Adult body length usually 2-3.5 cm, exceptionally up to 8 cm. Cephalic capsule strongly domed, with antennae inserting dorsolaterally, widely separated at their bases. Eyes facetted, ommatidia with a crystalline cone. Multiannulated flagella of the antennae divided into two or three sections by elongate nodes, with a sensory organ (Schaftorgan) on the scape. Mandible large, gnathal edge subdivided into numerous pectinate lamellae, three multi-cusped teeth and pulvillus with a slender molar plate. Maxillary organs housed in coxal projections of first maxillae. Second maxillae slender, lacking terminal claw, with rows of trichomes on inner side of tarsus; four elongate spine-bristles encircling distal end of femur, one on dorsodistal side of prefemur, and variably one on ventrodistal side of prefemur and a pair at distal end of tibia. Forcipular coxae separate, flexible along midline; anterior margins of coxae with four pairs of elongate spine-bristles similar to single spine-bristle on inner edge of forcipular prefemur. Hypopharynx projects as elongate tongue with a pair of sclerotized forks on its frontal surface and button-like sensilla on its tip. Epipharynx with A-shaped bars delimiting labral trapezoid and clypeal triangle; labral trapezoid with two median clusters of sensilla coeloconica. Tracheae opening to slit-like, unpaired stomata on posterior part of tergites; tergites swollen as “stoma-saddles” above tracheae; hemocyanin used as oxygen transport molecule. Eight elongate stomatotergites cover 15 pairs of trunk legs, including single plate over segments 7-9. Tergites bearing bristles (trichoid mechanosensilla set in sockets), many of which are commonly associated with spines, generally with hairs (spiculae or spinulae) between the bristles. Legs with carinae at the angles on prefemur, femur and tibia bearing files of spines. Each coxa bears a spine ventrally. Tarsi greatly elongate, subdivided into many annulations (tarsus 1 with at least four annulations, tarsus 2 with at least 15), most annulations of tarsus 2 bearing paired papillae and resilient solenhairs on their ventral side. Ultimate legs antenniform, much longer than all others, tarsus subdivided into as many as 500 annulations without clear division into tarsus 1 and 2, lacking pretarsal claw. Female gonopods forcipulate, with single articulation. Two pairs of male gonopods, on first and second genital segments. Coxal and anal organs lacking.
Development anamorphic, where known hatching from the egg with four leg-bearing segments.

Tropical and temperate parts of all continents except Antarctica. Ca 95 extant species in three families.

Family PSELLIODIDAE Chamberlin, 1955 (Fig. 19.1). – Cephalic suture complex lacking an antennal branch, terminating as a pair of anterior projections. Antennal articles

Fig. 19.1 Sphendononema guildingii (Scutigeromorpha, Pselliodidae). Habitus, dorsal view, spine-bristles omitted. Original E. Zamprogno.