Both were netted at night lights, one of 84 mm standard length, off Mexico on the night of November 23, 1937, and the other, only 42 mm in length, 1,200 miles farther south, off Costa Rica, on March 1, 1938. These have been compared with equally young Florida sailfish, *Istiophorus americanus,* and with adults of both species.

The study is based on observation of the living and recently dead fish, and on normally preserved as well as stained and cleared specimens. It will appear in a forthcoming number of *Zoologica,* the scientific publication of the Zoological Society.

An interesting feature of the young sailfish, evident at first glance, is that in spite of their diminutive size, they are superficially very much like the full-grown fish. The greatly elongated upper jaw and pelvic fins, the enormous expanse of dorsal fin are as characteristic of the 42 mm specimen as they are of the adult, more than 60 times as long.

When, however, there is added to these externals of the normal, opaque fish, the skeleton and other internal structures, there is found little or no hint of the radical changes to come. These young fish are well balanced, efficiently functioning organisms in their own right. Like most fish they are covered with scales, their jaws are filled with teeth of ordinary pattern, and their two specialized fins seem to impose no unusual activities or habits.

There is no suggestion of the subsequent disappearance of the armor of scales, and their replacement with minute, mucous-canal guards and bony scutes. Without ever having seen the full-grown fish, one would never know that the teeth would all fall out, with the substitution of innumerable sharp and strong dermal denticles covering the whole sword.

The entire head and body will undergo vital changes, together with this radical alteration in the dental armature of the snout, and the consequent shift from a prehensile snapping to a slashing method of attack and feeding. A mobile, twisting body will alter to a stiffened, recoil-guarded handle to the great sword; the parethmoid and other regions of the skull, the vertebrae and caudal complex, the fin bases, the pectoral arch—all will witness an ontologically swift and thorough thickening and extension of ossification. All joints will be stiffened until the whole becomes a taut, tense spring, an organic engine to generate and direct the terrific ramming, hitting and slashing power of the solidly denticled sword.

In the young fish all this excess of bone formation is held in abeyance, adumbrated only, so that the toothed, scaled, prehensile stage of development may function as perfectly as though it would persist throughout the entire lifetime of the fish.

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A SUBMERGED MIGRATION ROUTE

BOTANISTS and others have been interested in the presence of southern plants in southeastern Canada and New England. Explanations involve the possibility of a former pathway of migration along the coast, now submerged.

Recently, through the kindness of Mr. George B. Sowers, of Cleveland, the Oberlin Botanical Laboratory has had the opportunity to study two specimens of peat obtained by a contractor working at the Brooklyn Navy Yard. One specimen, an ooze peat deposited under water, was reported to come from 60 feet below the present water-level; the other, a fibrous superficial peat, from a depth of about 40 feet below the present surface. The lowest deposit is described as being overlaid by gravel and underlaid by about 60 feet of clay resting on bed rock. The deposit is said to be continuous and quite extensive along Long Island. Because the samples were obtained in the course of commercial construction work, some difficulty has been experienced in getting the precise relationship of the two specimens examined.

Both, however, have essentially similar pollen spectrums in which deciduous forest pollen predominates, particularly oak and beech. This indicates quite clearly that at the time the peat was formed, deciduous forest conditions prevailed on the then exposed but now submerged surface, presumably affording an opportunity for the northward migration of plants appropriate to deciduous forest conditions.

The pollen examined appears to be slightly less fresh than that in most post-Wisconsin bogs that I have examined but is well preserved. Hickory is present in the lower sample but absent in the upper. Grass and composites are more abundant in the lower; pine more abundant in the upper one and hemlock is present. No hemlock has been found in the lower specimen. This would suggest that the lower specimen was deposited under somewhat more continental conditions than the upper if our information is correct as to the relative depths. Publication of the spectra will be made after further efforts to secure more precise information regarding the stratigraphy.

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THE RELATIONSHIP OF THE AMERICAN PHARMACEUTICAL ASSOCIATION TO THE UNITED STATES PHARMACOPOEIA

SCIENCE for June 20 contains, on page 597, a review by Dr. Charles A. Kofoid of "History of Pharmacy" by Edward Kremers and George Urdang. In this review the following statement is made: "The seventh edition (1862) [of the United States Pharmacopoeia] was the first to be issued under the direct auspices of the American Pharmaceutical Association.