

stunted, and weighed less than a quarter the weight normally reached at the age of the specimens referred to. The adaptability of smelt (*Osmerus mordax*) has long been known. Nearly seventy years ago Col. Meynell acclimatised smelt and bred them in a small sheet of water in England, and quite a number of lakes in New Brunswick, Lake Utopia and others contain land-locked smelt.

Only one or two members of the cod family (*Gadidae*) are indigenous to fresh water. All the rest are marine, the fresh-water species being the cusk or burbot, often called ling or lawyer. The tom-cod (*Microgadus*), while it prefers saline or brackish, water can survive in a fresh-water environment, and occurs in abundance in Lake St. Peter, below Montreal. An allied form, the silver hake (*Merluccius bilinearis*) is recorded as abundant in Darling's Lake, near Rothesay, N.B., attracted from the sea by the ascending schools of gaspereaux, which are their favourite food. In the Baltic Sea, the true cod, as well as the haddock, pollock, and other gadoids, occur, but reach only one-quarter of the size which these fishes attain in the sea. In the Bras d'Or Lakes cod are stated to be large (sometimes 56 or 58 pounds), but the head is of disproportionate size, as though they were not well fed. They are caught through the ice at Whycocomagh, far inland and in water of low salinity.

Of the herring tribe at least five species come up into fresh water annually, and some have become land-locked like the gaspereaux or alewives (*Pomolobus pseudharengus*) of Lake Ontario and Lakes Cayuga and Seneca (N. Y. State) and other inland waters. They are often erroneously called shad or menhaden, and they die in immense numbers in early summer owing to some unfavourable circumstance connected, doubtless, with their non-sea-going habit. True sea-herring are not known to be land-locked in Canada; but in Iceland and in the Baltic a fresh-water variety occurs. Some of the Baltic herring were kept for a long period in tanks by Professor McIntosh in Scotland, the water supplied to them being perfectly fresh. They were somewhat stunted.

Many fish when permanently shut off from the sea improve in size and table qualities. Dr. J. C. Mitchell, an authority on the