Fishes with a slender to somewhat deep, short to elongate body; single soft-rayed dorsal and anal fins, and anal fin of males in some species modified for transfer of sperm bundles or spermatophores; pectoral fins falcate, set high on sides, and may be enlarged; pelvic fins abdominal, with 5–7 rays, and fins may be enlarged; caudal fin rounded, truncate, emarginate or forked, with more principal rays in lower lobe than in upper lobe; all suborbital bones absent except for first, or first and last; parietals small or absent; lower pharyngeal bones separate or fused into a triangular plate; no dorsal hypohyal and interhyal; interarcual cartilage absent; 2nd and 3rd epibranchials relatively small; 1st and 4th pharyngobranchial absent, and 2nd pharyngobranchial vertically re-oriented; pored lateral-line scales, when present, along ventral margin of body; scales thin, cycloid; oviparous or viviparous.

The Beloniformes together with the Atheriniformes and Cyprinodontiformes constitute the Atherinomorpha (Rosen & Parenti 1981). A monophyletic Atherinomorpha has been recovered in both morphological (Rosen 1964; Rosen & Parenti 1981; Parenti 1993, 2005) and molecular analyses (Setiamarga et al. 2008). Atherinomorphs are distinguished by a unique set of reproductive characters. The eggs are large and demersal, usually with long and short adhesive filaments on the zona pellucida or chorion (absent in Exocoetidae, most scomberesocids, and all viviparous or live-bearing species), and have many oil droplets at the vegetal pole (Rosen & Parenti 1981; Collette et al. 1984; Parenti 1993, 2005); yolk is fluid, not granular (Parenti & Grier 2004). Spermatogonia are restricted to the distal ends of the testis lobules (Grier et al. 1980; Parenti & Grier 2004). There is coupling during mating; fertilisation may be external or internal, followed by a prolonged developmental period of 1–2 weeks or more in annual cyprinodontiforms. Atherinomorphs are also distinguished by the form of the superficial (A1) division of the adductor mandibulae which has two tendons (1st inserted on the maxilla, 2nd on the lachrymal); no supraneurals; the suborbital series is represented solely by a lachrymal or by a lachrymal and dermosphenotic, and 1 or 2 anterior suborbitals in some species; single or double disc-shaped ethmoid ossification (Rosen 1964); supracleithrum reduced or absent; dorsal gill arches with large 4th epibranchial and no 4th pharyngobranchial (Rosen & Parenti 1981); medial hook-like projection and ventral flange on 5th ceratobranchial (Stiassny 1990); lateral process of pelvic bone and distal end of pleural rib are closely associated and may be connected via a ligament (Parenti 1993); olfactory sensory epithelium arranged in sensory islets (Tamamori 1982; Parenti 1993); separation of afferent and efferent circulation during development; and saccus vasculosus absent (Parenti 2005).

Rosen & Parenti (1981) and Parenti (2005) recognise 2 suborders of the order Beloniformes. The suborder Adrianichthyidae contains only the family Adrianichthyidae, which inhabits brackish and fresh waters of East and South Asia and the Indo-Australian Archipelago as far east as Timor-Leste (Parenti 2008; cf. family Adrianichthyidae, this volume). The suborder Exocoetoidae is divided into 2 superfamilies with 5 families (Aschliman et al. 2005): superfamily Scomberesocoidea (Belonidae and Scomberesocidae) and superfamily Exocoetoidea (Hemiramphidae, Zenarchopteridae and Exocoetidae), which live in marine, brackish and freshwater habitats. All 6 families in WIO.

KEY TO FAMILIES

1a Body short and laterally compressed; no pored LL scales; nostril openings paired; ventral pharyngeal bones separate ........................................ ADRIANICHTHYIDAE

1b Body elongate, subcylindrical or slightly laterally compressed; pored LL scales run along ventral margin of body; nostril a pit with protruding tentacle; ventral pharyngeal bones fused into triangular plate ................................................................. 2

2a Both jaws elongate; paired fins not enlarged; rostral bones joined by sutures ........................................................................... 3

2b Lower jaw elongate or not; pectoral and/or pelvic fins enlarged; rostral bones separate ....................................................... 4

Continued...
**FAMILY ADRIANICHTHYZIDEAE**

Ricefishes

Lynne R. Parenti

Tiny to small-sized (~2–19 cm SL) with laterally compressed body. Eyes moderate to relatively large. Mouth terminal, small to large, not protrusile. Teeth small, unicuspoid, in single or multiple rows on premaxilla and dentary; males and/or females may have several enlarged teeth on distal portion of upper and lower jaws. One soft-rayed dorsal fin, set posteriorly; pectoral fins falcate, set relatively high on sides; caudal fin rounded, truncate or lanceolate, forming incipient lobes. Dorsal- and anal-fin rays of males longer and thicker than those of females, and often with bony tubercles (contact organs) on distal segments of anal-fin rays, and anal-fin rays form gonopodium in males of one species. Scales small to moderate, cycloid; LSS 24–85; no pored LL scales. Body translucent or transparent in life, sometimes scattered.