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Bones and Muscles of the Suspensorium in the Galaxioids and *Lepidogalaxias salamandroides* (Teleostei: Osmeriformes) and their Phylogenetic Significance

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ABSTRACT. The phylogenetic position of the south-western Australian endemic, *Lepidogalaxias salamandroides*, has been controversial since its description by Mees in 1961. Some workers place this tiny fish with the galaxioids of the southern end of the Southern Hemisphere, one considered it to be an esocoid (a group otherwise restricted to the northern end of the Northern Hemisphere), while another hypothesises that it may be the sister group of the Neoteleostei. My study of the suspensorium and its muscles in associated euteleosts supports the hypothesis that the galaxioids are monophyletic and include *Lepidogalaxias*. Data from the bones and muscles of the suspensorium suggests the following pattern: ([Retropinnidae + Prototroctidae] + [*Lepidogalaxias* + (Galaxiidae + Aplochitonidae)]). *Lepidogalaxias* is the sister group of Galaxiidae + Aplochitonidae based particularly on synapomorphies of the adductor mandibulae. The suspensorium and its muscles in *Lepidogalaxias* and the other galaxioids are described in detail for the first time. I also critically evaluate competing hypotheses of galaxioid relationships and comment on paedomorphosis in the group.

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The salmoniform fishes endemic to the Southern Hemisphere, the galaxioids, include the Retropinnidae, Prototroctidae, Galaxiidae, and Aplochitonidae (all *sensu* McDowall, 1969). Although the familial arrangement may vary, except for Rosen (1974) most recent workers consider the galaxioids to be monophyletic (e.g., McDowall, 1969, 1984; Nelson, 1972; Fink, 1984; Howes & Sanford, 1987; Williams, 1987; Begle, 1991; Nelson, 1994). In contrast, Rosen (1974) linked the Galaxiidae + Aplochitonidae (his Galaxiidae) with the Salmonidae, and the Retropinnidae + Prototroctidae (his Retropinnidae) with the Osmeridae + Plecoglossidae + Salangidae.

Although most agree that the galaxioids are monophyletic, the phylogenetic position of the tiny galaxioid-like south-western Australian endemic, *Lepidogalaxias salamandroides*, is controversial. When Mees (1961) first described this highly unusual fish he