Observations on Some Tasmanian Fishes
Part II

BY

E. O. G. SCOTT, B.Sc.

Assistant-Curator, Queen Victoria Museum, Launceston

WITH ONE PLATE

(Read 3rd December, 1934)

The present paper has the same general aims as, and may be regarded as being a continuation of, a previous contribution by the writer (1934): its precise scope is summarized in the concluding paragraph.

Registration numbers are those of the Queen Victoria Museum, Launceston.

Family HEMISCYLLIIDAE

Genus **Parascyllium** sp. nov.

Parascyllium multimaculatum, sp. nov.

(Plate V, fig. 1)

Description. Head to last gill-slit (111·5 mm.) 2·1 times its width at level of eyes (52), and 6·4 in total length (710). Depth of body, between pectoral and anal, where it is greatest, (65) 1·7, at origin of second dorsal (26) 4·3, in head. Eye (13) 9·0 in head, 2·6 in snout (34), which is 3·3 in head. Preoral portion of head (9) 3·8 in width of mouth (34).

Body elongate, somewhat depressed anteriorly, subcylindrical posteriorly; its width at origin of first dorsal (35) rather more than its height there (32). Head large, greatly depressed; snout rather large, broadly rounded from above, depressed and obtuse in profile. Spiracle minute (less than 1 mm. in diameter), behind and below posterior angle of eye, its distance from which (10) is 1·3 in diameter of eye (13), and 3·0 in interorbital width (30). A longitudinal fold beneath eye. Gill-slits.—1 < 2 < 3 : 4 < 5; first (6) 2·3 in last (26), which latter is 1·3 in snout; first nearer to spiracle than to origin of pectoral; fourth and fifth close together, over base of pectoral. Internarial distance (18) 2·7 in interspiracular distance (48). Nasal cirrus short, fairly thick, reaching to lip; exterior nasal fold with a short, blunt lobe at its postero-external angle. Lower labial fold extending about halfway to middle of jaw; continued well round angle of mouth.

Teeth in upper jaw in about seven closely set rows mesially; small, elongated, bulbous just above the base, the distal half flattened and acute; in lower jaw similar in number and form, but with the basal bulb sometimes forming a pair of incipient lateral cusps.

First dorsal originating further from tip of snout (360) than from tip of caudal (350); its base (40) 1·2 in its height (48), and 2·5 in interdorsal space (101), which latter is equal to length to origin of pectoral. Base of second dorsal equal to that of first dorsal, and subequal to its own height (42). Dorsals subequal in form, apex rounded, posterior margin slightly concave mesially, and forming rather more than a right angle with lower margin. Anal low, ending at level of origin of second dorsal; length to its origin (453) 1·3 in length to origin of superior lobe of caudal (582); its base (46) 2·1 times its height (21). Pectorals broadly rounded; base (33) 1·8 in length (61), which latter is 3·2 in total spread of these fins (194). Ventrals longer than broad, their length along inner border (67) 1·2 times length of main cartilage of clasper (58); outer margin broadly rounded; posterior angle pointed; length to their origin (264) 2·2 in length to origin of inferior lobe of caudal (571). Greatest depth of caudal (32), occurring at first fourth of portion in advance of notch, 4·3 in its total length; depth at notch (18) 1·7 in length of portion behind notch.

General colour pale grey, tinged with brown, becoming almost white below, particularly in advance of ventrals. With about ten rather indeterminate bars of rusty brown on the sides, disposed as shown, in general subtriangular, the apices not, but exceptionally almost, attaining the ventral profile, the broad bases virtually confluent on the back; one of these bars, a shade darker than the rest, forms an ill-defined nuchal collar, tapering on the sides, and ceasing at the horizontal level of the anterior insertion of the pectoral, just below the gill-slits, the posterior three of which it embraces. Sides and back of body ornamented with very numerous scattered small dark brown spots, often somewhat darker on the body-bars; about 50 of these spots on either side between the verticals from the origins of the dorsals. Dorsal and lateral surfaces of head in advance of spiracles uniform dark brown; its whole ventral surface whitish, except preoral region, which is light slate grey.

