

ponds' adds Dr. Mitchell, 'mullet are found to improve rapidly in weight and condition,' and he suggested to the Egyptian government the experiment of stocking fresh water ponds with mullet fry, which in midsummer abound in the inshore shallows of Lake Menzaleh.

The flat-fishes are without exception marine, yet certain species of flounder are found to wander up rivers long distances from salt water. The common flounder *Pleuronectes fesus* as Frank Buckland stated 'inhabits every part of the British coast, and often ascend to rivers beyond the reach of the tide, thriving alike in salt, brackish or in fresh water. Now that the Thames is getting purer, the flounders are returning to the river above London Bridge.' Many years ago I caught specimens of the flounder at Riccal, near York, on the Ouse, in the north of England, fully fifty-five miles from the sea, and they are recorded on tributaries of the Ouse (viz., the Nidd and Ribbles), over eighty miles from the mouth of the Humber. As the species of flounder mentioned and most of the flat-fish, indeed, possess floating eggs not at all favourable for deposition in rivers and running water, it is probable that they do not successfully breed away from the sea, as their eggs would appear to have little chance of survival. Dr. Parnell makes the claim, which has already been mentioned in connection with other species of fish, that flounders found in fresh water are more highly esteemed for the table than those taken in salt water. He also makes the questionable assertion that they spawn in brackish water in March and April, but they certainly make their way into fresh water in many cases at a very early stage. Thus, Professor McIntosh describes them as occurring numerously in May at the outlet of a mill stream, which pours fresh water into St. Andrew's Harbour, Scotland, and their length at that time was barely half an inch. Young flounders very little older, Dr. McIntosh adds, can be captured considerable distances up the fresh water stream. Other species of flat-fishes appear less hardy and venturesome. The plaice (*Pleuronectes platessa*) has, however, been successfully retained and fattened in fresh-water ponds, as Dr. Parnell states, and the highly esteemed sole (*Solea vulgaris*) and the turbot (*Rhombus maximus*) were thoroughly acclimatized by Mr. Arnold, in Guernsey. There is only one record of the occurrence of the sole under natural conditions in practically fresh water limits, viz., near the mouth of the Yorkshire Ouse, in the estuary of the Humber. Such fishes as the striped bass, which, like the smelt, regularly ascends for some distance fresh-water streams, might be expected to survive retention, and this has been proved to be the case. In some of the larger Canadian rivers, the St. John River and the Miramichi River for example, striped bass (*Morone lineatus*) migrate for distances of from thirty to forty miles above the limits of sea water, and congregate in large schools in deep holes in the bed of the river. There they remain in a dormant condition, resting on the muddy bottom, and are captured in great numbers by a kind of scoop net. Dr. Perley in his 'Sea and River Fisheries of New Brunswick' (1852) says 'the places which they frequent are easily discovered, the fish being seen through the clear ice when it first makes; large holes are cut in the ice, and the fish are lifted out with a circular net on a strong wooden bow, called a dip-net. All the fish in each locality, of whatever size are thus taken; and in many of the northern rivers, especially the Richibucto, and North-west Miramichi, where they were formerly very abundant, they are now quite scarce and only found of small size.' There is record of a striped bass confined in a fresh water pond which grew to a weight of 20 pounds—a considerable weight for a fish retained for some years in abnormal surroundings. The flavour too of the impounded striped bass is stated to improve, for Dr. MacCulloch personally vouched for the superiority of the flavour of the specimens confined in Mr. Arnold's fresh-water lake in Guernsey.

Fish vary so greatly in their tenacity of life, that until experiments have shown what any particular species can endure without permanent injury, it is not possible to foretell its capabilities. The German carp, for example has peculiar tenacity and endurance. A member of Parliament informed me, a year or two ago, of a fine specimen of carp that was found several miles from Lake Erie where they were planted and now abound. This carp was a very large specimen and was wriggling along a plough-furrow in which there was little or no water, evidently kept moist and alive by the thick damp herbage, just as they may be kept alive in damp moss. The accomplished