

similar arm in a bay much nearer to Galway. That arm he subsequently kindly sent me.

3. When at the Biological Station at Plymouth in the autumn of 1903 I saw a number of fine and perfect specimens which had been procured and some of these I purchased. The species had been found to be not uncommon in crevices of the red sandstone, "especially in old *Pholadidia* crypts" in 15–25 fathoms on Mewstone Ledge and Stoke Point Grounds. It would thus appear to be a lover of hard ground and a clinger to rocks, which is what we might have been led to expect from its sturdy build and short and strong arm-spines—reminding us of species of similar habit, such as the genera *Ophiopholis* and *Ophiactis*. If, therefore, the specimens dredged by us at Birterbuy were, as we imagined, on sand, they had probably crept out temporarily from the rocks close by.

4. I found the *Ophiopsila* in a fourth locality in the spring of last year, having dredged a portion of an arm outside Dartmouth Harbour.

I regard *Ophiopsila aranea*, Forbes, as a distinct species. It is of smaller size, and, besides other differences, the arm-spines are both fewer in number and more slender. The species inhabits the Ægean and Mediterranean Seas.

XLI.—*A Collection of Fishes made by Dr. H. Gadow in Southern Mexico.* By C. TATE REGAN, B.A.

THE collection of fishes made by Dr. H. Gadow, F.R.S., in Southern Mexico in the summer of 1903 was brought to the British Museum by him and worked out by me in the autumn of that year. Publication of the results obtained was held back in the expectation that another collection would be received from Dr. Gadow as the result of his visit to Mexico in 1904. Unfortunately, however, the season proved to be unfavourable for fish collecting during this second visit.

The Cichlids collected by Dr. Gadow have already been dealt with in my revision of the genus *Cichlosoma*. They include examples of a new species, *C. Gadovii*, and of two others, *C. Eigenmanni*, Meek, and *C. heterodontus*, Pellegr., new to the British Museum. Also new to the British Museum are specimens of *Platyptæcilus Nelsoni*, *Gambusia fasciata*, *Heterandria Lutzi*, and *Pomadasys Templei*, species described by Dr. Meek in his recent work on the fishes of Mexico.

Below I describe a new *Cotylopus* and make some remarks about *Pseudoxiphophorus bimaculatus* and *P. pauciradiatus*.

Cotylopus punctatus, sp. n.

Depth of body $6\frac{2}{3}$ in the length, length of head $5\frac{1}{4}$. Snout $1\frac{4}{5}$ as long as eye, the diameter of which is $5\frac{1}{3}$ in the length of head and $1\frac{1}{4}$ in the width of the osseous interorbital space. Lower jaw shorter than the upper; maxillary extending to below posterior border of eye. Dorsal VI, I 10; all the rays of the spinous dorsal, except the first, produced as filaments, the fourth the longest, when laid back extending beyond the middle of the second dorsal; rays of the second dorsal increasing in length posteriorly, the last, when laid back, reaching the caudal. Anal I 11, opposite to the second dorsal; last anal ray, when laid back, extending $\frac{3}{5}$ of the distance from its base to the caudal. Pectoral a little longer than the head; ventral $\frac{2}{3}$ the length of head. Caudal rounded. 95 scales in a longitudinal series, 25 between second dorsal and anal fins; abdomen with a median naked area extending forward from the vent. Caudal peduncle $1\frac{3}{4}$ as long as deep. Head covered with small dark spots; each scale on the body bearing a similar spot; very small dark spots on the dorsal fins and on the base of the pectoral.

A single specimen, 132 mm. in total length, from Tequesitlan.

The outer series of teeth of the lower jaw are completely concealed in a fleshy pad; but examination of other species of *Cotylopus* and *Sicydium* shows that the extent to which these teeth are exposed varies considerably and that this feature must not be regarded as characteristic of the species.

Pseudoxiphophorus pauciradiatus, Regan.

Dr. Meek regards this species as a synonym of *Pseudoxiphophorus bimaculatus*, Heck., but it seems probable that he has seen specimens of the latter species only.

I have examined a large number of specimens of *Pseudoxiphophorus bimaculatus* from Southern Mexico, Guatemala, and British Honduras. The number of rays in the dorsal fin is usually 15, but varies from 14 to 17, whilst the head, snout, and caudal fin appear to be slightly, but constantly, longer and the anal fin considerably deeper than in *P. pauciradiatus*. Of this latter species I have seen the eight typical examples from Orizaba and six others collected by Dr. Gadow*,

* Of six specimens of *P. pauciradiatus* from Orizaba, collected by Dr. Gadow, one has 13, three have 12, and two have 11 dorsal rays. Of

also from Orizaba, which are exactly similar to the types. The number of rays in the dorsal fin is usually 12, but varies from 11 to 13. Each scale on the body has a rather broad blackish marginal or intramarginal crescent.

In the following table, based only on female specimens, are given in the first column (A) the number of dorsal rays and in the others the following measurements in millimetres:— (B) total length, (C) length to base of caudal, (D) length of head, (E) distance from tip of snout to origin of dorsal, (F) longest anal ray.

	A.	B.	C.	D.	E.	F.
<i>P. pauciradiatus</i> , two of the types, from Orizaba.	13	75	63	15	36.5	9
	12	42	35	9.5	20	5.5
<i>P. pauciradiatus</i> , two of the specimens from Orizaba, collected by Dr. Gadow.	11	72	60	14	36.5	9
	12	67	57	13.5	33	9
<i>P. bimaculatus</i> , four of the specimens from the Rio Tonto, collected by Dr. Gadow.	16	79	65	17	34	14
	14	77	64	16.5	33	13
	15	72	58	15	30	12
	14	62	50	13	27	11
<i>P. bimaculatus</i> , two specimens from San Domingo de Guzman, collected by Dr. A. C. Buller.	17	74	61	16	31	12
	15	72	59	16	30	12

In the typical form of *P. bimaculatus* the scales of the body have narrow dark edges, forming a network which usually fades out below. In five specimens from San Domingo de Guzman, collected by Dr. A. C. Buller, the scales of the middle series have very broad dark edges, giving the appearance of a blackish longitudinal band from operculum to base of caudal. This well-marked variety may be called *Pseudoxiphophorus bimaculatus*, var. *tæniatus*.

XLII.—*Descriptions of Three new Fishes from Japan, collected by Mr. R. Gordon Smith.* By C. TATE REGAN, B.A.

SINCE the publication of my report on the fishes collected by Mr. R. Gordon Smith in the Inland Sea of Japan* the British Museum has received a further series from him, which contains examples of three species which appear to be new to science.

fifteen specimens of *P. bimaculatus* from the Rio Tonto, also collected by Dr. Gadow, three have 16, seven have 15, and five have 14 dorsal rays.

* Ann. & Mag. Nat. Hist. (7) xv. 1905, p. 17.



Regan, C. Tate. 1905. "A collection of fishes made by Dr. H. Gadow in southern Mexico." *The Annals and magazine of natural history; zoology, botany, and geology* 16, 361–363.

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