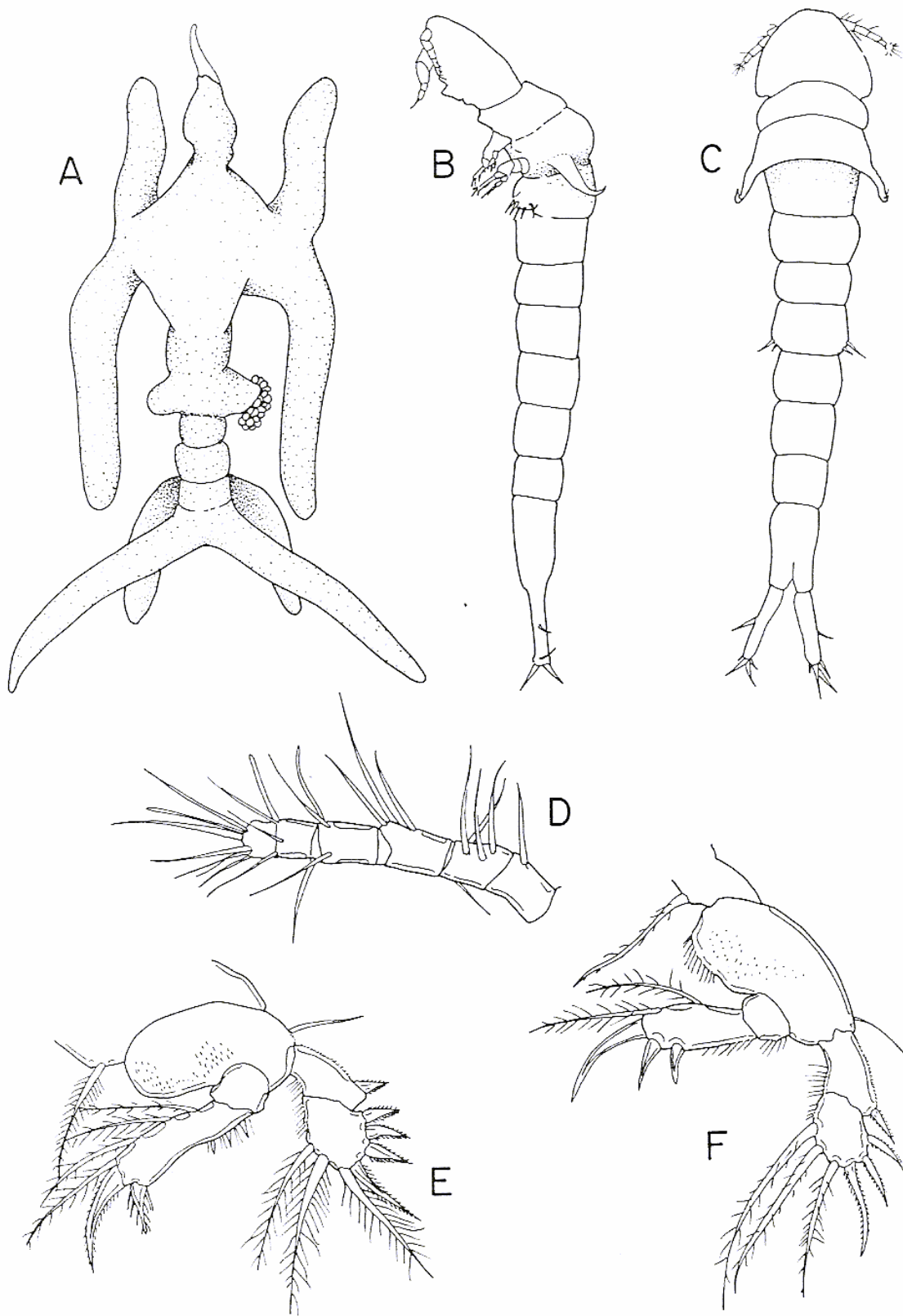


Fig. 3.21. Philichthyidae. *Colobomatus*. A, Female *Colobomatus belizensis* Cressey & Schotte, dorsal. B, Male *Colobomatus quadrifarius* Cressey & Schotte, lateral; C, Same, dorsal. *Colobomatus belizensis* D, Male antennule; E, Male leg 1; F, Male leg 2. [Adapted from Cressey & Schotte, 1983]

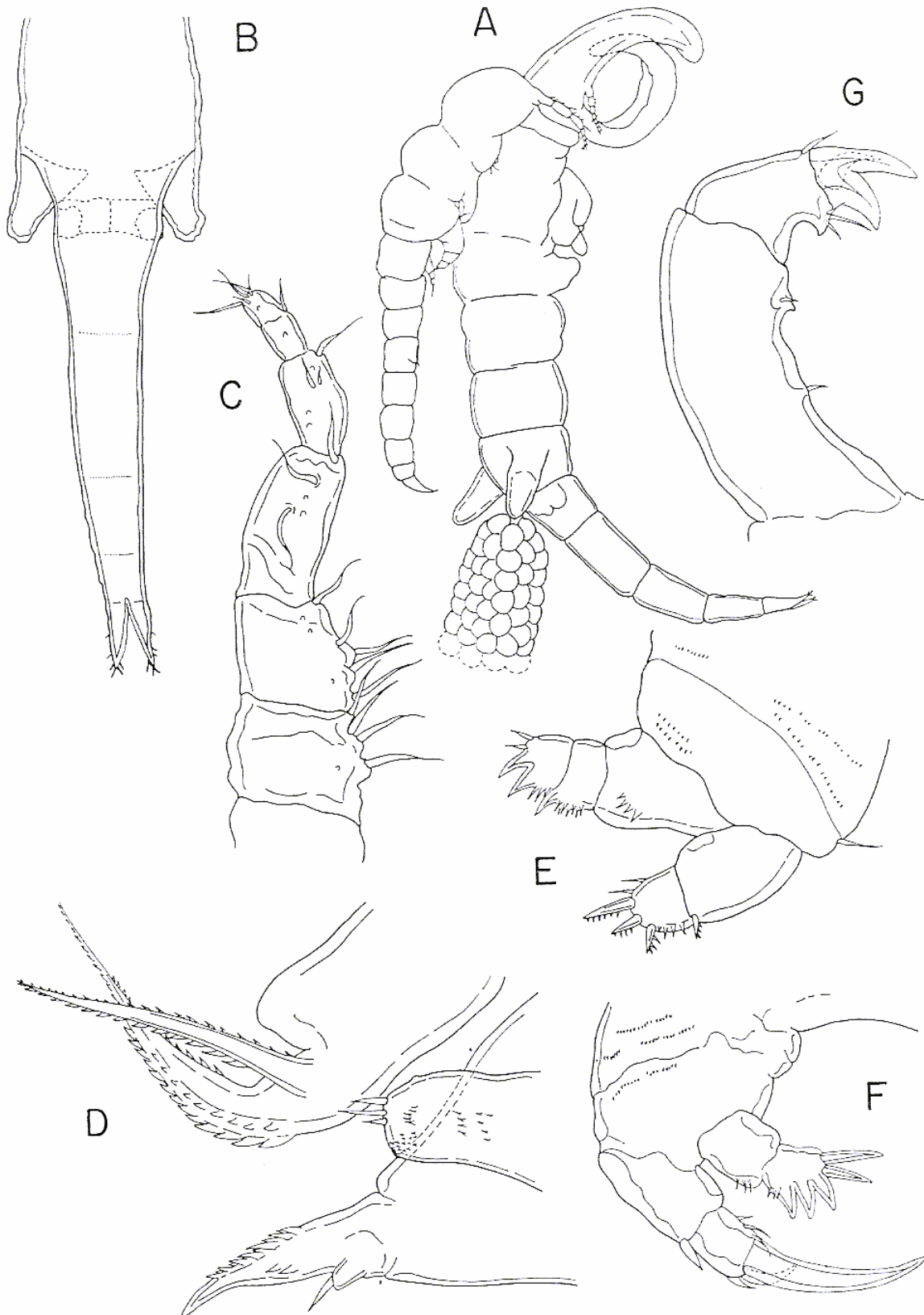


Fig. 3.22. Shiinoidae. *Shiinoa inauris* Cressey. A, Female, lateral view with male attached. B, Female urosome, ventral; C, Female antennule; D, Mouthparts; E, Leg 2; F, Male leg 2; G, Male antenna endopod. [Adapted from Cressey, 1975]

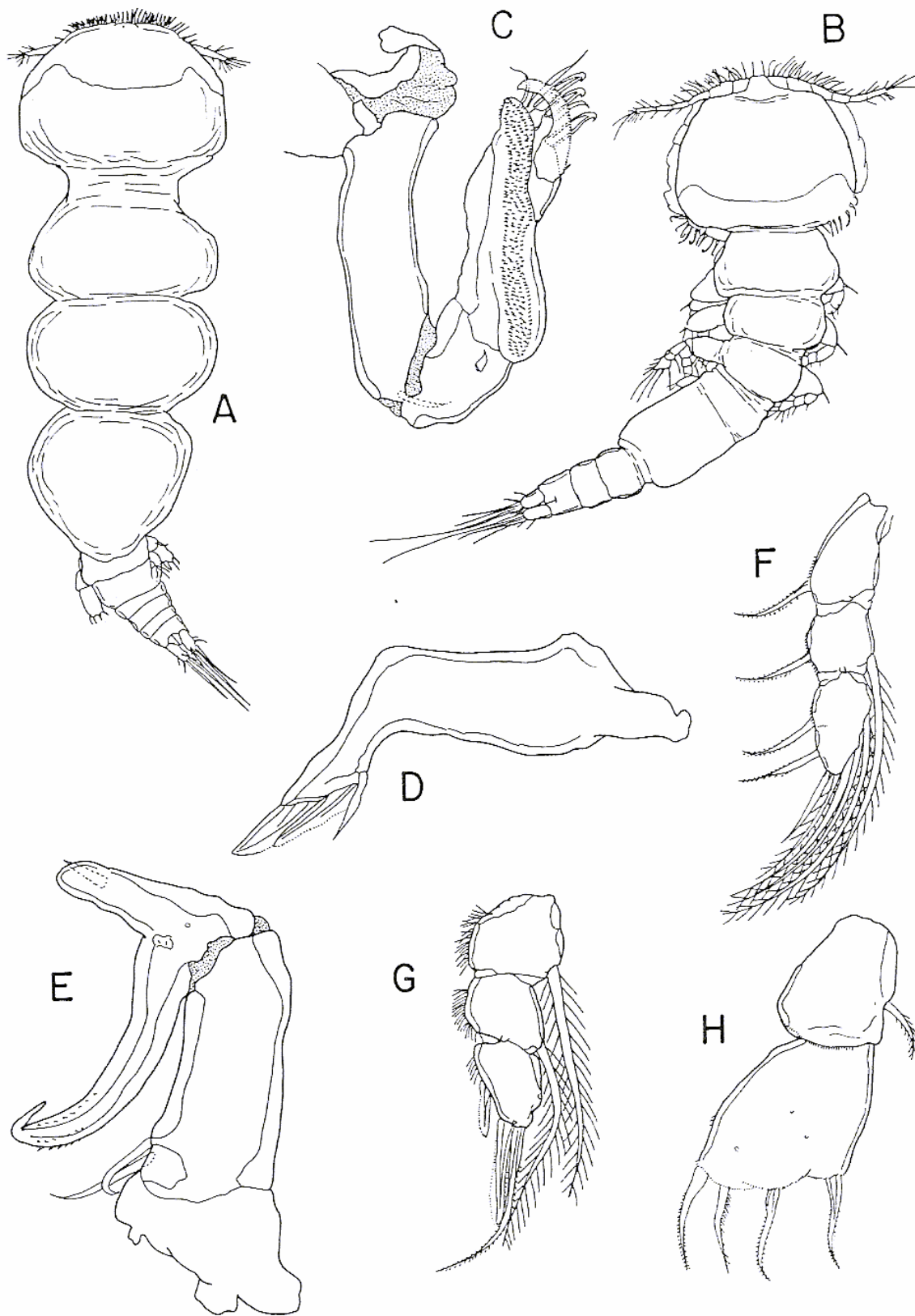


Fig. 3.23. Taeniacanthidae. *Taeniacanthus lagocephali* Pearse. A, Female, dorsal; B, Male, dorsal; C, Female antenna; D, Mandible; E, Female maxilliped; F, Exopod of leg 4; G, Endopod of leg 4; H, Female leg 5. [Adapted from Dojiri & Cressey, 1987]

