

2. SYSTEMATIC CATALOGUE

2.1 The Superfamily Trichiuroidea

The superfamily Trichiuroidea as recognized here is made up of the families Gempylidae and Trichiuridae which together form a monophyletic group in the Scombroidei (Johnson, 1986). Some authors (e.g. Nelson, 1984) also include the Scombrabrachidae in this superfamily but their inclusion in the Scombroidei has been questioned (Johnson, 1986).

2.1.1 Diagnostic Features of the Superfamily Trichiuroidea

Diagnostic features: Body semifusiform to extremely elongate and compressed; no caudal keels (except *Lepidocybium*). Mouth large, lower jaw protruding; one or two nostrils on each side of head: fang-like teeth usually present at front of jaws; gill rakers mostly spinescent. Dorsal fin along the entire dorsal surface of body; pectoral fins short, not inserted high on body; pelvic fins small or absent; caudal fin, if present, forked but not lunate, the rays attached to the distal edge of hypurals (except in *Tongaichthys*). The first dorsal pterygiophore (an interneural-derived bone) inserts in second interneural space (between first and second neural spines) and does not share this space with other pterygiophores; vertebrae 32 to 170.

2.1.2 Illustrated Key to Families:

- 1a. Body elongate and moderately compressed, or semifusiform; caudal fin forked and rather large; nostrils double (Fig. 24); two clearly separated dorsal fins, the second dorsal fin (excluding finlets) shorter than the first (Fig. 24)

Gempylidae
- 1b. Body very elongate and extremely compressed; caudal fin absent, or a small forked fin; nostrils single (Fig. 25); two continuous dorsal fins or separated by shallow notch, the second dorsal fin longer than the first (Fig. 25).

Trichiuridae

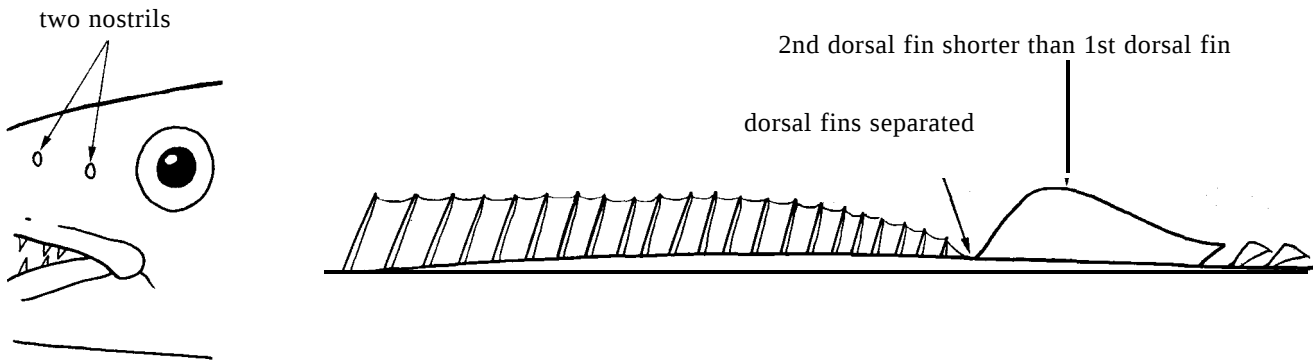


Fig. 24 Gempylidae

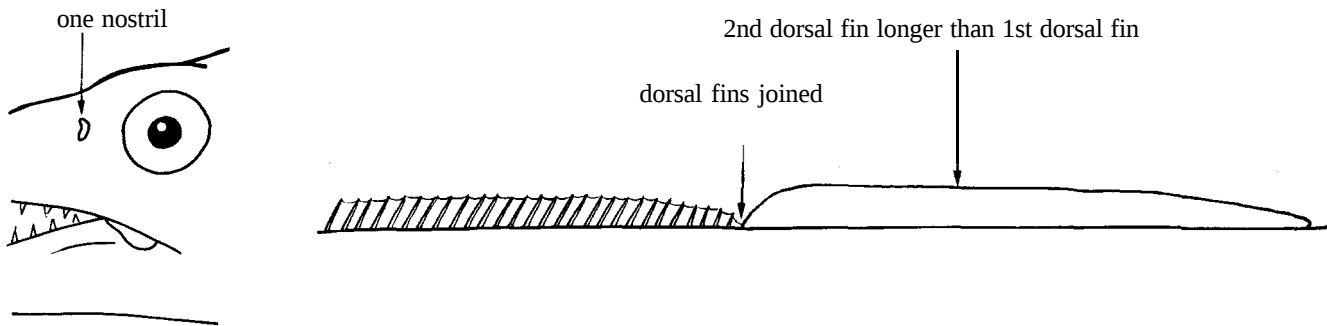


Fig. 25 Trichiuridae

2.1.3 Additional Aids to Identification of Genera and Species

The shape of gill rakers (Figs 26, 27) and jaw teeth (Figs 28, 29) show characteristic features of species and genera and can be used as an additional aid to identification.