Dorsals mainly concolorous with body-bars, a shade lighter along the posterior border; each with ten or twelve dark spots. Pectoral and ventral concolorous above with the dorsals, beneath with the lower preoral region of head; on both surfaces somewhat paler towards the posterior and inner borders; each pectoral with above half a dozen, each ventral with about a dozen, dark spots. Anal concolorous with ventral surface of body; with one large elongated, and three or four small, rounded dark spots. Upper half of caudal concolorous with body-bars, bearing dark markings that are elongated to form several small longitudinal stripes along the superior border; lower half lighter, with a number of subcircular dark spots.

Material examined. Described and figured (Plate V, fig. 1) from the unique holotype male in the collection of the Queen Victoria Museum (Reg. No. HT983). The specimen, which was secured by Mr. C. Andrews, was mounted and presented by Mr. G. R. F. Green: I had, however, previously examined it, and all dimensions recorded above are those of the fresh fish.

Locality. Tamar Heads, Northern Tasmania.

Affinities. Parascyllium multimaculatum is readily distinguished from the other members of the genus by the insertion of the first dorsal behind the middle of the total length—a character which, while it would certainly provide a convenient subgeneric criterion, is, I think, best regarded, at any rate for the present, as being of specific value only—and by the colour-markings.

From *P. variolatum* Duméril and *P. ferrugineum* McCulloch it is further chiefly distinguished by having the anal inserted wholly in advance of the second dorsal; also from the first species in possessing a supplementary lobe to the outer labial fold, and in the shape of the vertical fins, and from the second species in the size of the gill-openings, and the position of the spiracle: from *P. collare* Ramsay and Ogilby, to which, on the whole, it perhaps most closely approaches, it is further separable mainly in having the nasal cirrus reaching the lip, the first gill-opening nearer to spiracle than to pectoral, and in the excavate posterior margins of the dorsals.

Specific name in allusion to the numerous brown spots.

Family ANGUILLIDAE

Genus **Anguilla** Shaw, 1803

Anguilla reinhardtii Steindachner

Anguilla reinhardtii Steindachner, *Sitzb. Akad. Wiss. Wien.* LV. 1. 1867. p. 15. figs. a-b. *Id.* McCulloch, *Aust. Mus. Mem.* V. I. 1929. p. 64.
Anguilla marginipinnis Macleay. *Proc. Linn. Soc. N.S.W.* VIII. 1883. p. 210.

Remarks. In a previous contribution (1934, p. 36) the position of this species on the Tasmanian list was discussed, and some notes were given on the dimensions attained by large individuals.

A large specimen (not preserved), obtained in the fluming of the municipal hydro-electric system between Duck Reach and the Power Station, near Launceston, on 16th April, 1934, yielded the following measurements. Total length 1658 mm., length to origin of dorsal 488 mm., length to middle of vent 705 mm., length to origin of anal 725 mm., length to origin of pectoral 208 mm., snout 42 mm., eye 17 mm., interorbital width 60 mm., girth 440 mm., weight (the day after capture) 33 lbs.

Lower jaw markedly projecting. Maxilla reaching to vertical of hinder margin of eye. Teeth typical. General colour brownish,

almost black, above, lighter below. The $\frac{a - d}{t} \times 100$ value is 13·1, which is well above the average (10·72) and close to the maximum (13·2) value as determined by Schmidt (1928, p. 203).

Family SYNGNATHIDAE

Genus **Farlapiscis** Whitley, 1931

Farlapiscis breviceps (Peters)

Hippocampus breviceps Peters, *Monatsb. K. Pr. Akad. Wiss. Berlin* 1869 (1870). p. 710. *Id.* McCulloch, *Aust. Mus. Mem.* V. I. 1929. p. 95: and of authors generally to that date.
Farlapiscis breviceps Whitley, *Aust. Zool.* VI. 4. 1931. p. 313.

Record. In May, 1934, the Queen Victoria Museum obtained by exchange an example of this species (Reg. No. 984), secured at Denne's Point, Bruny Island, in April, 1934. The specimen is an adult male, measuring some 70 mm. in total length.

Remarks. Though this species is recorded by Johnston, both in his first list (1883, p. 135), where it is noted as 'common,' and in his second list (1891, p. 37), and is included in the lists of Lord (1923, p. 64) and Lord and Scott (1924, pp. 8 and 41), and is also credited to Tasmania by Waite and Hale (1921, p. 323), its range is recognized by McCulloch (1929, p. 95)—possibly through the lack of authenticated Tasmanian specimens—as extending only to South Australia, Western Australia, and New South Wales.

The present record serves to confirm the traditional inclusion of *Farlapiscis breviceps* in our faunal list.