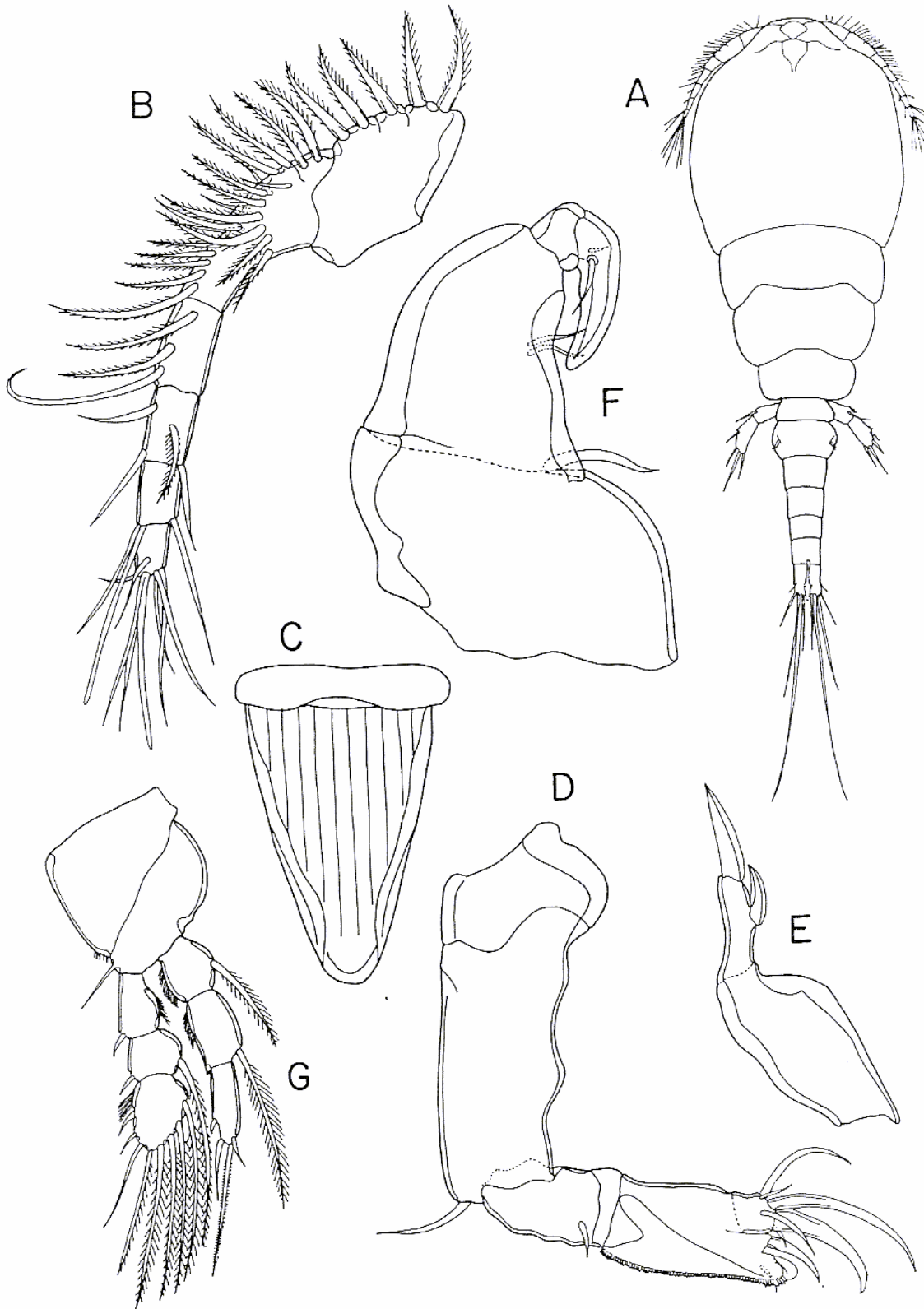


Fig. 3.24. Taeniacanthidae. *Taeniastrotois braziliensis* Montú & Boxshall. A, Female, dorsal; B, Antennule; C, Rostral plate, ventral; D, Antenna; E, Mandible; F, Maxilliped; G, Leg 4. [Adapted from Montú & Boxshall, 1997]

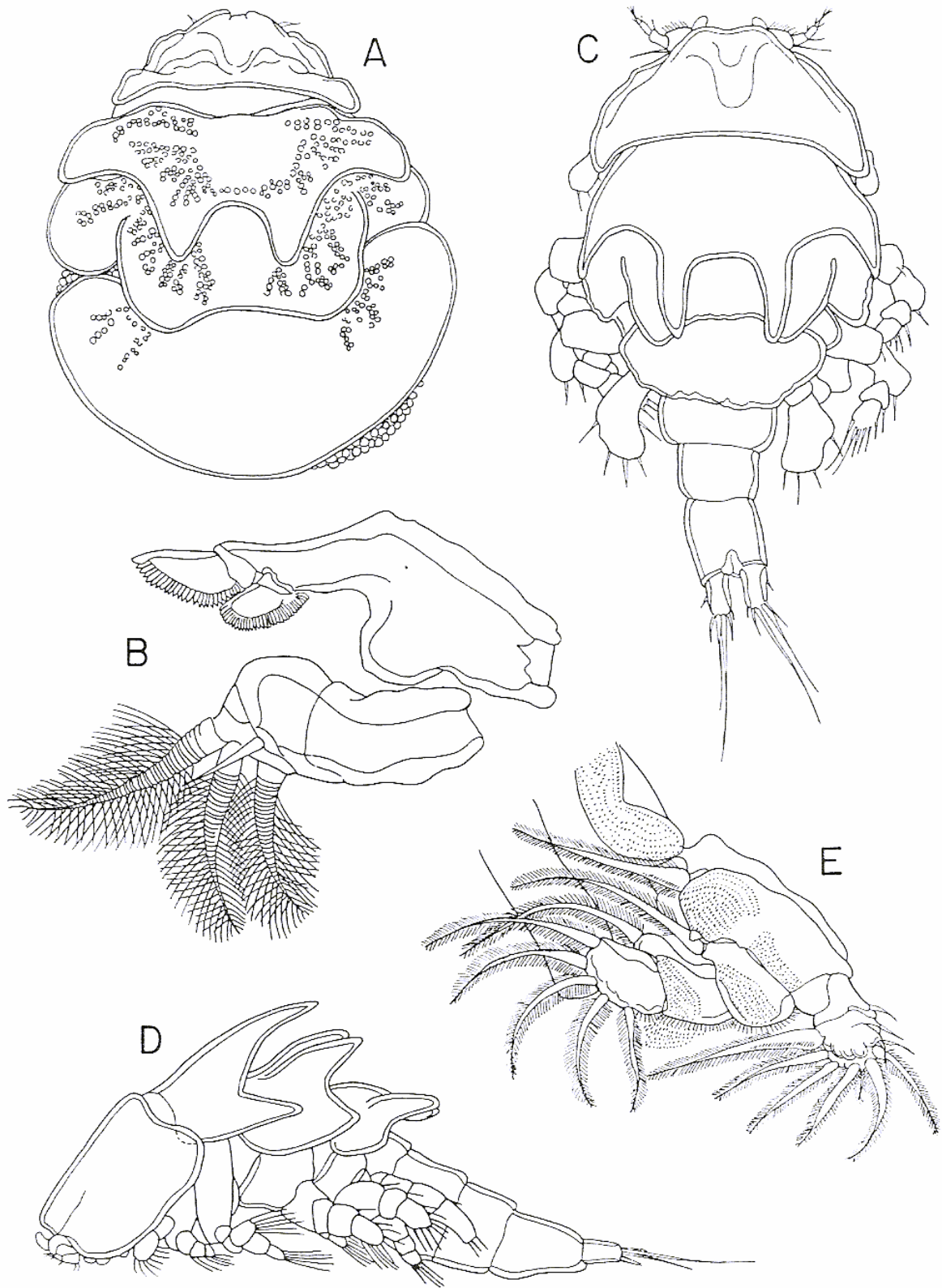


Fig. 3.25. Tegobomolochidae. A, *Tegobomolochus nasicola* Izawa, female, dorsal; B, Mandible and maxillule; C, Male, dorsal; D, Male, lateral; E, Leg 1. [Adapted from Izawa, 1976]



