thorax, head and hind legs, ovarian follicles and testes, and faint in the upper part of the ileum. Grasshoppers which were fed or injected with 0.1 normal As_2O_3 and examined five hours later gave a very faint nitroprusside test in the alimentary tract, body and head muscles, and in the ovarian follicles and testes, but the hind leg muscles gave a brilliant nitroprusside test.

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SPECIAL ARTICLES

THE OILFISH,[1] RUVETTUS PRETIOSUS, AT BERMUDA

WHEN Mowbray (then of the New York Aquarium)[2] returned on January 12, 1925, from a holiday spent in Bermuda he brought with him a four-foot specimen of this rare deep-sea fish and presented it to the American Museum. This specimen had been taken on December 19, 1924, and being recognized as an unusual fish had been purchased by a friend of his and put in cold storage to await his coming. Although it had been in a refrigeration chamber for a month, the fish was in excellent condition when it reached the museum and it was at once photographed, skinned, a cast and later a mannikin made, and still later the prepared skin mounted.

This very interesting fish was first discovered in and described from that ichthyological treasure ground, the Straits of Messina, by Anastasio Cocco in 1829. Eight years later Cantraine took another specimen from the same waters, and being apparently ignorant of Cocco's previous determination, gave what is possibly the best description of the fish ever made, and the first if not the best figure ever drawn. The fish though rare has been repeatedly taken on the northwest shores of the Mediterranean and off the northwest coast of Africa, but records in our waters are few and far between. From this it will be understood that the capture of this relatively unknown fish is a matter of considerable interest ichthyologically. We have in manuscript a fuller paper dealing with the natural history, iconography, distribution and classification of the fish, but as there is no prospect of early publication of this paper, it seems best without further delay to make this faunal record of its capture.

This specimen of *Ruvettus pretiosus* was a spent male measuring four feet long between perpendiculars and weighing 24.5 pounds. It was taken on the night of December 19, 1924, in seventy-five fathoms, six miles east of Bermuda. Mowbray has obtained records of ten other specimens of *Ruvettus* taken at Bermuda, and it seems that if systematic fishing were carried on there for it, at least a fair number of specimens might be obtained. The data concerning these Bermudan specimens will now be set forth in categorical fashion.

The first Bermudan *Ruvettus* of which we have been able to get any data was taken on December 4, 1909. This fish was caught by Watson Lightbourn, while fishing for red snappers in sixty fathoms of water, on the Challenger Bank, eleven miles southwest of Bermuda. It was a male, six feet six inches long and weighed about fifty pounds. In December, 1911, four other specimens were caught by fishermen on the outer banks. Two were taken by Lightbourn on Argus Bank about twenty-five miles south-southwest of Bermuda in 125 fathoms. The largest was six feet eight inches long and weighed about seventy-five pounds. The other two were taken by Peter Anderson at the same time and place but in about seventy-five fathoms. One of these was a small fish, weighing only about twenty pounds—the smallest ever seen at Bermuda, and one of the smallest on record anywhere. Again on March 12, 1912, Lightbourn[3] took on Challenger Bank, another specimen, a female recently spent, weighing about fifty pounds.

No other captures are recorded for a dozen years, until December 19, 1924, when Stanley Pitcher on the pilot boat "Guard," six miles east of Bermuda, noticed large balls of phosphorescent light deep in the black waters at night. Catching up a fishing outfit he baited the hook with a piece of salt codfish and lowered down to about seventy-five fathoms. In a few minutes he hooked a fish which took him nearly an hour to land, and which, when it came to the surface, appeared to be surrounded by a large ball of blue fire. This fish, which was absolutely unknown to the fishermen of the East End, was the one kept in cold storage for Mowbray, and is the one whose skin now forms one of the treasures of the American Museum.

[1] The significance of the name "oilfish" has already been shown in a previous paper by Gudger, "A New Purgative, the Oil of the 'Castor Oil Fish,' Ruvettus." *Boston Medical and Surgical Journal*, 1925, Vol. 192, pp. 107–111. fig.

[2] Since this note was written, Mowbray has gone to Bermuda to take charge of the aquarium there. One of the various problems which he has slated for investigation is the natural history of *Ruvettus* and particularly the matter of its luminosity, to which reference will be made later.