Family HYPOPLECTRODIDAE

Genus **Nannoperca** Günther, 1861

Nannoperca tasmaniae (Johnston)

Microperca tasmaniae Johnston, *Pap. Proc. Roy. Soc. Tas.* 1882 (1883). p. 110.
Nannoperca tasmaniae McCulloch, *Aust. Mus. Mem.* V. II. 1929. p. 157.

Locality. In his description of the species Johnston observed, 'Abundant in the rivers of the South and North Esk. The young are found in large numbers in the shallow lagoons having connection with the rivers during some portion of the year.' No records of locality—indeed, few, if any, data based on actual material—other than Johnston's seem to have been published. During the last few years we have met with the species in several of the localities mentioned by Johnston, and, in view of its apparently restricted

distribution, it is worthy of record that on 18th September, 1934, a specimen, 65 mm. in total length, was received at the Museum from Dunorlan—*i.e.*, from the Rubicon River—where it is said by the sender not previously to have been observed.

I hope on a future occasion to illustrate this species, and to discuss its relationships with *N. australis* (Günther), to which it is closely allied, and with which it has been proposed it should be associated (McCulloch and Waite, 1918, p. 45) in a subgenus *Nannoperca*.

Family SCORPIDAE

Genus **Scorpis** Cuvier and Valenciennes, 1832

Scorpis aequipinnis Richardson

Scorpis aequipinnis Richardson, *Zool. Voy. Erebus and Terror.* (*Fish*, 1848). p. 121. *Id.* McCulloch, *Rec. Aust. Mus.* XI. 7. 1917. p. 177. fig. 2. *Id.* McCulloch, *Aust. Mus. Mem.* V. II. p. 237.

Record. A specimen, 326 mm. in total length, from near George Town, was presented to the Queen Victoria Museum (Reg. No. FR814) by Mr. T. Tyler, fishmonger, Launceston, on 2nd December, 1933.

Remarks. First record of the species for Tasmania. I examined, however, another specimen from the same locality, which was not available for preservation, on 23rd November, 1933.

Johnston (1883, p. 111), citing Allport MS., admitted *S. georgianus* to his list, remarking, 'Rare. Not seen'; but included it without comment later (1891, p. 30): this species is listed by Lord (1923, p. 68), while Lord and Scott (1924, p. 65) observe 'occasionally taken on the Northern Coasts.'

In the Check-List McCulloch (1929, p. 237) gave the locality of *S. aequipinnis* as Western Australia only, and that of *S. georgianus* as Western Australia, Tasmania, and South Australia, though earlier, in reviewing the genus, he had admitted 'South and South-western Australia,' mentioning (1917, p. 178) a specimen from Adelaide in the Australian Museum. In the interval Waite (1921), who notices McCulloch's 1917 revision in his references, included both species in his South Australian catalogue—observe, however, Waite's convention concerning 'South Australia' (1921, p. 1)—illustrating only *S. aequipinnis* (fig. 172), and remarking regarding *S. georgianus* (p. 112), 'It is possible that this may prove to be the young of *S. aequipinnis*,' an observation suggested, it may be presumed, by the relatively more produced anterior dorsal and anal rays, and the somewhat larger eye of *S. georgianus*. In a supplement to the work cited Waite (1927, p. 230) states, concerning *Scorpis*, 'Our form, which is frequently banded, is referable to the type-species from

King George's Sound, Western Australia' (*i.e., S. georgianus)*, and deletes *S. aequipinnis* in favour of *S. georgianus*.

As a contribution to the vexed question of the distribution of these two species, I place on record below a short description (drawn up, to facilitate comparison, substantially in the form adopted in McCulloch's 1917 survey of the genus) of the Tasmanian specimen here identified as *S. aequipinnis*.

Description. D. IX, 27. A. III, 25. P. 18. V. I, 5. C. 17. Depth at the ventrals (111 mm.) 2·3 in length to hypural joint (254); head (64) 4·0 in same. Eye (16) 4·0, second dorsal ray (50) 1·3, second anal ray (50·5) 1·3, in head. Upper profile evenly convex above the eye, subequal throughout to lower profile. Mandible long, rather narrow, reaching to about one-fifth of orbital diameter beyond anterior orbital margin, its width (8·5) subequal to its distance from the eye (8). Outer row of teeth in each jaw much larger than the others. Scales small; 107 above lateral line from its origin to hypural joint; 17 between base of second dorsal ray and lateral line; 21 between base of pectoral and ventral spine. Dorsal and anal fins produced anteriorly, the anterior rays projecting beyond the middle rays, which are three-fourths of eye-diameter in height, and one and one-quarter times eye-diameter in total length, by a vertical distance subequal to the vertical median height of the fins. No dark cross-bands; uniform brownish black above, somewhat lighter below the lateral line.

