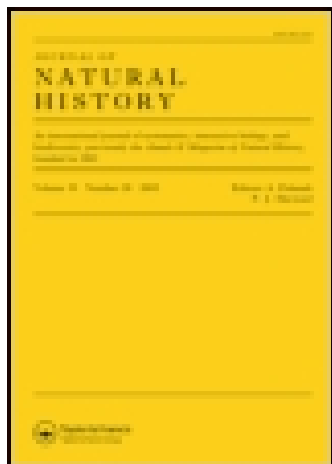


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VI.—Raia undulata, Lacep., and its distribution on the British coasts

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A Kalgurli specimen obtained by Mr. Shortridge is intermediate as regards the upper colour, but its lower surface is brown as usual.

Phascogale murex, sp. n.

Allied to *Ph. longicaudata*, but much larger.

Size approaching that of the larger species of the genus. Fur short, close and crisp; hairs of back about 5-5.5 mm. in length. General colour above near "Prout's brown," becoming warmer posteriorly nearly to "burnt umber." Head and sides dark mouse-grey. Under surface whitish, the bases of the hairs brown. Limbs dark mouse-colour externally, dull whitish on their inner surfaces; hands and feet pale brown. Tail with its basal inch clothed with fur like the back, the remainder short-haired, brown above and below.

Skull as in *Ph. longicaudata*, but larger throughout.

Dimensions of the type (measured on the skin):—

Head and body 197 mm.; tail 167; hind foot 35.

Skull: greatest breadth 24; nasals 16.5 × 4.6; inter-temporal breadth 7.5; palatal length 26; breadth between outer corners of m^3 14.6; combined length of three anterior molariform teeth 7.9.

Hab. Sattelberg, German New Guinea.

Type. Adult male. B.M. no. 12.2.4.1. Collected by Herr O. Fritsche. Presented by the Hon. N. Charles Rothschild.

This fine *Phascogale* is readily distinguishable by its greater size from its only near ally *Ph. longicaudata*, Schleg., a native of the Aru Islands.

VI.—*Raia undulata*, *Lacep.*, and its Distribution on the British Coasts. By C. TATE REGAN, M.A.

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[Plate I.]

IN 1907 (*Annals*, (7) xx. p. 403) I placed on record the occurrence on the Cornish coast of *Raia undulata*, *Lacep.*, a species not generally regarded as belonging to the British fauna, although it was known to Couch, who described it as a variety of *R. microcellata*. The Cornish specimen, presented by the late Mr. Harcourt Powell in 1880, was the

only example of this species in the British Museum collection in 1907, but since then Mr. Boulenger has obtained specimens from Brittany, and in May of the present year Mr. J. O. Borley brought me one taken in Rye Bay, Sussex; quite recently Mr. Anthony Belt has sent for identification a photograph of another example, captured off Hastings last February; with Mr. Belt's kind permission I am using the photograph to illustrate this paper; it represents a specimen about 18 inches long and 11 wide.

Raia undulata is so noticeable on account of its characteristic markings, and so different in appearance from our other English Rays, that it is difficult to believe that it occurs regularly on our southern coasts and has hitherto been overlooked; the alternative is to suppose that it has extended its range to the coast of Sussex only in the last few years.

R. undulata is closely related to *R. clavata*, differing especially in coloration and in the greater smoothness and more rounded form of the disc; the teeth are not quite the same and are nearly alike in both sexes; a full description follows.

Raia undulata.

Raia undulata, Lacep. Hist. Nat. Poiss. iv. p. 675, pl. xiv. fig. 2 (1802); Müll. & Henle, Plagiostom. p. 134 (1841); Duméril, Hist. Poiss. i. p. 538 (1865); Moreau, Poiss. de France, i. p. 434 (1881).
Raia mosaica, Lacep. l. c. pl. xvi. fig. 2.

Disc broader than long; anterior margin slightly undulated; extremity of snout projecting as a short process, broadly rounded in the young, pointed in the adult; outer angles of pectorals rounded. Vent nearly equidistant from tip of snout and end of tail (adult) or nearer the former (young). Length of snout (præocular) about $\frac{1}{5}$ the width of disc; interorbital width $2\frac{1}{4}$ (adult) to $2\frac{3}{4}$ (young) in length of snout, about equal to length of eye and spiracle; diameter of eye $1\frac{1}{3}$ to 2 in interorbital width. Internasal width $\frac{2}{3}$ to $\frac{3}{4}$ (young) or more (adult) of distance from end of snout to fold connecting nasal valves. Teeth close-set, keeled, the middle ones small, pointed in adults; 36 to 48 rows in the upper jaw. A border of asperities along anterior margin of lower surface, not extending to angles of pectorals, present except in very young; lower surface otherwise quite smooth; upper surface nearly smooth in

very young, but except in these spinulose on tail, near middle line of disc, and near its anterior margin. 1 or 2 spines in front of and behind each eye; usually 1 or 2 pairs of scapular spines; a median series of spines numbering from 22 (young) to 60 (adult) from head to first dorsal fin; usually 1 or 2 spines between the dorsals; adult with a short series of spines on each side of anterior part of tail. Brown, orange, or yellow, with blackish or brownish undulating stripes, usually margined by series of small white spots; larger white spots scattered on disc; underside white, in the young sometimes dusky on tail and at margins of disc.

