

lie welfare too little recognized. The proposed memorial to Franklin is not to be a passive one of stone or bronze, but an active, animate one. It is to be one which will enable the fruits of his work to be plucked every year. It is the kind of memorial which he would best like.

Contributions to this memorial of any size, from the least to the largest, will be equally welcome. They should be made payable to the E. C. Franklin Fellowship Fund and sent to Professor W. H. Sloan, Stanford University P. O., California.

VERNON KELLOGG

NATIONAL RESEARCH COUNCIL

### SCIENTIFIC BOOKS

*A Review of the Giant Mackerel-like Fishes, Tunnies, Spearfishes and Swordfishes.* With twenty plates. By DAVID STARR JORDAN and BARTON WARREN EVERMANN. California Academy of Sciences, San Francisco. 1926.

DR. JORDAN and Dr. Evermann have lately issued a memoir of interest to naturalists generally, and especially to anglers for tuna, swordfish and others of their kind, which abound at the surface in deep seas of certain favored regions. These fishes, the choicest prizes of oceanic anglers, are of many species, representing six different types, the tunas or tunnies, the albacores, the swordfish, the marlin fishes, the spearfishes and the sailfishes. These fishes are all too large for museum purposes, one of the marlins reaching a weight of 1,400 pounds. But few mounted examples or casts are in existence, these expensive and of very recent date. Hence careful studies of the species have been almost impossible. The authors of this book have examined many fresh examples in the markets of Japan and Hawaii, and among angler's trophies at Santa Catalina, but have been compelled to depend chiefly on photographs. The work in regard to distinction of species is therefore mostly tentative, but it is sufficiently detailed to show that the nomenclature hitherto accepted is mostly incorrect and nearly worthless. Except the cosmopolitan swordfish (*Xiphias gladius*) no species seems to be common to the Atlantic and Pacific, and the tropical species do not run much north of the Tropic of Cancer, those north of that line being mostly different from those found southward.

These "giant mackerels" belong to three distinct families, the Tunnies or Tunas (*Thunnidae*) with five genera, *Thunnus*, *Germo* (Albacore), *Parathunnus*, *Neothunnus* (yellow fin) and *Kishinoëlla*. The species of *Thunnus* reach 600 to 800 pounds in weight, those of the dwarf Albacore, *Kishinoëlla*, only 20 pounds.

The famous "leaping tuna" of the Santa Barbara Islands is given a new name (with some doubt), *Thunnus saliens*.

The *Istiophoridae*, sailfishes and their relatives, have a long sharp sword, like the swordfishes, but it is slenderer and the groups differ otherwise in fins, scales and character of flesh. In this family are three well-marked genera, differing in the form of the dorsal fin. Of these, *Makaira*, with the front only of the dorsal elevated, is largest in size of individuals and most numerous in species. In the Pacific these are called marlins or marlin-spike fishes. Different species of this type are found in all warm seas.

*Tetrapturus* (spearfishes) has the dorsal fin of moderate and nearly uniform height throughout. No species occurs in America.

*Istiophorus* (sailfishes) has the dorsal fin inordinately high, bright blue with small black spots. Its species, all tropical, are perhaps swiftest of all fishes, abounding off Florida, Cape San Lucas and Southern Japan. The commonest forms are *Istiophorus volador* of the Atlantic and *Istiophorus greyi* of the eastern Pacific.

The *Xiphiidae* or swordfishes have but one species, *Xiphias gladius*, found all the world over except in the Arctic. The largest on record weighed 572 pounds.

In this memoir good illustrations are given of all the species not figured elsewhere.

The species found off our Atlantic Coast and in the West Indies are the following:

Thunnus secundodorsalis	} All these perhaps the same as <i>Thunnus thynnus</i> of Europe.
Thunnus coretta	
Thunnus subulatus	
Germo alalunga	} Perhaps the same.
Parathunnus obesus	
Neothunnus albacores	
Neothunnus allisoni	
Neothunnus albacora	
Makaira albida	
Makaira ampla	
Istiophorus americanus	
Istiophorus volador	
Istiophorus maguirei (perhaps young of <i>I. volador</i> )	
Istiophorus wrighti.	

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### SCIENTIFIC APPARATUS AND LABORATORY METHODS

#### AN IMPROVED CLOSING BOTTLE FOR SUB- SURFACE SAMPLING OF FLUIDS

EVER since my experience in plankton collecting in the San Joaquin River, 1912-1915, I have been