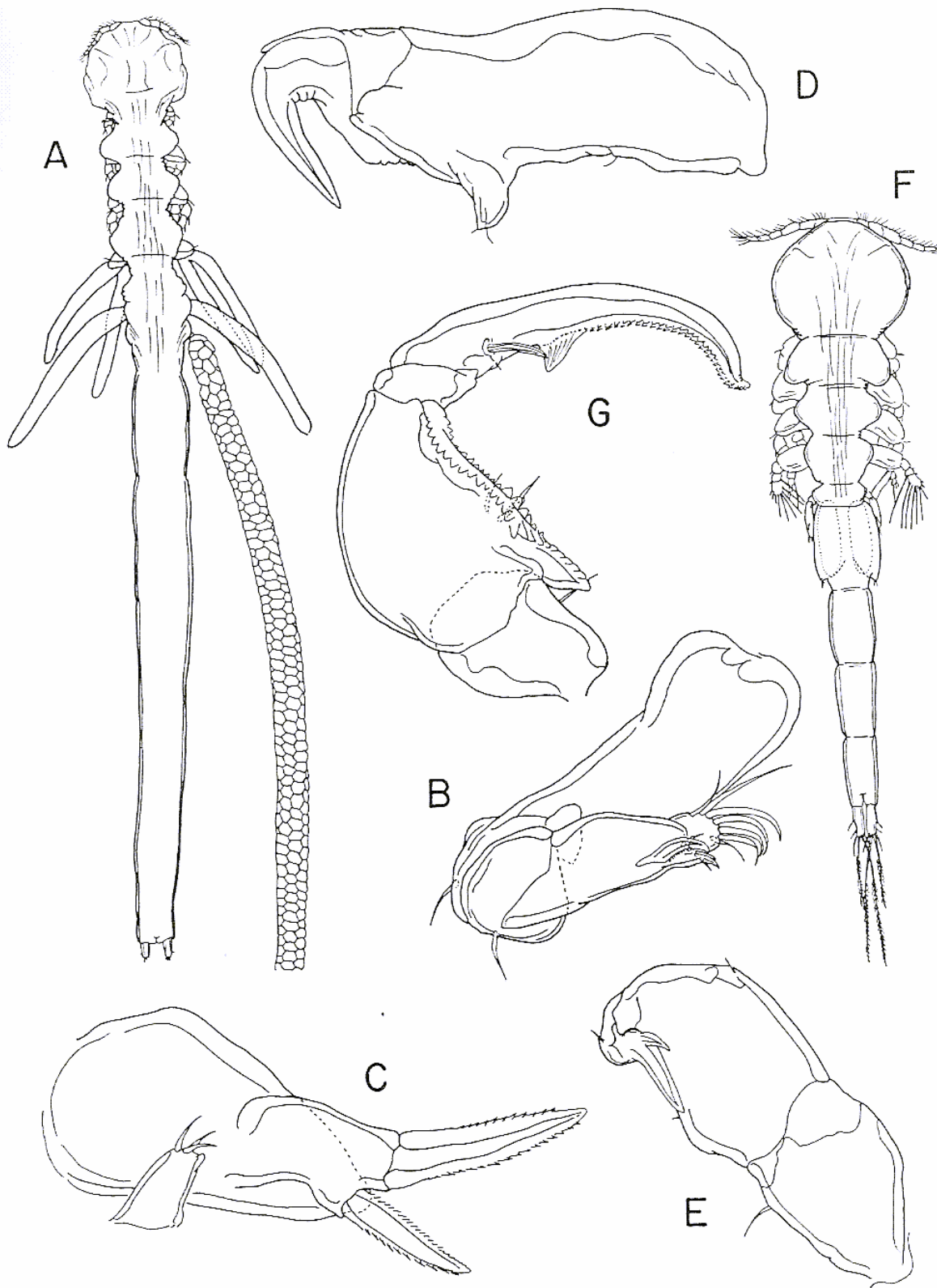


Fig. 3.26. Telsidae. A, *Telson nicholsi* Causey, female, dorsal; B, Antenna; C, Mandible and maxillule; D, Maxilla; E, Maxilliped; F, Male, dorsal; G, Male maxilliped. [Adapted from Ho, 1967c]

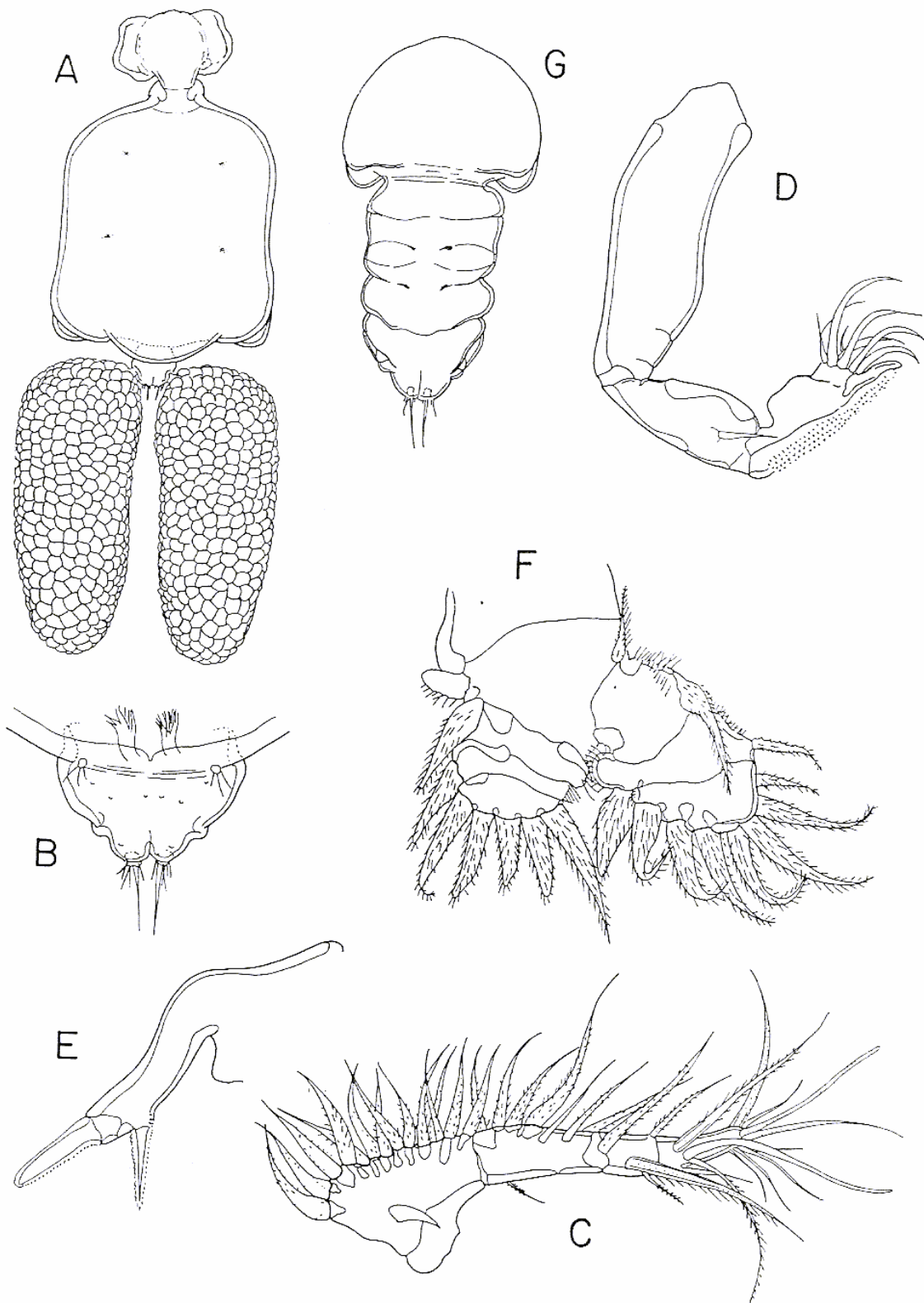


Fig. 3.27. Tuccidae. *Tucca impressus* Krøyer. A, Female, dorsal; B, Female urosome; C, Antennule; D, Antenna; E, Mandible; F, leg 1; G, Copepodid stage, dorsal. [Adapted from Ho, 1967b]

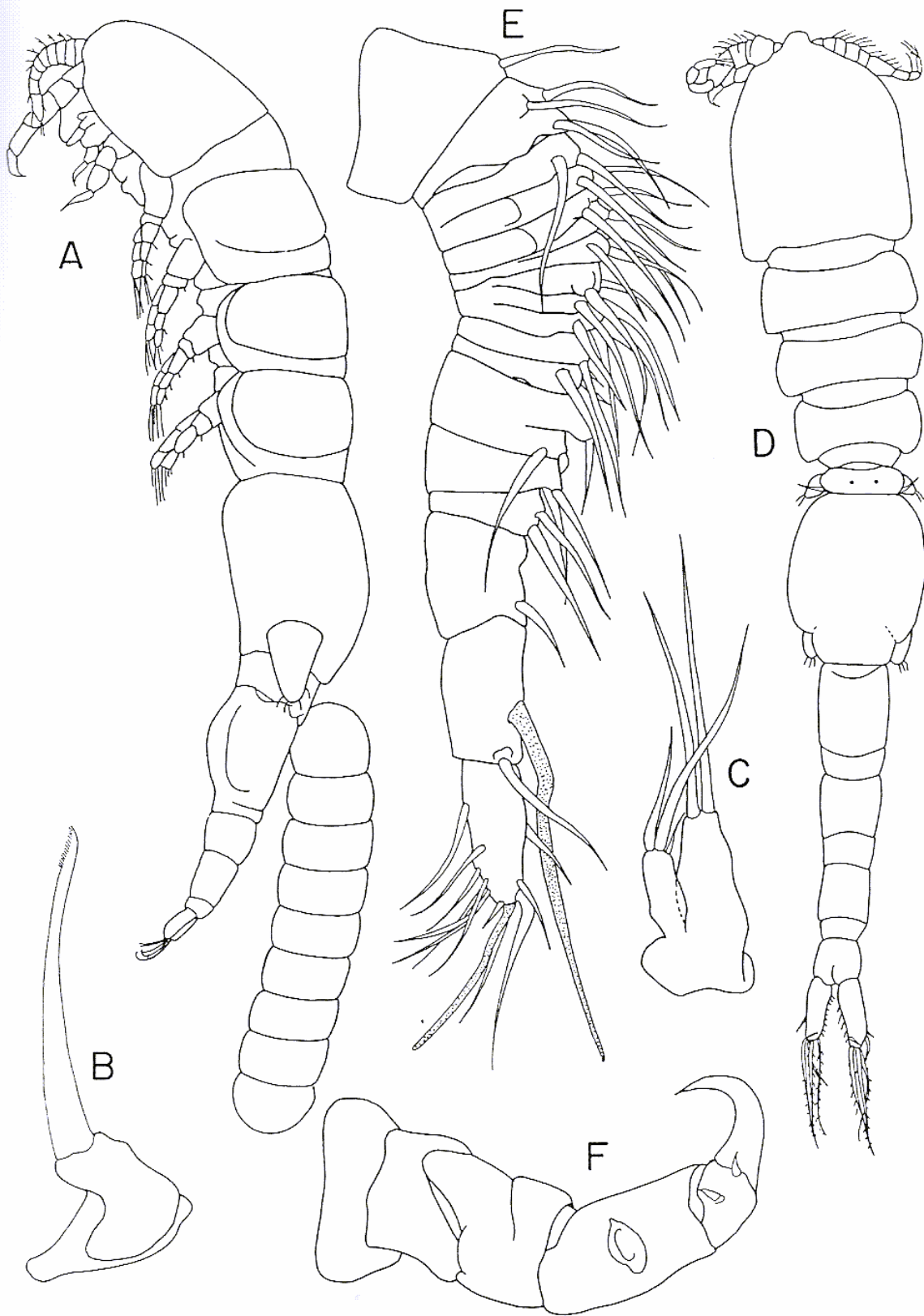


Fig. 3.28. Archidactylinidae. A, *Archidactylina myxinicola* Izawa, female, lateral; B, Mandible; C, Maxillule; D, Male, dorsal; E, Male antennule; F, Antenna. [Adapted from Izawa, 1996]