This description is based on the examples in the British Museum collection, 8 in number, from Brittany, Cornwall, and Sussex, measuring from 275-800 mm. in total length. According to Moreau, the species attains a length of 1200 mm. and is found on all the coasts of France, Mediterranean, Atlantic, and Channel*.

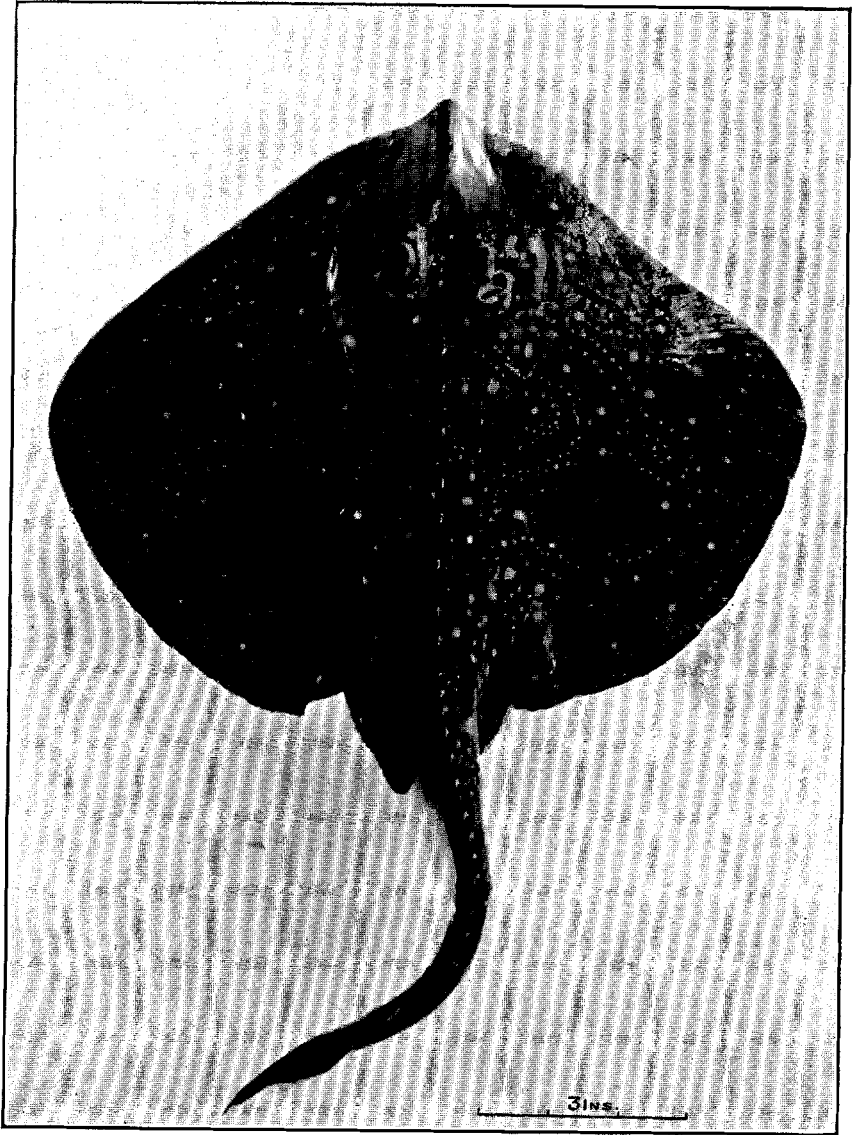
Moreau has evidently seen a good series of specimens; he says that in large fish the scapular spines may be wanting and the median series may be confined to the tail. As to coloration, the white spots may be absent, and in adults the stripes may be indistinct and the spots, if present, greyish; he has seen a young male with the whole lower surface blackish.

In the following table are given measurements in millimetres: A, width of disc; B, length from snout to vent; C, length from vent to end of tail; D, length of snout; E, diameter of eye; F, interorbital width; G, præoral length (to fold connecting nasal valves); H, internasal width. In I is given the number of teeth in the upper jaw and in K the number of spines in front of the dorsal fin.

	A.	B.	C.	D.	E.	F.	G.	H.	I.	K.
♂. Cancale	500	400	400	95	22	42	75†	65†	46	60
♂. Cornwall ..	295	195	..	55	15	21	53	37	38	..
♂. Rye Bay ..	245	170	200	50	12	17	45	28	40	23
♂. Roscoff	200	140	160	40	11	15	37	24	36	22

* Günther. Cat. Fish. vi. p. 459, refers a young male from Madeira to this species; but this is an error, the specimen being an example of *R. asterias*.

† Owing to distortion of mouth and snout these figures are approximate only.



RAIA UNDULATA, Lacep.