Freshwater fish of the Macquarie Harbour region

Tasmania boasts only a relatively small number of native freshwater fish. This is to be expected, as the island is part of one of the driest continents on Earth. Of the 180 species that occur in Australia, 25 are found in Tasmania.

Over half of those species occurring in the State belong to a group known as galaxiids. Galaxiids are also found in New Zealand, prompting some scientists to suggest that they evolved from Tasmanian species which migrated across the Tasman Sea. Other species are also found in South America, suggesting that the group derives from Gondwanan ancestors.

Some of the most threatened vertebrates in the State are galaxiids. Many species have very restricted distributions. For example, the critically endangered Pedder galaxias was found only in Lake Pedder and its tributaries prior to its flooding. The endangered Clarence galaxias is restricted to Clarence Lagoon, while the endangered Swan galaxias is restricted to the small upper tributaries of the Swan and Macquarie rivers. Predation and competition with introduced trout place considerable pressure on the species' prospects of survival.

Freshwater fish of the Gordon River

The Gordon River supports a number of native freshwater fish, including the vulnerable Australian grayling. At least ten species are found in the lower Gordon River — most of which are galaxiids:

Short-finned eel *Anguilla australis and* long-finned eel *Anguilla reinhardtii*
Of the 16 species of Anguillid eel worldwide, four occur in Australia, two of which can be found in Tasmania. In common with other eels in this genus, both species breed at sea. Their larvae drift passively with the ocean currents until they arrive near estuaries, where they turn into unpigmented glass eels. As they migrate into freshwater rivers, they become pigmented and are known as elvers. Short-finned glass eels move into estuaries from March to November, while long-finned glass eels do so during February to April. Adults spend a significant part of their life — over 30 years in the case of long-finned eels — upstream before returning to the sea to breed.

Climbing galaxias
Galaxias brevipinnis
Common in both coastal streams and rivers and landlocked lakes, the climbing galaxias is the largest of the Tasmanian galaxiids (up to 270 mm). River populations spawn in the upper reaches of streams during autumn. The larvae drift downstream, the juveniles returning as part of the whitebait run in the spring. The fish is a capable climber, the low-slung pectoral and pelvic fins aiding it in climbing rocky barriers. As a result, the species has colonised many highland lakes and tarns.

Tasmanian mudfish
Galaxias cleaveri
Juvenile mudfish pass through a marine stage which lasts for two to three months. They form a part of the whitebait run as they return to the lower sections of coastal streams and rivers.

Jollytail
Galaxias maculatus
The jollytail is common in freshwater

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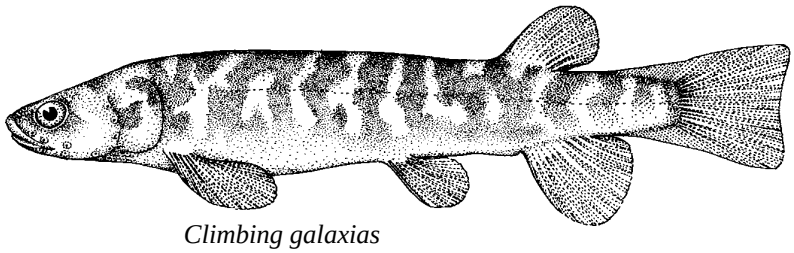
streams throughout the State. Spawning takes place in estuaries. The young fish migrate upstream as part of the whitebait run when four or five months of age.

Spotted galaxias
Galaxias truttaceus
This species breeds in autumn, the larvae being taken to sea and returning as part of the whitebait run in spring. Adults can often be found in quieter streams, particularly in the vicinity of logs.

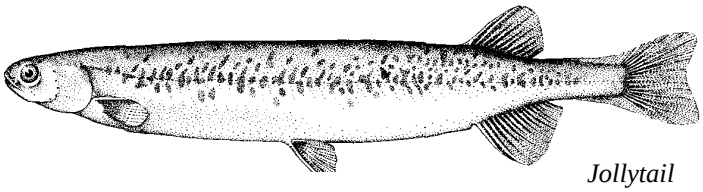
Tasmanian whitebait
Lovettia sealii
Found only in Tasmania, the Tasmanian whitebait occurs in the lower reaches of streams and rivers around the State. Spawning occurs in spring.

Australian grayling
Prototroctes maraena
The Australian grayling was once abundant in coastal streams throughout Tasmania and the south-east of the mainland. However, its population has declined markedly. The construction of weirs prevent its upstream migration, while the loss of river vegetation diminishes both its cover and food source. It is now listed as vulnerable.

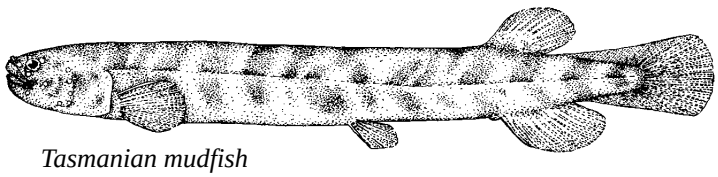
Tasmanian smelt
Retropinna tasmanica
Found only in Tasmania, the smelt is found in the lower reaches of streams and rivers. It is often found in association with schools of whitebait.



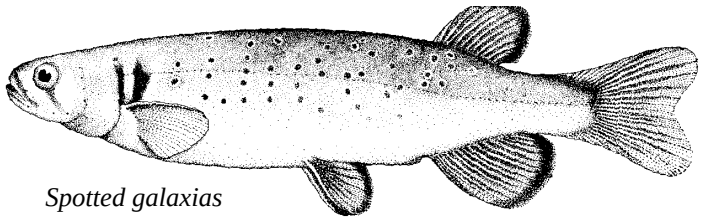
Climbing galaxias



Jollytail



Tasmanian mudfish



Spotted galaxias

Sandy
Pseudaphritis urvillii
The sandy, or freshwater flathead, is the only species of an otherwise predominantly marine group which is found in freshwater. It is common throughout streams in coastal Tasmania and the south-east coast of the mainland.

A number of other species also occur in the waters of the lower Gordon. Two species of lamprey, the short-headed lamprey *(Mordacia mordax)* and pouched lamprey *(Geotria australis)* migrate between the sea and freshwater to breed. The jawless lampreys are the most primitive of living fish. They are parasitic, attaching themselves to other fish with the rasp-like teeth of their mouth disc and feeding on the host's body fluids.

Several species have been introduced into the Macquarie Harbour region. The native blackfish, *Gadopsis marmoratus*, has been introduced into a lake near Strahan. Northern hemisphere species such as rainbow trout *(Oncorhynchus mykiss)*, brown trout *(Salmo trutta)* and Atlantic salmon *(Salmo salar)* occur in the waters of the harbour and lower Gordon River.

Further reading

Fulton, W. (1990). *Tasmanian Freshwater Fishes.* Fauna of Tasmania Committee, University of Tasmania.

Drawings by Carol Kroger, from Fulton, W. (1990). Courtesy of the Fauna of Tasmania Committee, University of Tasmania and the Inland Fisheries Commission.