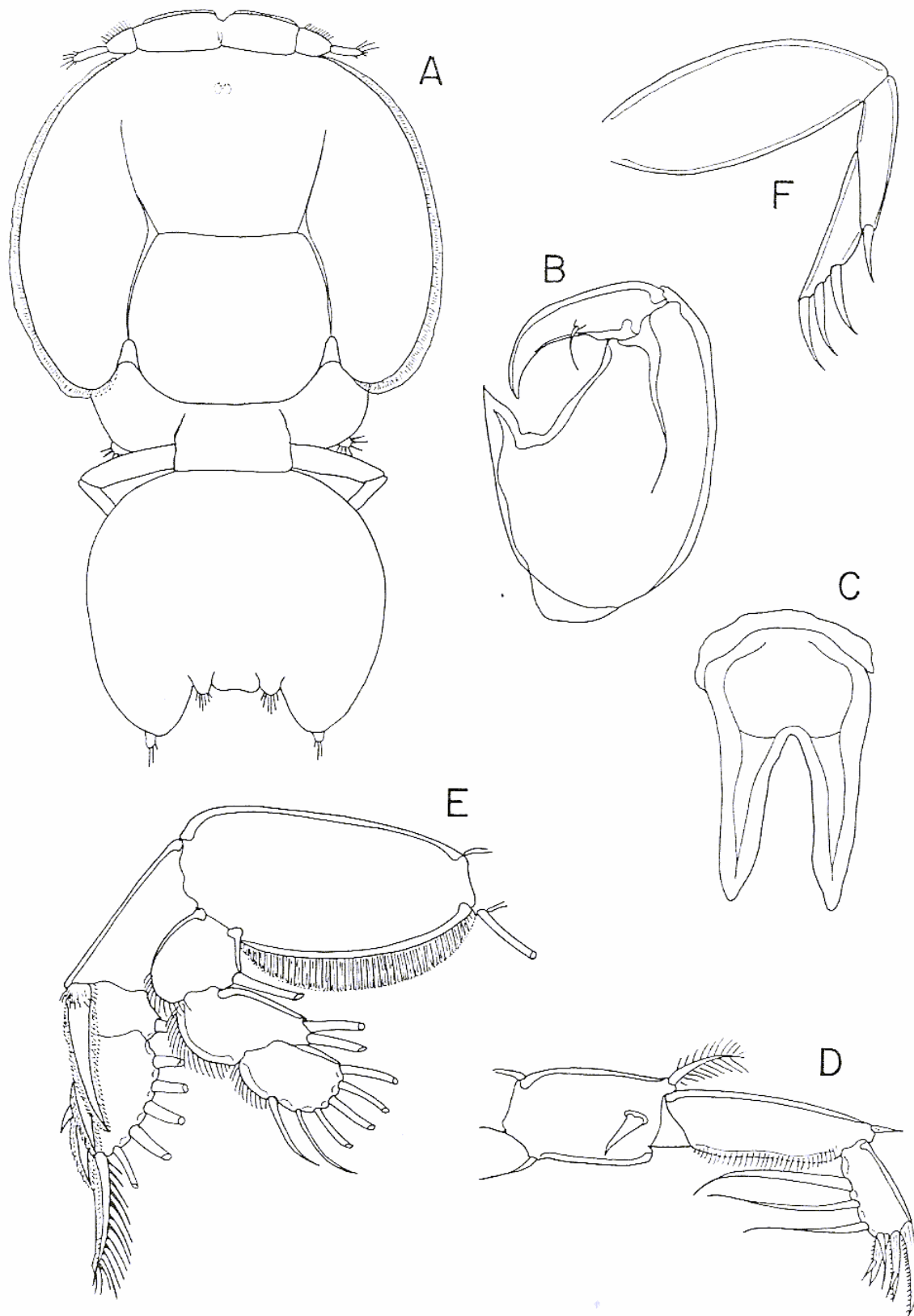


Fig. 3.29. Caligidae. *Anuretes heckeli* (Krøyer). A, Female, dorsal; B, Maxilliped; C, Sternal furca; D, Leg 1; E, Leg 2; F, Leg 4. [Adapted from Wilson, 1905]

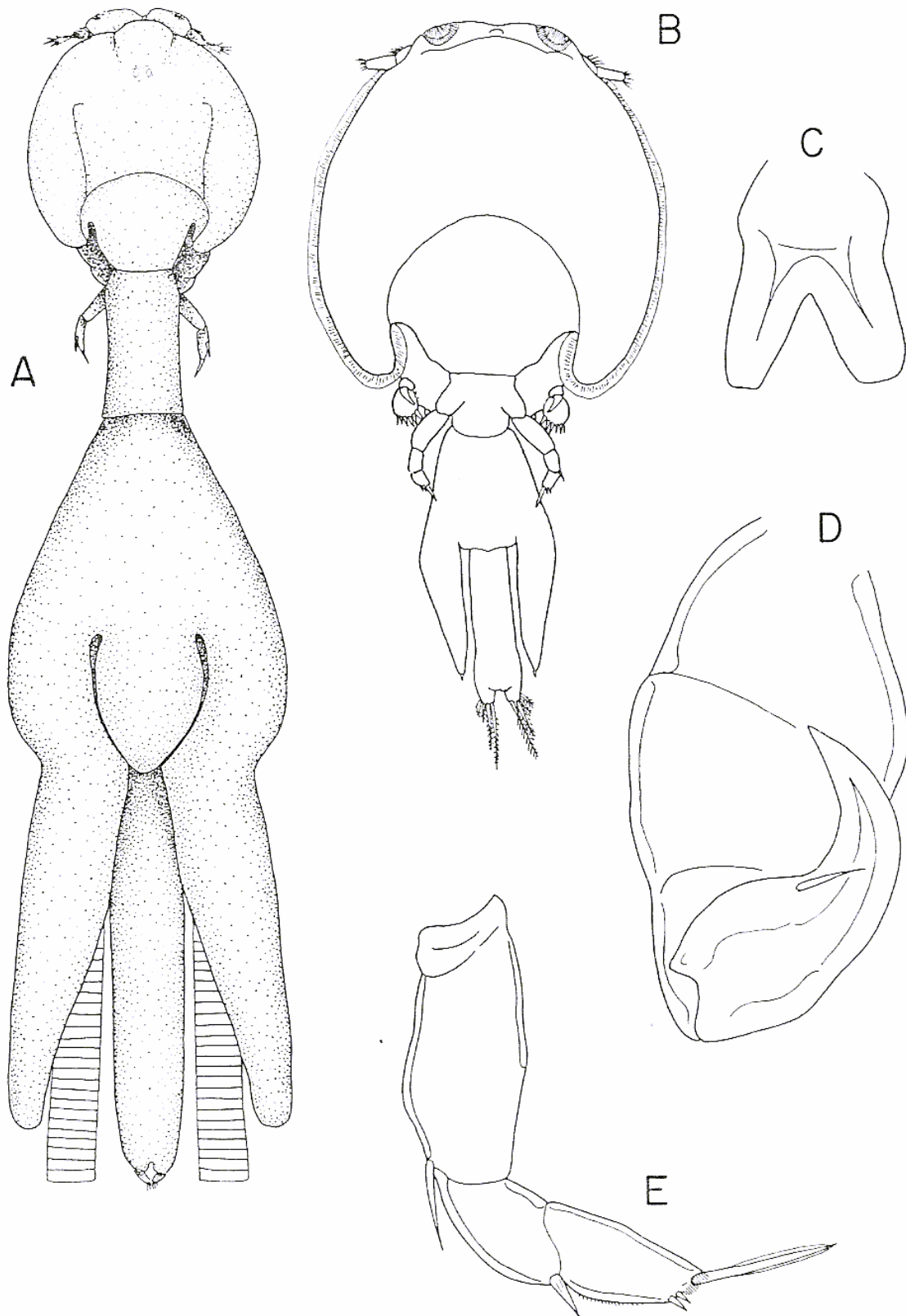


Fig. 3.30. Caligidae. *Caligodes laciniatus* (Krøyer). A, Adult female, dorsal; B, Immature female; C, Sternal furca; D, Maxilliped; E, Leg 4. [Adapted from Wilson, 1905 and Cressey & Collette, 1970]



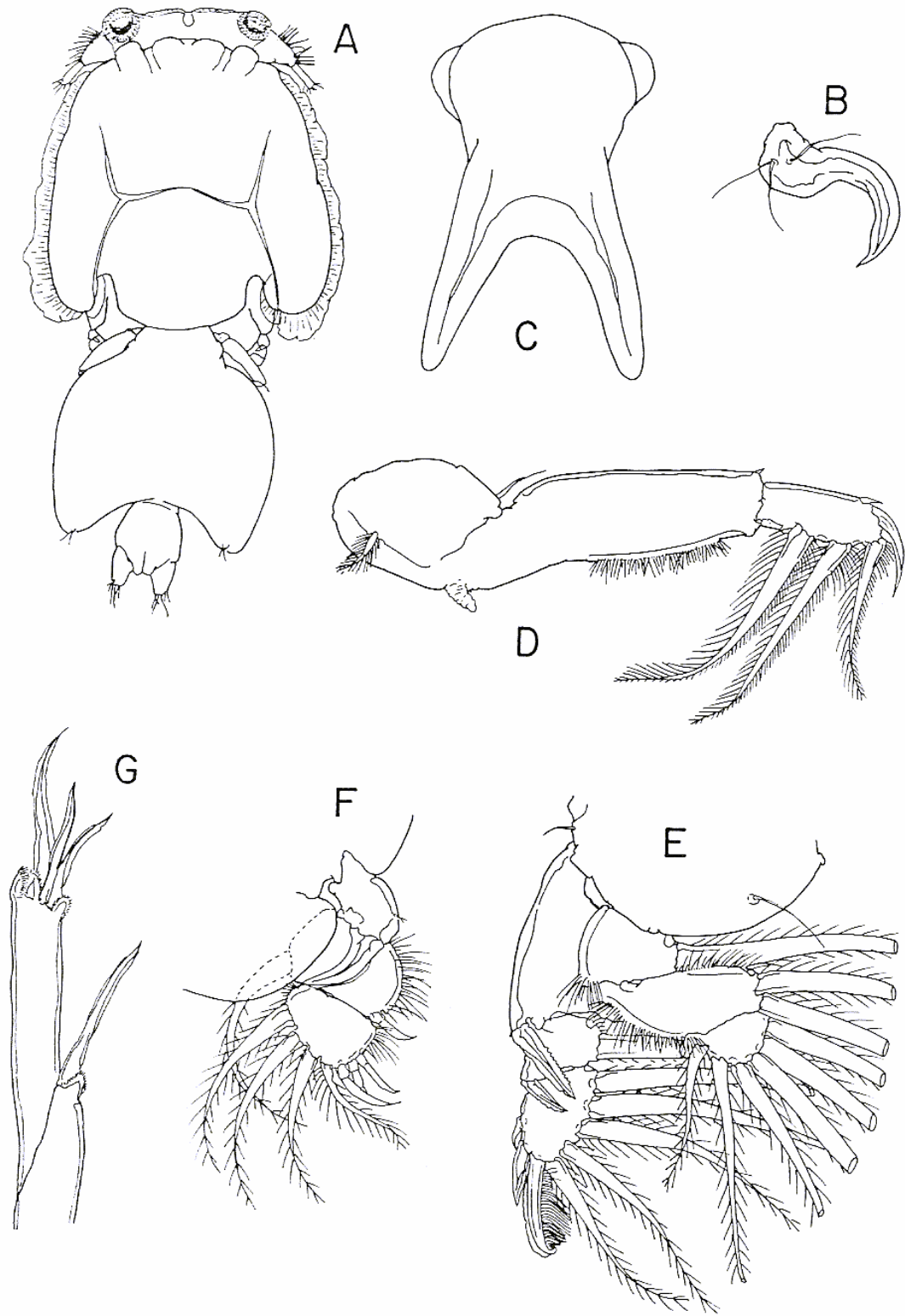


Fig. 3.31. Caligidae. *Caligus balistae* Steenstrup & Lütken. A, Female, dorsal; B, Postantennal process; C, Sternal furca; D, Leg 1; E, Leg 2; F, Rami of leg 3; G, Exopod of leg 4. [Adapted from Cressey, 1991]