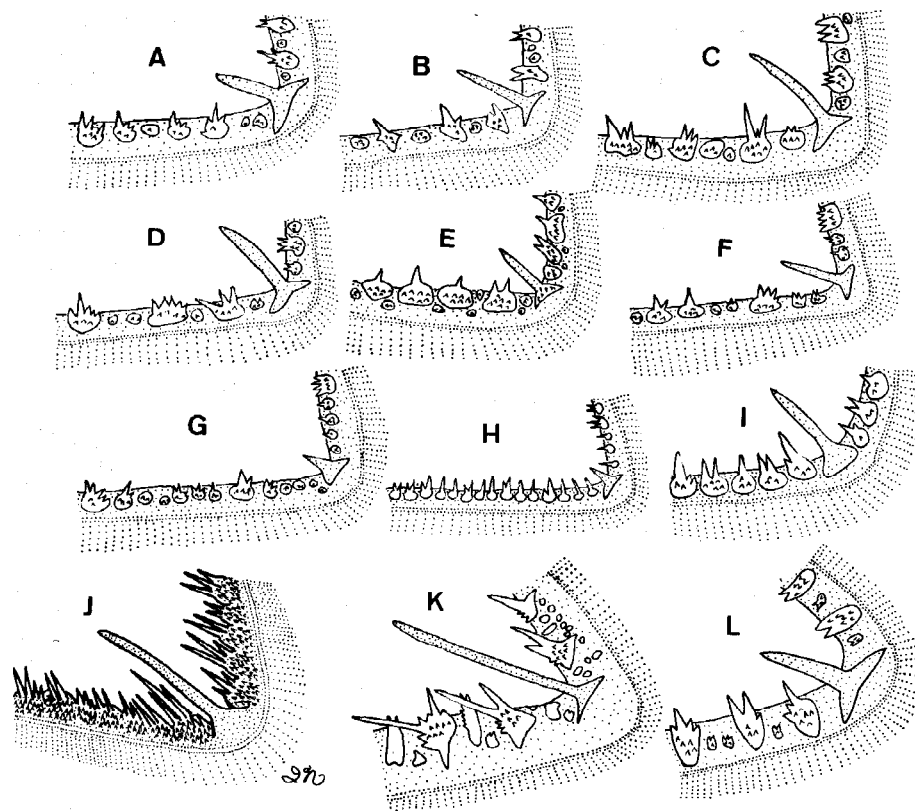


Fig. 26 First gill arch showing gill rakers of Gempylidae. A, *Epinnula magistralis*; B, *Neopinnula orientalis*; C, *Rexea prometheoides*; D, *Nealotus tripes*; E, *Promethichthys prometheus*; F, *Thyrsitoides marleyi*; G, *Gempylus serpens*; H, *Paradiplospinus antarcticus*; I, *Thyrsitops lepidopoides*; J, *Thyrsites atun*; K, *Tongaichthys robustus*; L, *Ruvettus pretiosus*