Family GIRELLIDAE

Genus **Melambaphes** Günther, 1863

Melambaphes zebra (Richardson)

Crenidens zebra Richardson, *Zool. Voy. Erebus and Terror.* (*Fish*, 1846). p. 70.
Tephraeops zebra Waite, *Rec. S. Aust Mus.* II. 1. 1921. p. 114. fig. 115 (references and synonymy).
Melambaphes zebra McCulloch, *Aust. Mus. Mem.* V. 11. 1929. p. 240.

Record. Two specimens, 354 mm. and 357 mm. in total length, both from near George Town, were purchased by the Queen Victoria Museum (Reg. Nos. 985 a-b) from Mr. T. Tyler, fishmonger, Launceston, on 23rd November, 1933, and 7th December, 1933, respectively.

Remarks. According to McCulloch (1929, p. 240), this species has been recorded from all the Australian States except Tasmania and Queensland. A local record, however, appears to have been missed, as Lord (1925) noted it from the East Coast, remarking (p. 52), 'it is strange that its occurrence there should have been overlooked.'

The present records from the north of the State are not, therefore, unexpected, and serve to confirm the inclusion of this species in the Tasmanian faunal list.

Family CLINIDAE

Genus **Clinus** Cuvier, 1816

Clinus johnstoni Saville-Kent

Clinus johnstoni Saville-Kent, *Rept. Fish. Dept. Tas.* p. 13. *Id.* Johnston, *Pap. Proc. Roy. Soc. Tas.* 1890 (1891). p. 33. *Id.* McCulloch, *Proc. Linn. Soc. N.S.W.* XL. 1915. p. 273. pl. XXXVII. fig. 2. *Id.* Lord, *Pap. Proc. Roy. Soc. Tas.* 1922 (1923). p. 70. *Id.* Lord and Scott, *Synop. Vert. Anim. Tas.* 1924. pp. 13 and 82. *Id.* McCulloch, *Aust Mus. Mem.* V. III. 1929. p. 349.

Previous Descriptions. Saville-Kent's description of the type, which was 'preserved alive for some time in the tanks of the fishery,' merely notes that it belongs to the genus *Clinus*, and 'differs from the single species, *C. despicillatus* [= *C. perspicillatus* Cuv. and Val.] hitherto taken in these waters, and which averages the length of 4 or 5 inches only, in its larger dimensions, 15 inches, in the great development of the nostril tentacles, and in other characters of specific value.' Johnston (1891, p. 33) recorded the fin-counts as follow:—D. 2–3: 32–33: 5. A. 2·25–26. V. 1·3; but gave no further details. The species was first fully described and figured by McCulloch (1915), whose account is based on two specimens, 227 mm. and 341 mm. in total length, in the Australian Museum, though he observes, 'I have also examined a still larger specimen in the Tasmanian Museum, which is possibly the type of the species.'

Material examined. An examination of a Tasmanian specimen of a *Clinus* (precise locality not recorded; probably Tamar Heads), 347 mm. in total length, in the Queen Victoria Museum (Reg. No. 887), which, in spite of its exhibiting some variation, seems clearly to be referable to *C. johnstoni* Saville-Kent, extends the recorded range of some of the radial formulae, and discloses some differences in proportion.

Fin-Counts and Proportions. D. 2, 33: 4 + 2. A. 2, 26. P. 16. V. 3. C. $10 + \frac{1}{1}$

Length from tip of snout to end of bony operculum (72 mm.) 4·1, depth at origin of anal (69) 4·3, in length to hypural joint (296). Eye (11·5) 7·0, snout (15) 5·4, in head. Interorbital width (9·5) 1·2 in eye. Second dorsal spine (25·5) 3·2, first dorsal ray (41) 2·0, fourth last anal ray (39) 2·1, in head. Median rays of pectoral (50) 1·6, of ventral (44) 1·8, of caudal (51) 1·6, in head.