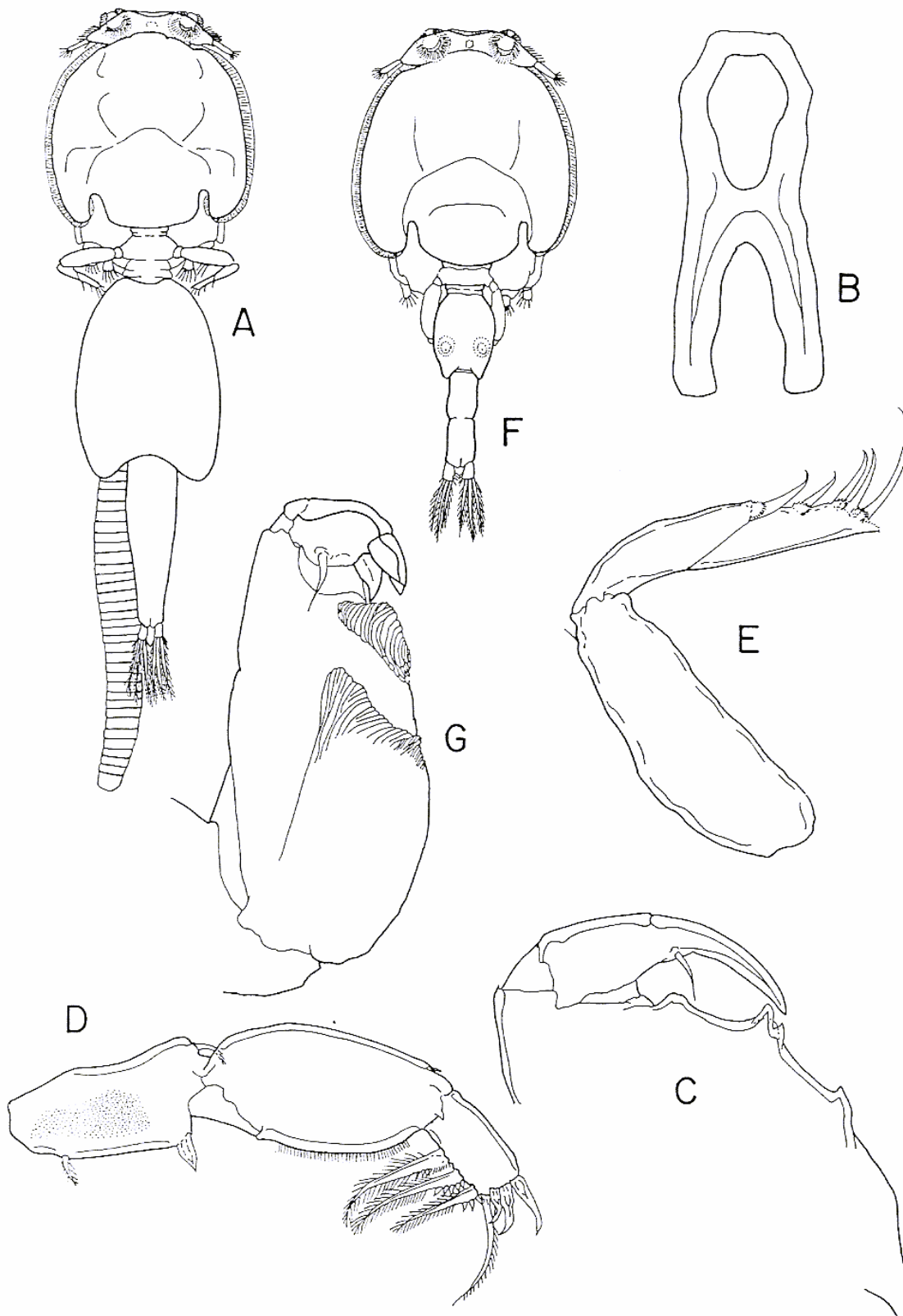


Fig. 3.32. Caligidae. *Caligus bonito* Wilson. A, Female, dorsal; B, Sternal furca; C, Distal part of maxilliped; D, Leg 1; E, Leg 4; F, Male, dorsal; G, Male antenna. [Adapted from Cressey & Cressey, 1980]

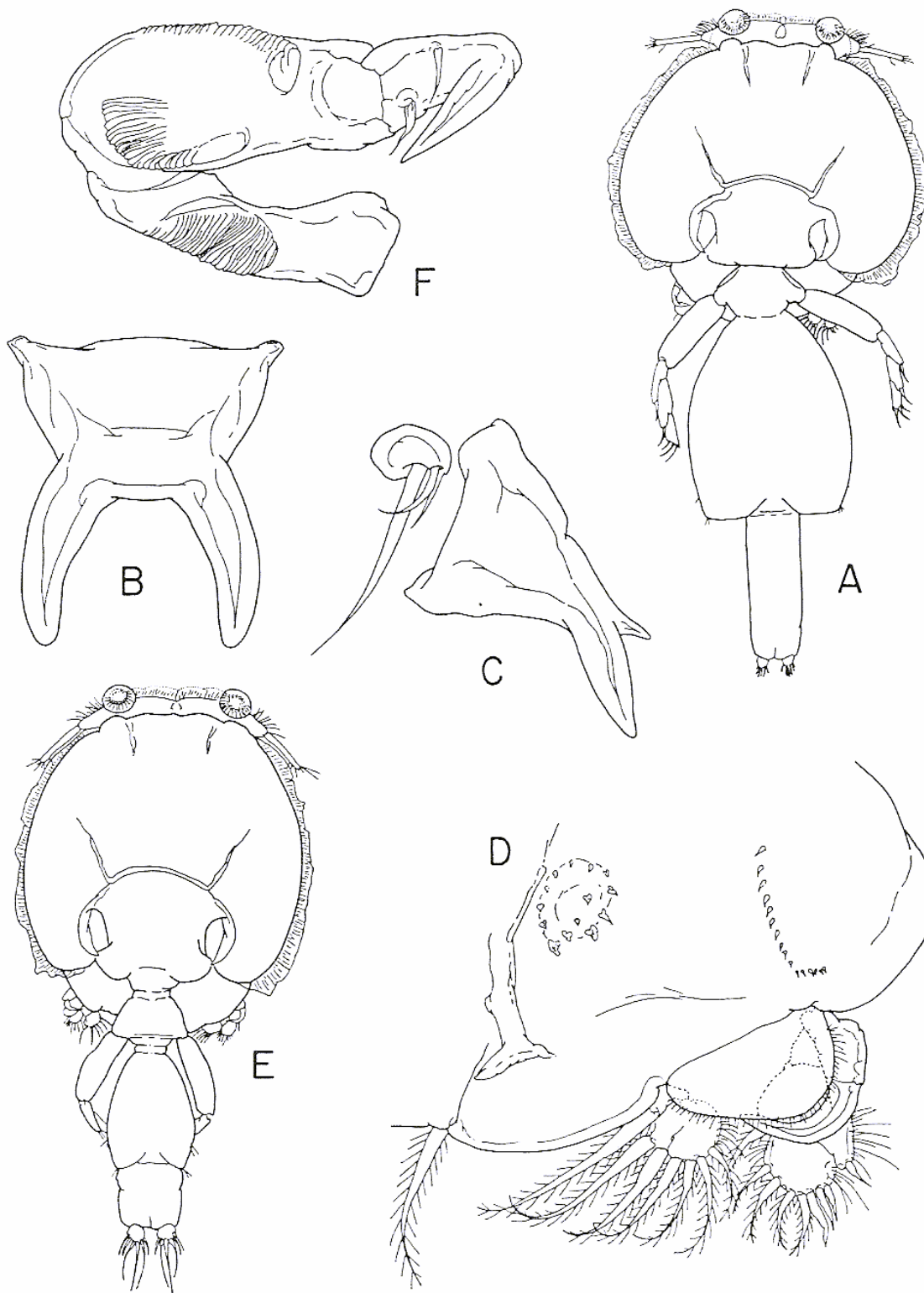


Fig. 3.33. Caligidae. *Caligus chorinemi* Krøyer. A, Female, dorsal; B, Maxillule; C, Sternal furca; D, Leg 3; E, Male, dorsal; F, Male antenna. [Adapted from Cressey & Cressey, 1991]

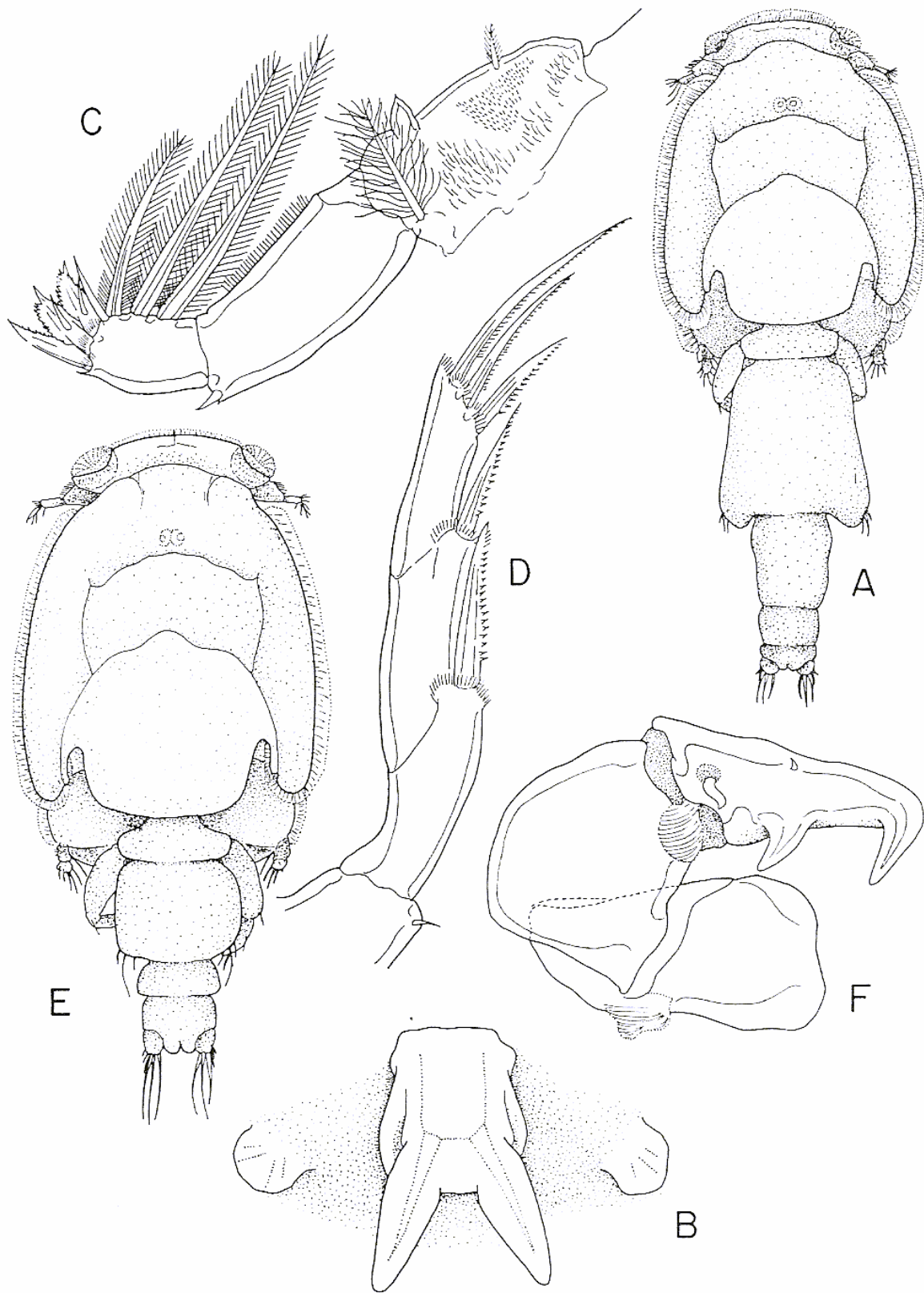


Fig. 3.34. Caligidae. *Caligus coryphaenae* Steenstrup & Lütken. A, Male, dorsal. B, Sternal furca; C, Leg 1; D, Exopod of leg 4; E, Female, dorsal; F, Male antenna. [Adapted from Kabata, 1979a]