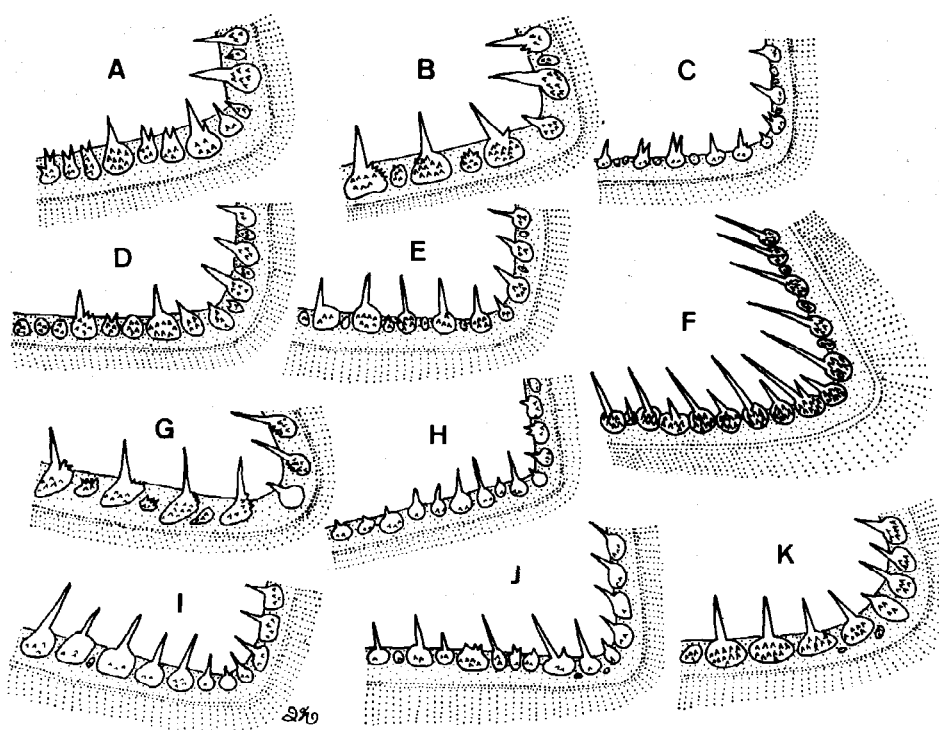


Fig. 27 First gill arch showing gill rakers of Trichiuridae. A, *Benthodesmus elongatus*; B, *B. tenuis*; C, *Assurger anzac*; D, *Aphanopus carbo*; E, *Evoxymetopon taeniatus*; F, *Lepidopus caudatus*; G, *Lepturacanthus savala*; H, *Eupleurogrammus glossodon*; I, *E. muticus*; J, *Trichiurus auriga*; K, *T. gangeticus*