[3] We regret to record the fact that this able fisherman, who has given Mowbray so much natural history data, was recently drowned while fishing.

Three other specimens of *Ruvettus* have been taken at Bermuda since the capture of Mowbray's fish, all by Carl Stubbs. Two were taken in December, 1924, and one in January, 1925. But beyond the fact that they were taken in Hungry Bay while Stubbs was fishing at night for red snappers, we unfortunately have no data.

In the vicinity of Hungry Bay, *Ruvettus* is colloquially known as the "Tapioca Fish" on account of its appearance after the scales are removed, since under the scales there is a layer of porous blubber-like tissue which bears some resemblance to tapioca. All the fishermen agree that *Ruvettus* is one of the gamest fighters in Bermudan waters. Lightbourn told Mowbray that he had often hooked what he believed to be this fish, but that he had never had line enough to hold one on its first run until on the occasion noted (1909).

All the specimens listed above were taken at night and during the winter months, but none save Pitcher's fish showed luminosity. All have been used as food and are acclaimed excellent eating. They show much individual variation; some are long and slim, while others are short and bulky; while two of the same length may vary as much as twenty or even thirty pounds.

Pitcher's statement of the luminous globe of blue light surrounding his fish tallies well with Poey's account—the first and indeed the only other one known to us. Felipe Poey[4] says on this point, "When one sees it on the surface of the water, it is surrounded by a luminous or phosphorescent globe." Whether or not Poey saw this can not be stated, but at any rate he quotes his fishermen by name and says that he has full confidence in their account of this remarkable phenomenon.

While Günther in his "Catalogue of Fishes in the British Museum" (1860, vol. II, p. 351) notes that the British Museum had specimens from the "Caribbean Sea," he gives no definite localities. In fact the only definite American faunal record (other than Poey's) known to us is found in Goode and Bean's "Oceanic Ichthyology" (1895, p. 197). They record two specimens taken in 1891 on Georges Bank. One of these was forty-nine, the other sixty inches long. The skeleton of the second is preserved in the United States National Museum, where it has been examined by Gudger.

As indicated above it is our purpose to publish later an extensive study of the natural history of this fish, of its distribution and of its classification. There have been some half dozen species described, but in our judgment these may all be reduced to synonymy as we will endeavor to show in this forthcoming paper.

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[4] "Memorias Sobre la Historia Natural de la Isla de Cuba," Habana, 1854, Vol. I, article 31, pp. 373–374.

THE NORTHWEST SCIENTIFIC ASSOCIATION

THE third annual meeting of the Northwest Scientific Association was held at Spokane in the Davenport Hotel on Tuesday and Wednesday, December 28 and 29, under the presidency of Dr. C. H. Clapp, president of the University of Montana, Missoula, Montana. The meetings were all well attended by local and visiting scientists, not only from the inland Empire country but from more distant parts of the northwest. The interest and enthusiasm that marked the various sessions were striking features of the meeting and bear witness to the important place which the association occupies in the "promotion of scientific research and the diffusion of scientific knowledge."

There were three general sessions, two of which were open to the general public in addition to meetings of the following sections: Botany-Zoology, Plant Pathology, Forestry, Chemistry-Physics, Geology-Geography, Education-Psychology, and Social Science.

The annual dinner of the association was held on Wednesday evening in the Hall of the Doges, Davenport Hotel, following which the address of the retiring president on "Eugenics and the Cost of Government" was delivered by Chancellor M. A. Brannon, the University of Montana, Helena, Montana.

The following officers were elected for the coming year: *President,* Mr. L. K. Armstrong, Mining Engineer, 720 Peyton Building, Spokane, Washington; *Vice-president,* Dean E. C. Johnson, State College of Washington, Pullman, Washington; *Secretary-Treasurer,* Professor J. W. Hungate, State Normal School, Cheney, Washington.

Two very important actions were passed by the association:

(1) It was decided to take definite steps to incorporate the association in order that its acts may be legalized and the foundation laid for a sound program of development.

(2) The association went on record as favoring efforts to establish and maintain a research institute and museum to be located at Spokane, which would also afford library and publication facilities for science workers of the northwest. With this end in view a committee of seven has been appointed to consider ways and means of realizing this high purpose.