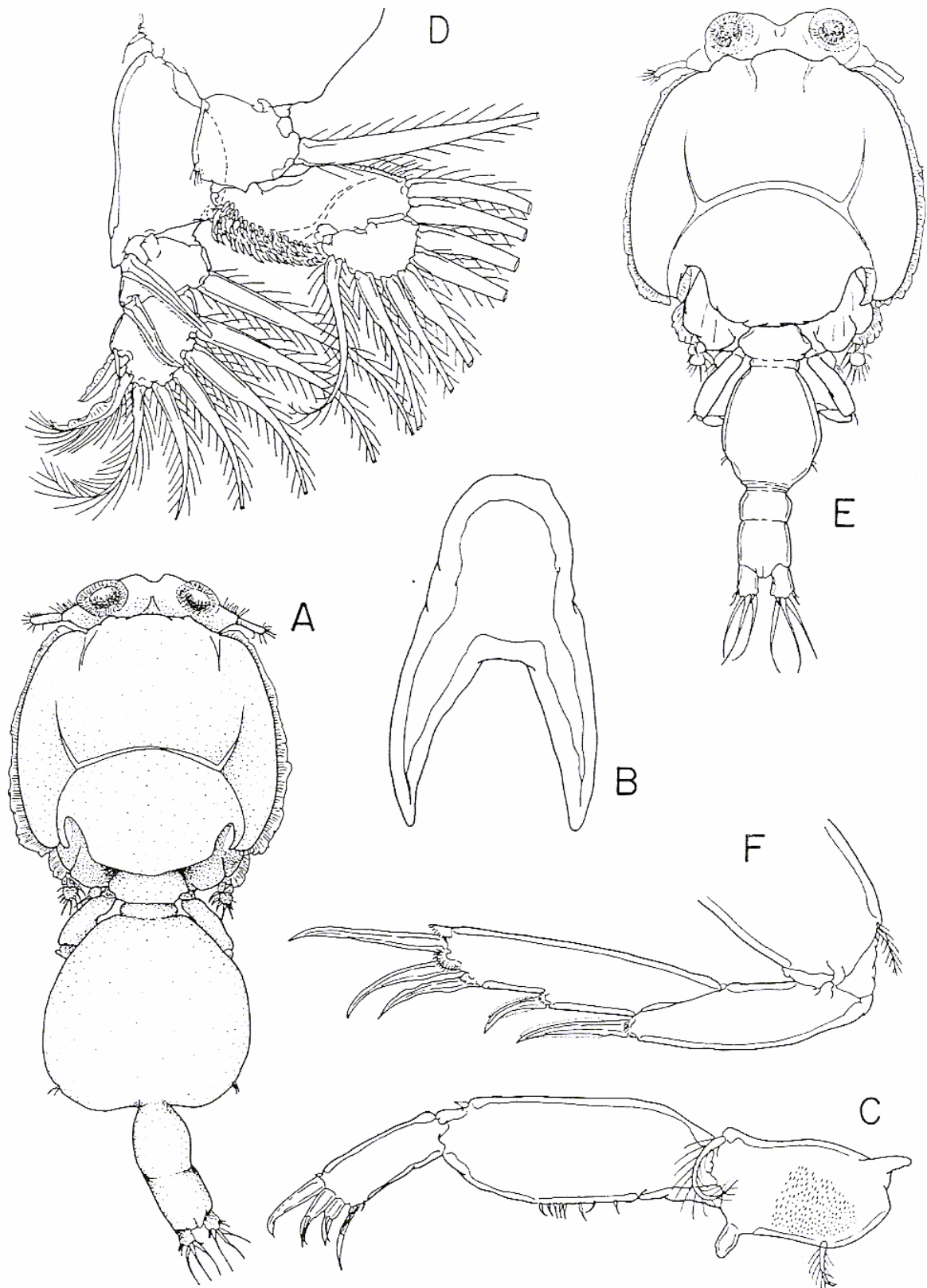


Fig. 3.35. Caligidae. *Caligus haemulonis* Krøyer. A, Female, dorsal; B, Sternal furca; C, leg 1; D, Leg 2; E, Male dorsal; F, Exopod leg 4. [Adapted from Cressey & Cressey, 1991]



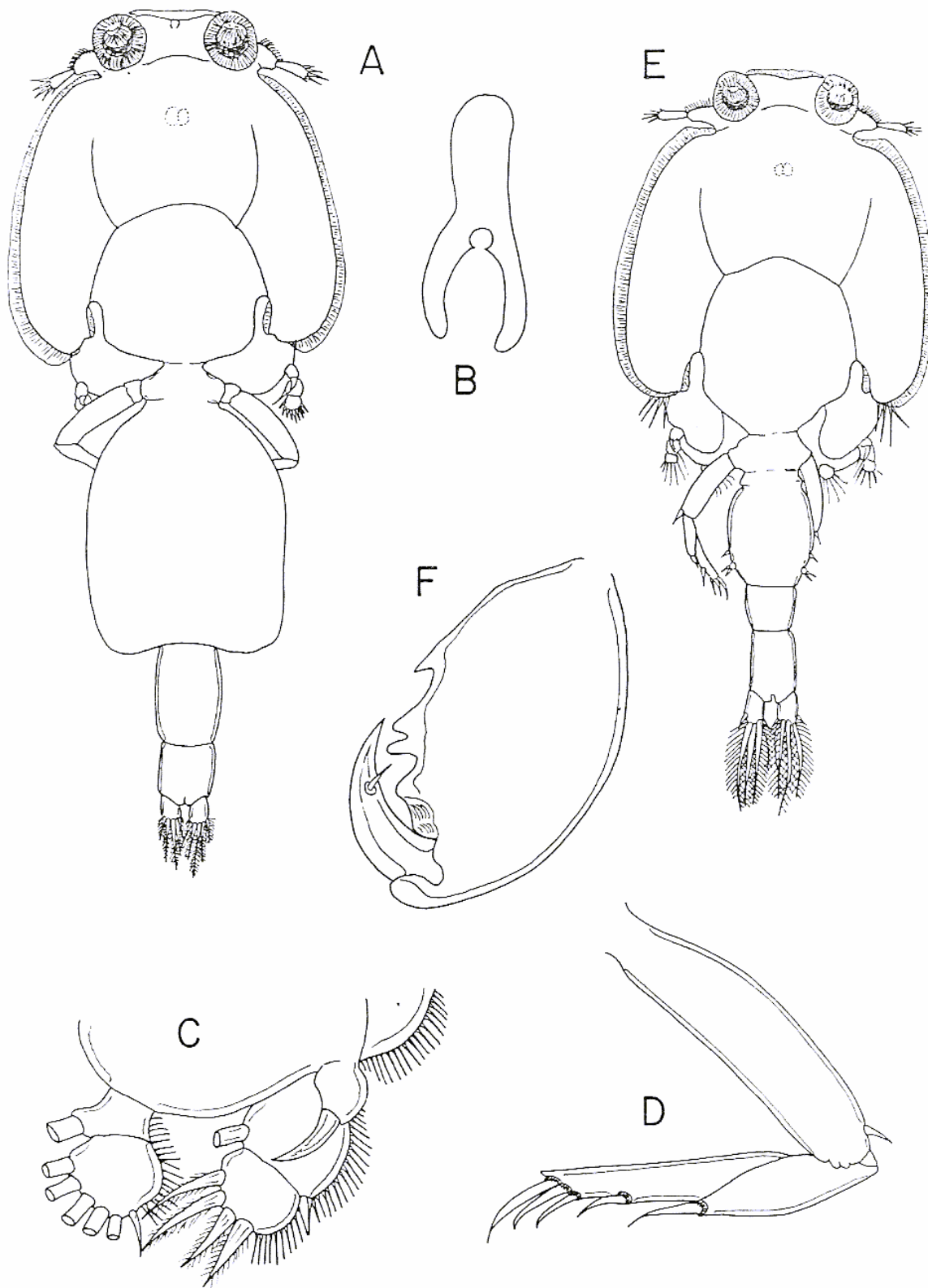


Fig. 3.36. Caligidae. *Caligus irritans* Heller. A, Female, dorsal; B, Sternal furca; C, Rami of leg 3; D, Leg 4; E, Male, dorsal; F, Maxilliped. [Adapted from Wilson, 1913]