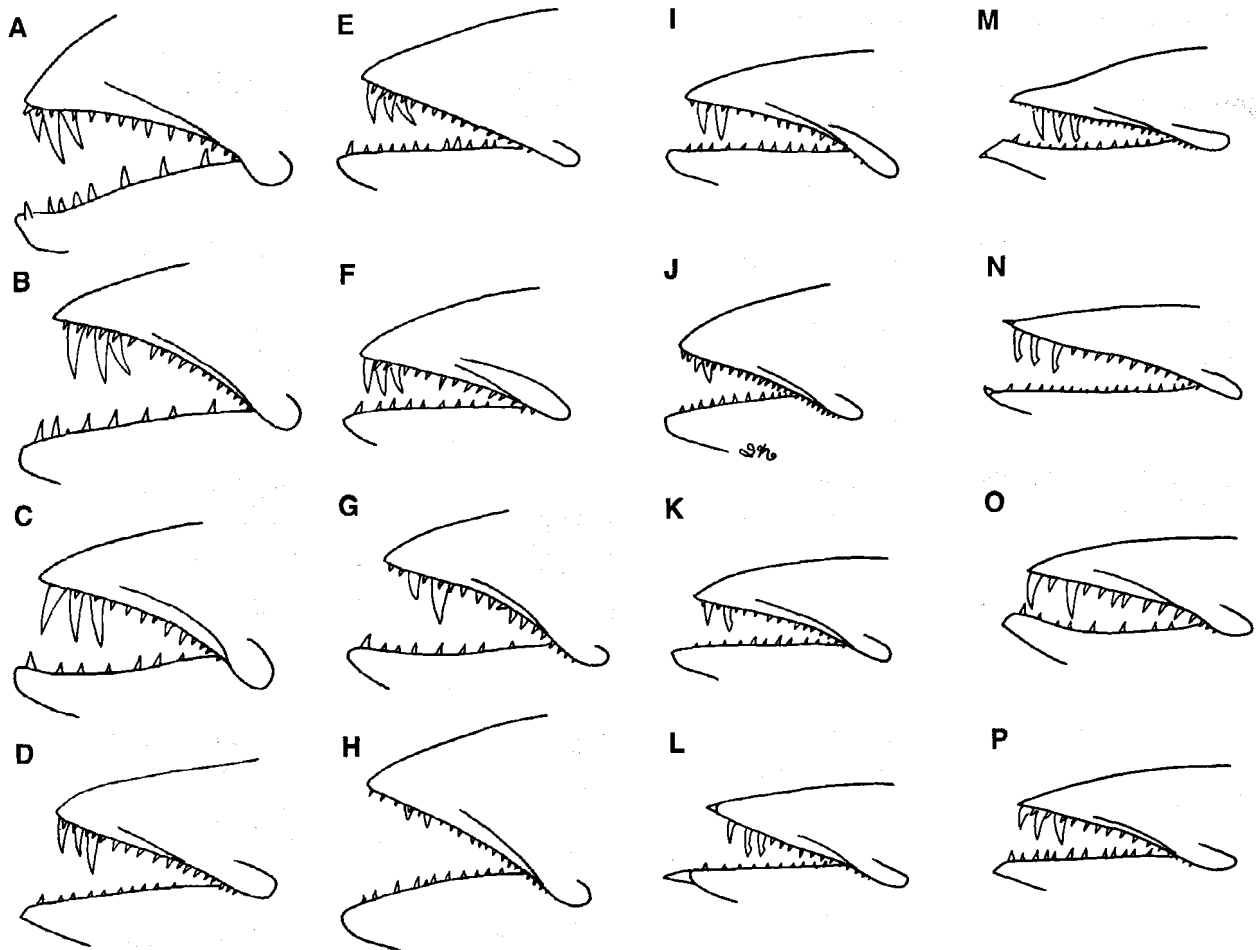


Fig. 28 Jaw teeth of Gempylidae (not drawn to scale). A, *Epinnula magistralis*; B, *Neopinnula orientalis*; C, *Rexeaprometheoides*; D, *Rexichthys johnpaxtoni* (after Parin and Astakhov, 1987); E, *Nealotus tripes*; F, *Promethichthys Prometheus*; G, *Ruvettus pretiosus*; H, *Lepidocybium flavobrunneum*; I, *Thyrsitops lepidoides*; J, *Tongaichthys robustus*; K, *Thyrsites atun*; L, *Nesiarchus nasutus*; M, *Thyrsitoides marleyi*; N, *Gempylus serpens*; O, *Paradiplospinus antarcticus*, P, *Diplospinus multistriatus*

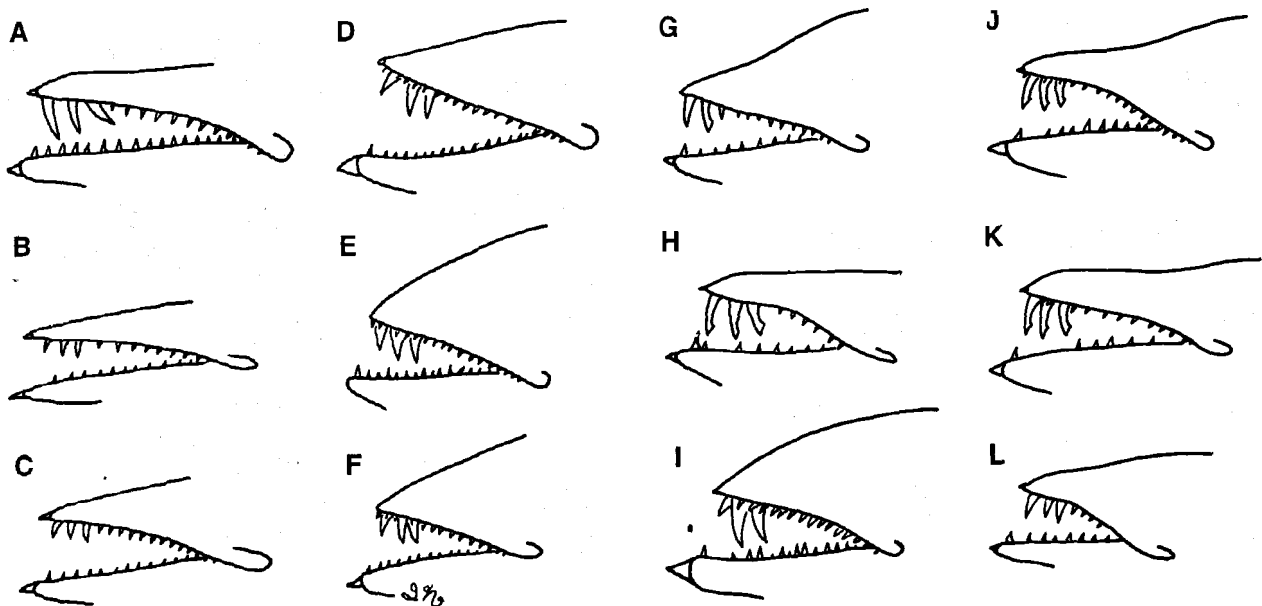


Fig. 29 Jaw teeth of Trichiuridae (not drawn to scale). A, *Aphanopus carbo*; B, *Bethodesmus tenuis*; C, *Lepidopus caudatus*; D, *Assurger anzac*; E, *Evoxymetopon taeniatum*; F, *Eupleurogrammus muticus*; G, *Eupleurogrammus glossodon*; H, *Lepturacanthus savala*; I, *Tentoriceps cristatus*; J, *Trichiurus lepturus*; K, *T. gangeticus*; L, *T. auriga*