Description. The following minor additions to McCulloch's description may be noted. Approximate numbers of pores in the anterior horizontal, oblique, and posterior horizontal sections of the lateral line are 25, 6, and 27 respectively. Supraorbital tentacle has about seven lobes.

Variation. The chief variations from McCulloch's description are:—(*a*) the interesting presence of an extra ray in the dorsal, and the occurrence, as noted in the formula above, of differential spacing of the dorsal rays, not previously observed in the species; (*b*)

additional ray in pectoral; (*c*) smaller eye (7·0, as against 5·2–6·1, in head); (*d*) shorter snout (5·4, as against 4·6–4·7, in head); (*e*) anal begins below 11th spine of second dorsal (about below 13th in McCulloch's figure). The specimen agrees with one of the two described by McCulloch in that the pectoral fails to attain to level of first anal spine (reaching about to vent), and with one of these two specimens in having lost all cross-bars on the body, no doubt as the result of preservation.

The 17th and 26th spines of the second dorsal are injured or malformed in the specimen, being only about two-thirds as long as their neighbours, and not reaching to the border of the membrane, which maintains an uninterrupted and normal line outside their tips.

Genus **Petraites** Ogilby, 1885

Petraites incertus McCulloch

Petraites incertus McCulloch, *Proc. Linn. Soc. N.S.W.* XL. 1915. p. 275. pl. XXXVII. fig. 3. *Id.* McCulloch, *Aust. Mus. Mem.* V. III. 1929. p. 350.

Material examined. Three specimens of a *Petraites*, 123 mm., 254 mm., and 211 mm. in total length, in the collection of the Queen Victoria Museum (Reg. Nos. 0840 a-c) are evidently referable to *P. incertus* McCulloch, the first two being from the type-locality of that species (River Tamar), the third, though known to be Tasmanian, being without precise locality-record. As no specimens other than the two syntypes appear to have been the subject of published description, it sems advisable to place on record the data afforded by an examination of the present examples. With the fin-counts and proportions, given below, the corresponding values for the syntypes, 205 mm. and 216 mm. long, are noted [in square brackets] for comparison.

Fin-Counts and Proportions. D. 3, 29: 4–5 [3, 29: 4]. A. 2, 24 [2, 23–24]. P. 11 [11]. V. 3 [3]. C. 9–9 + $\frac{1}{1}$ [9].

Head 3·0–3·5 [3·8–4·1], depth before anal 4·6–4·9 [4·3–4·9], in length to hypural. Eye 5·5–6·8 [5–5·1], snout 3·3–4·3 [3·7–3·8], in head. Interorbital width 1·5–1·8 [1·8–2·1] in eye. First dorsal spine 1·7–2·1 [1·6–1·9], first dorsal ray 1·8–2·0 [1·6], fourth last anal ray 1·9–2·7 [1·4–1·9], in head. Median pectoral ray 1·6–2·0 [1·3], median ventral ray 1·7–1·9 [1·4–1·5], median caudal ray 1·5–1·9 [1·3–1·6], in head.

Description. The following additions may be made to the original description. Approximate numbers of pores in the anterior horizontal, oblique, and posterior horizontal sections of the lateral line are 21–23, 4–5, 28–23 respectively. Anal begins below 11th spine of second dorsal. Inner ventral ray is 2·0–2·6, and outer 1·1, in median ray. Orbital tentacle, laid back, reaches to base of 1st spine, or to between

bases of 1st and 2nd spines of first dorsal. One specimen affords some indications of the second dorsal and anal having been crossed by about six and about five oblique bars respectively, while the first dorsal has apparently borne some three or four subcircular blotches between the 1st and 2nd spines, five or six between the 2nd and 3rd spines, and two or three behind the 3rd spine.

Variation. Apart from the differences in fin-counts and proportions to which attention has been called above, the most noteworthy variation relates to the position of the first dorsal. This fin originates, as far as can be judged from the figure of one of the syntypes, virtually at (about $\frac{1}{10}$ of an eye-diameter behind) the posterior level of the eye, while in the present specimens it originates at from one-third to rather more than one-half an eye-diameter behind the orbital margin.

Affinities. These specimens would seem to indicate that the species is a well-defined one. As regards its relation to some of the early, imperfectly characterised species—a matter on which McCulloch expressed uncertainty, both implicitly in the specific name, and explicitly in his description—after a careful comparison of the specimens with the meagre published accounts of these, I can only say, with the author of the present species (p. 276), 'They do not wholly agree with any of the descriptions.'