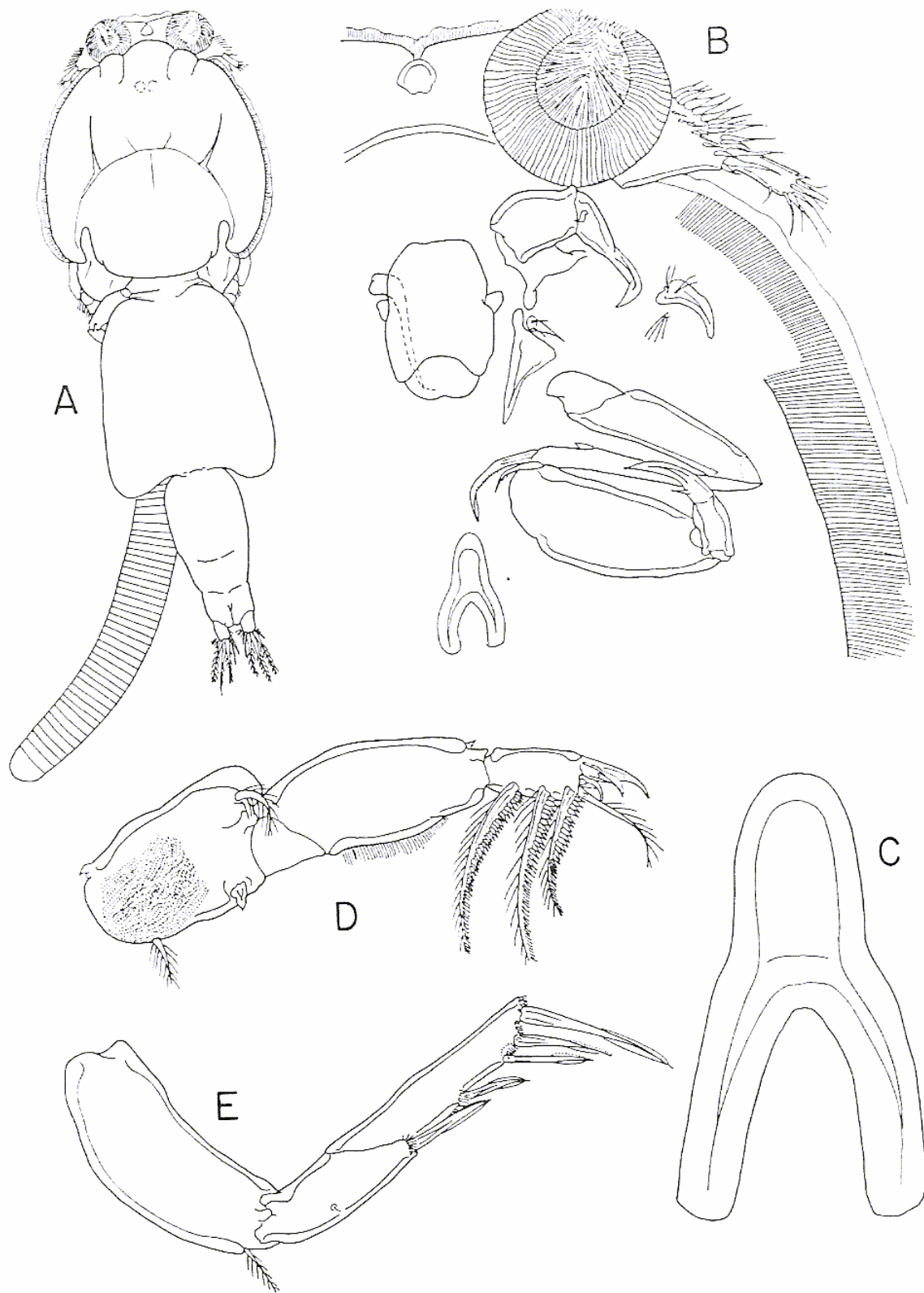


Fig. 3.37. Caligidae. *Caligus mutabilis* Wilson. A, Female, dorsal; B, Left side of cephalothorax, ventral view showing positions of mouthparts; C, Sternal furca; D, Leg 1; E, Leg 4. [Adapted from Cressey and Cressey, 1980]

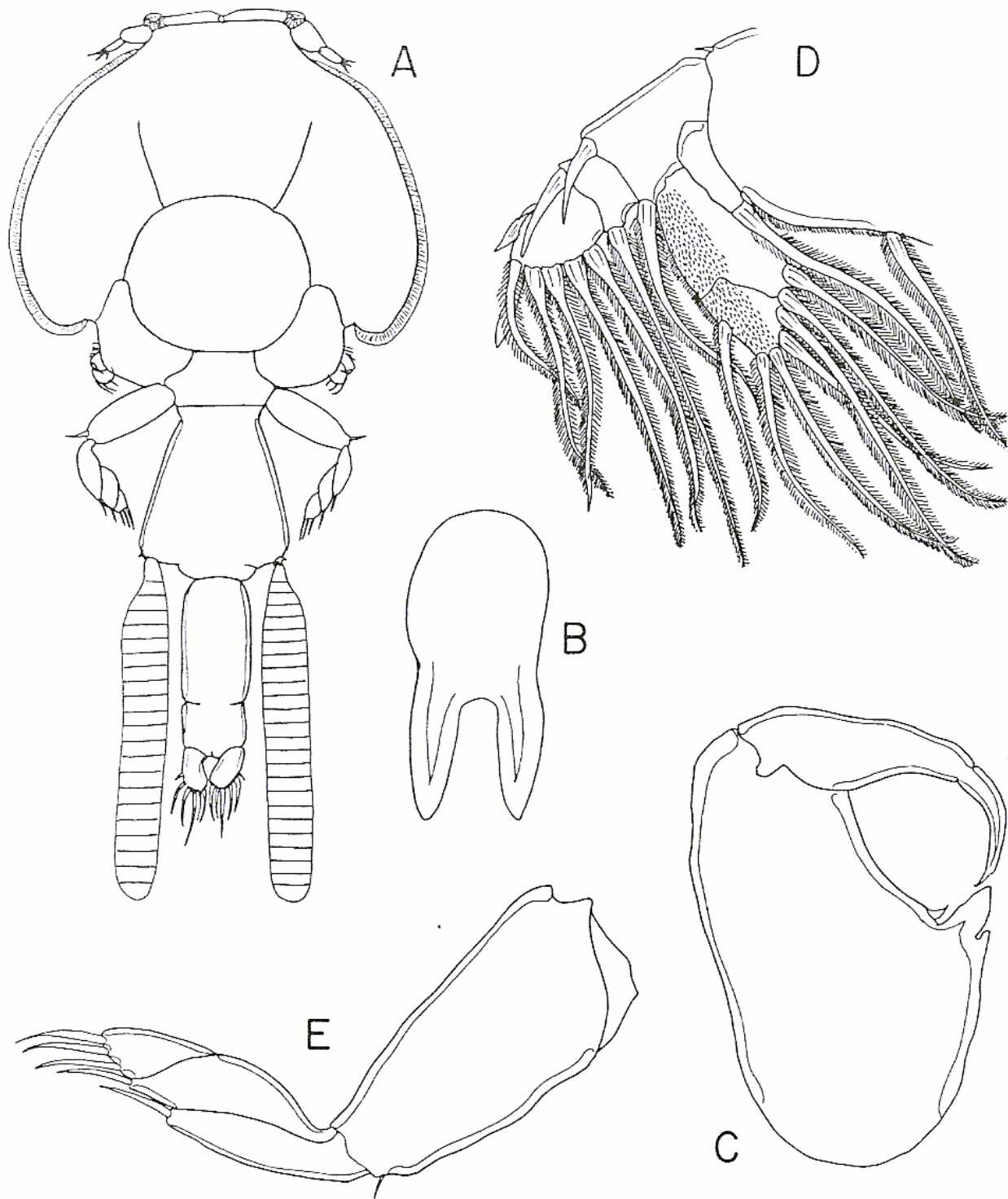


Fig. 3.38. Caligidae. *Caligus oligoplitisi* Carvalho. A, Female, dorsal; B, Sternal furca; C, Maxilliped; D, Leg 2; E, Leg 4. [Adapted from Carvalho, 1956]

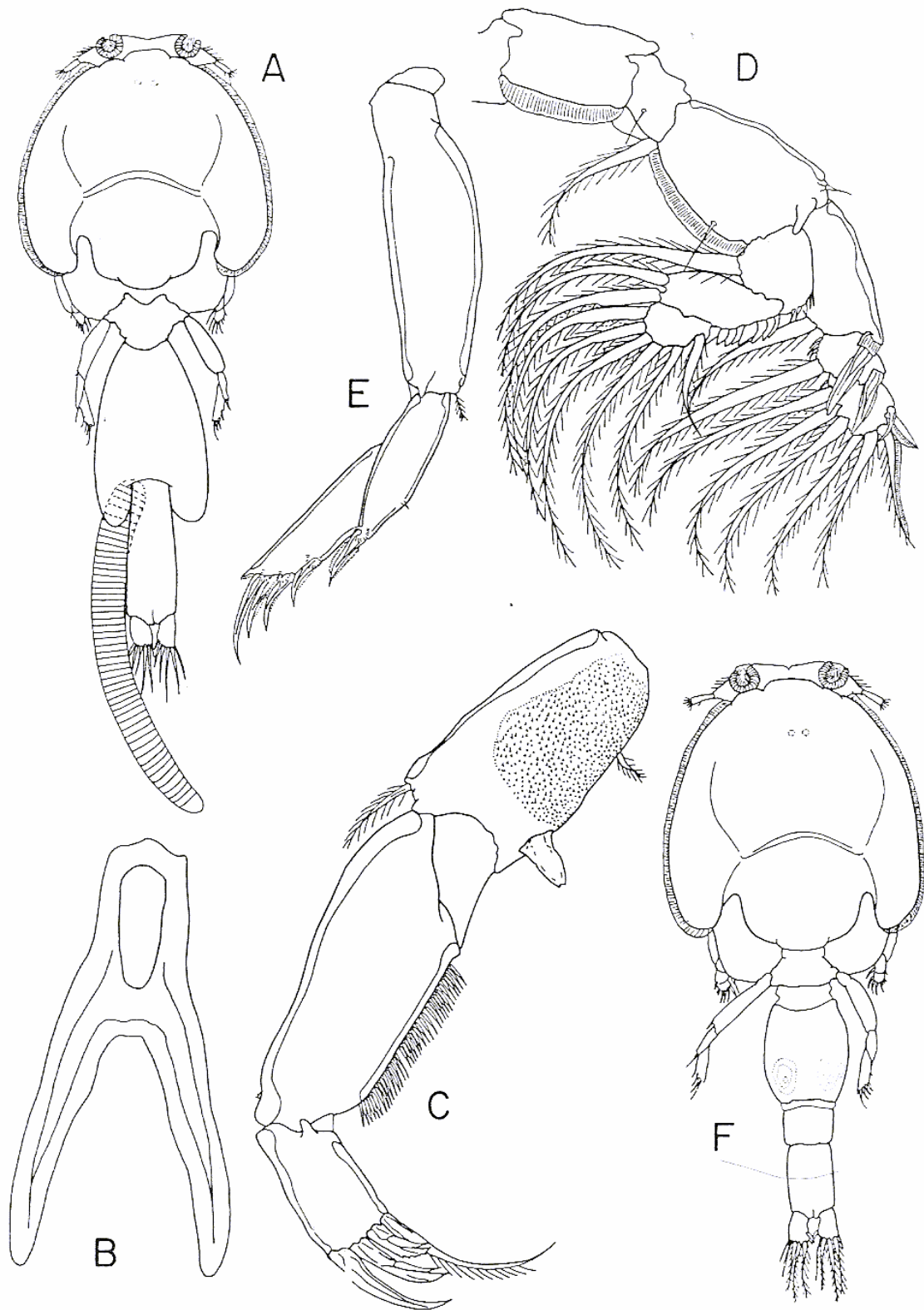


Fig. 3.39. Caligidae. *Caligus productus* Dana. A, Female, dorsal; B, Sternal furca; C, Leg 1; D, Leg 2; E, Leg 4; F, Male, dorsal. [Adapted from Cressey & Cressey, 1980]

