The fauna in Ariake Sound and the environmental conditions which keep up its uniqueness, with special reference to the fish fauna.

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Ariake Sound is well known for it*s unique fauna as well as different oceanographical conditions. Twenty-three marine and estuarine animals, belonging to Gastropoda, Pelecypoda, Polychaeta, Copepoda, Decapoda, Brachiopoda and Pisces, are known to be distributed only in this sound in Japan. Beside these species, there are many species of animals, which are popular in Ariake Sound, but are rare or restrictedly distributed in a few localities in Japan. Most of these animals are commonly distributed in coastal areas of Korea and China beyond the Straits of Tsushima, representing that they are relics of the time when Japanese Islands are geographically connected with the continent.

Four fin-fish groups are categorized in this sound: 1) a local population of species isolated from others distributed in localities in Japan or the continent; 2) a population of species periodically migrates into this sound to spawn and spends young stages; 3) species distributed over the south-west coasts of Japan, including Ariake Sound; 4) species occasionally straying into Ariake Sound from the oceanic waters. Categories 1 and 2, which are characteristic in this sound, have approximately 15 species, including seven species distributed only in this sound in Japan. A species of sea bass, Lateolabrax sp. in category 1 is thought to be a hybrid between Japanese sea bass L. japonicus and Chinese sea bass L. sp. The hybridization is thought to have taken place more than 10,000 years ago before Japanese Islands were isolated from the continent. This sound with those animals represents the geographical and biological history of the Far East. Most of the fishes distributed in Ariake Sound belong to categories 3 and 4.

Some species of those characteristic fin-fishes spend whole their life in the innermost estuarine areas of the sound. The other species spend early stages in those environments, coming there in postlarval or juvenile stage. They stay in those areas, being carried back to the sea and forth upstream in the river by the tide. The tremendous amount of juvenile fin-fishes distributed in those environments suggests the presence of some kinds of mechanism there, which supply the young with some necessary conditions for their early growth. On the other hand, the central and mouth areas of Ariake Sound are comparatively deep and influenced by the oceanic water. Such a variety of oceanographical conditions in Ariake Sound provides animals with a variety of environments for their feeding, spawning and overwintering.