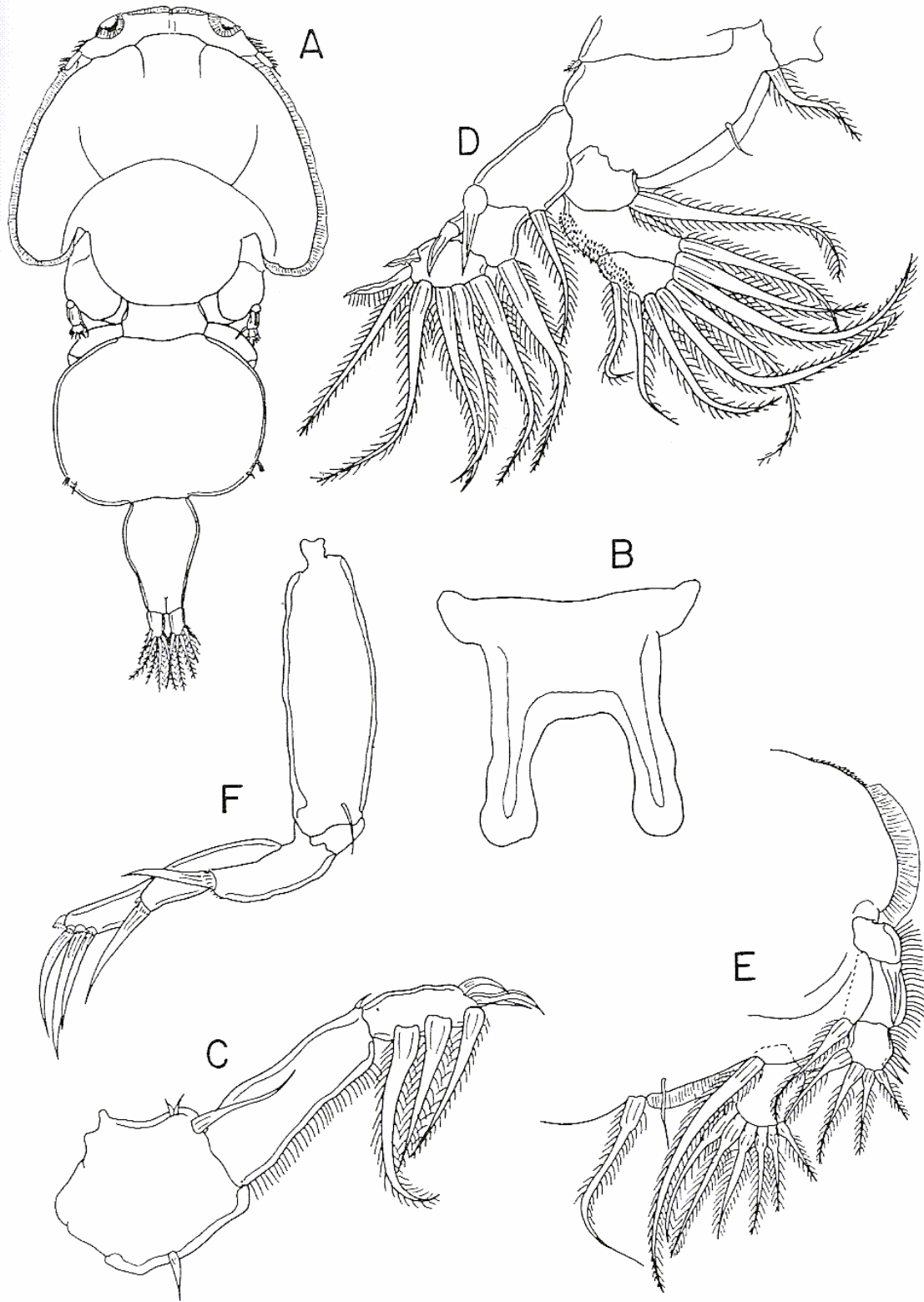


Fig. 3.40. Caligidae. *Caligus sepetibensis* Luque & Takemoto. A, Female, dorsal; B, Sternal furca; C, Leg 1; D, Leg 2; E, Leg 3; F, Leg 4. [Adapted from Luque & Takemoto, 1996]



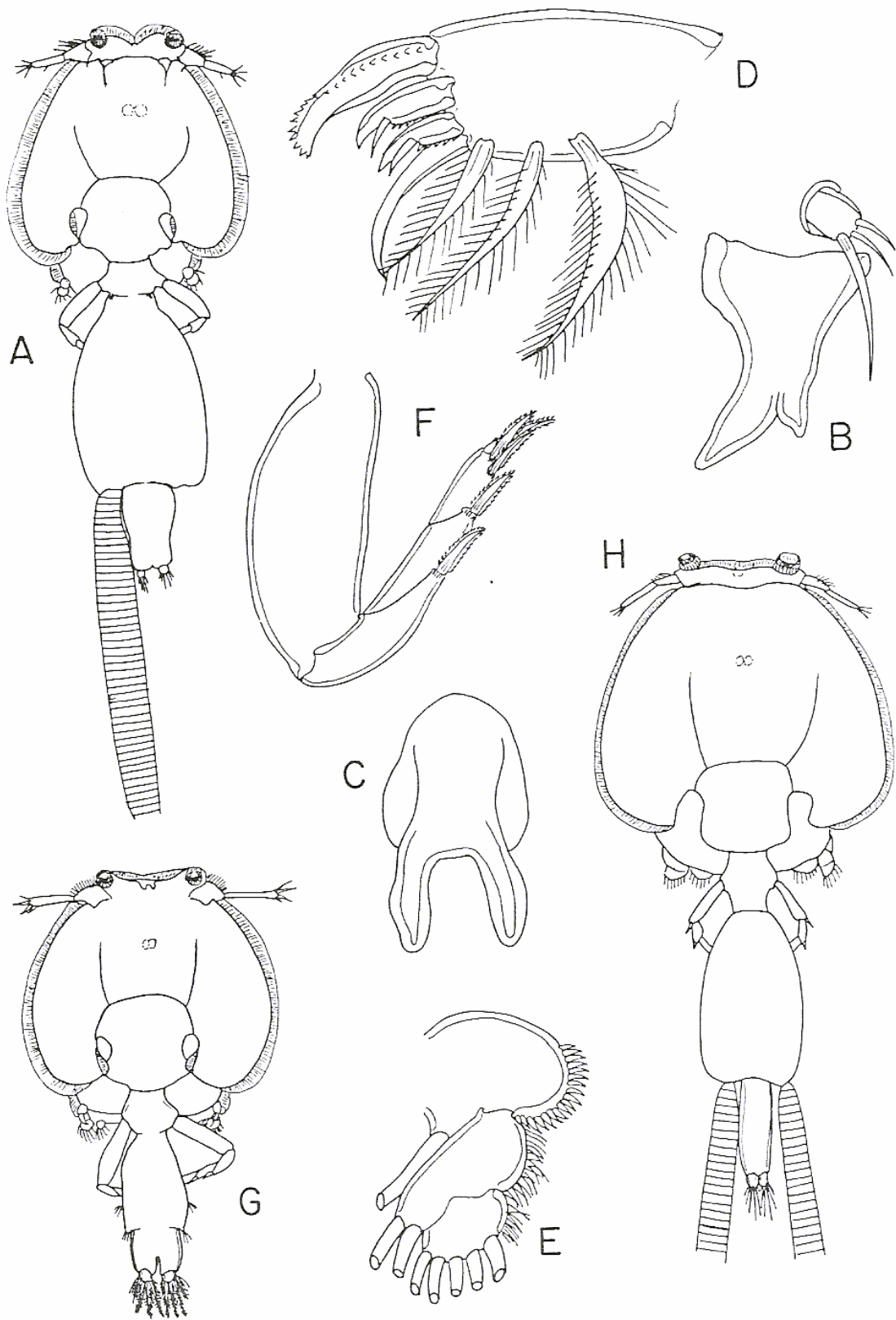


Fig. 3.41. Caligidae. *Caligus tenax* Heller and *Caligus trachynoti* Heller. A, *Caligus tenax* female, dorsal; B, Maxillule; C, Sternal furca; D, Distal exopodal segment of leg 1; E, Endopod of leg 2; F, Leg 4; G, Male, dorsal; H, *Caligus trachynoti* female, dorsal. [Adapted from Pillai, 1985, Wilson, 1913 and Heller, 1868]

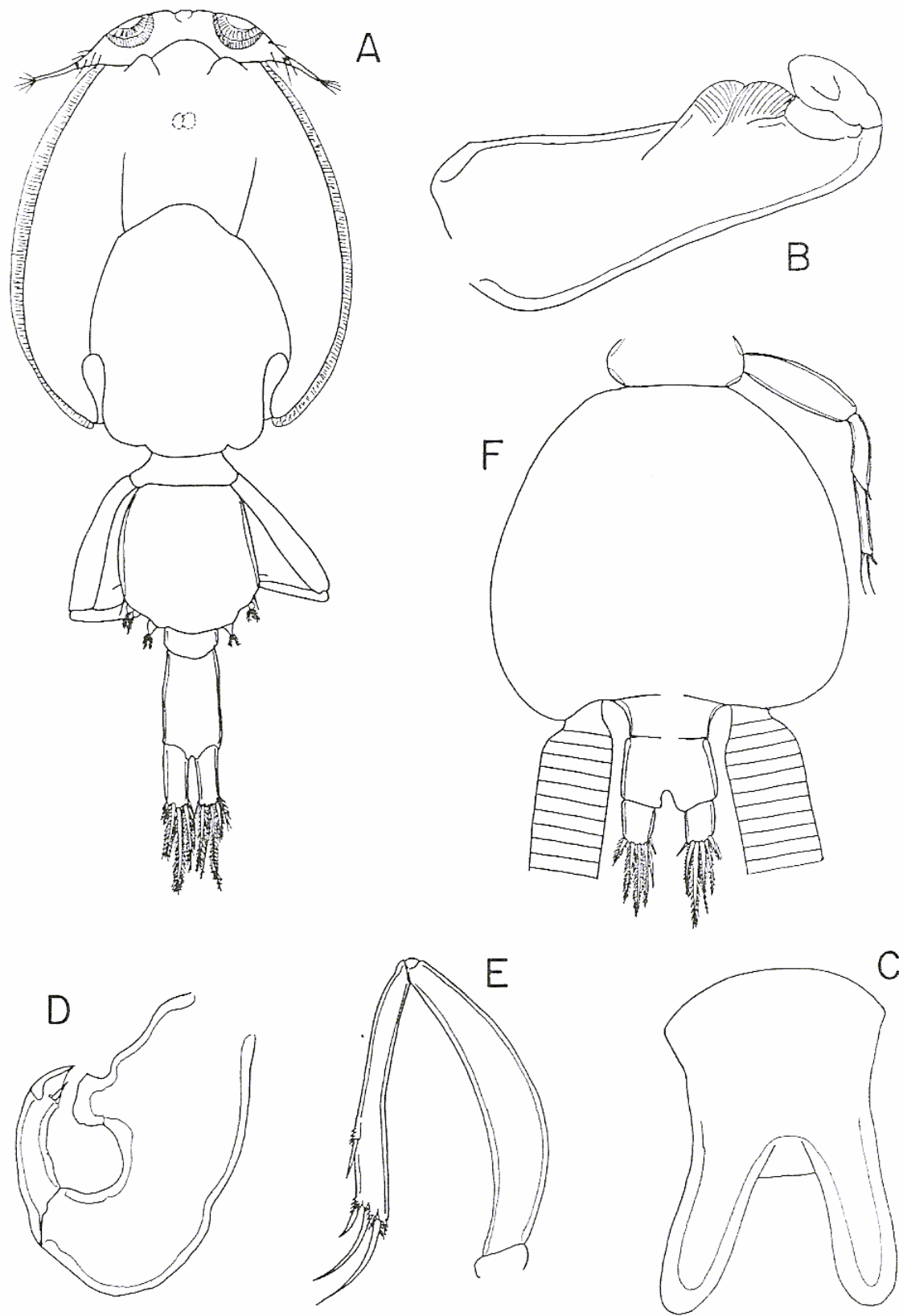


Fig. 3.42. Caligidae. *Caligus tetodontis* Barnard. A, Male, dorsal; B, Antenna; C, Sternal furca; D, Maxilliped; E, Leg 4; F, Female genital complex and abdpmen, dorsal. [Adapted from Montú, 1982 and Barnard, 1948]