Family ANTENNARIIDAE

Genus **Rhycherus** Ogilby, 1907

Rhycherus filamentosus (Castelnau)

(Plate V, fig. 2)

Chironectes filamentosus Castelnau, *Proc. Zool. Acclim. Soc. Vict.* I. 1872. p. 244.
Chironectes bifurcatus McCoy, *Prodr. Zool. Vict.* II. dec. XIII. 1886. p. 87. pl. CXXIII.
? Rhycherus wildii Ogilby, *Proc. Roy. Soc. Qld.* XX. 1907. p. 18.
Rhycherus filamentosus McCulloch and Waite, *Rec. S. Aust. Mus* I. 1. 1918. p. 70. pl. VI. fig. 3 and text-fig. 31. *Id.* McCulloch, *Aust. Mus. Mem.* V. III. 1929. p. 406.

Record. A specimen, 216 mm. in total length, caught at Tamar Heads by Mr. C. Andrews, was donated to the Queen Victoria Museum (Reg. No. FR 982) by Mr. T. Cannon, fishmonger, Launceston, on 2nd March, 1934.

First record for Tasmania.

Remarks. The specimen agrees in general reasonably well with the Victorian individual described and figured by McCoy (1886) and with the South Australian examples dealt with by McCulloch and Waite (1918). Like these specimens it departs rather markedly from the description of *Rhycherus wildii* Ogilby, the haplotype of the genus, which Ogilby (1907, p. 19) explicitly states 'differs considerably from *Chironectes bifurcatus* McCoy,' but which McCulloch

and Waite regard as conspecific with that form, and hence as synonymic with *R. filamentosus* (Castelnau)—a position maintained by McCulloch in the Check-List. Not having had an opportunity of examining the type of *R. wildii*, I cannot express a definite opinion on the matter, and can only comment that a comparison of the description by Ogilby with that by McCoy and that by McCulloch and Waite reveals some rather striking discrepancies, particularly in general proportions and in the form of the fins.

Compared with the continental examples described and figured by McCoy and by McCulloch and Waite, the present specimen exhibits the following differences.—(*a*) maxillary, instead of reaching to below hinder portion of eye, just fails to reach level of eye-tubercle; (*b*) illicium, instead of being shorter than, is two-thirds as long again as, naked supporting rod; (*c*) a yellowish blotch is present on the base of the membrane of the soft dorsal near the middle of the fin; (*d*) minor variations in proportion and colouration. The acquisition of further material may perhaps show that these variations entitle the Tasmanian form to subspecific distinction.

It is of interest to observe, as an indication of the perfection to which cryptic colouration is carried in this species, that the remarkable lichenoid blotches on the body occur also on the inside of the mouth—doubtless held open during 'angling'—where they form pearly white patches on the bluish grey tongue. Pale greenish lichenoid spots also delicately mottle much of the external surface of the pectoral.

SUMMARY

1. Some general observations are made on *Anguilla reinhardtii* Steindachner, *Nannoperca tasmaniae* (Johnston), *Clinus johnstoni* Saville-Kent, and *Petraites incertus* McCulloch.

2. Records are noted confirming the inclusion in the Tasmanian faunal list of *Farlapiscis breviceps* (Peters), and *Melambaphes zebra* (Richardson).

3. Additions to the Tasmanian faunal list comprise *Scorpis aequipinnis* Richardson, and *Rhycherus filamentosus* (Castelnau).

4. *Parascyllium multimaculatum*, sp. nov. (family Hemiscylliidae) is described and figured.

REFERENCES

JOHNSTON, R. M., 1883.—General and Critical Observations on the Fishes of Tasmania. *Pap. Proc. Roy. Soc. Tas.* 1882 (1883). pp. 53-144

———— 1891.—Further Observations upon the Fishes and Fishing Industries of Tasmania. *Pap. Proc. Roy. Soc. Tas.* 1890 (1891). pp. 22-46.

LORD, C. E., 1923.—A List of the Fishes of Tasmania. *Pap. Proc. Roy. Soc. Tas.* 1922 (1923). pp. 60-73.

———— 1925.—Additions to the Fish Fauna of Tasmania. *Pap. Proc. Roy. Soc. Tas.* 1924 (1925). pp. 51-52. two text-figs.

LORD, C. E., AND SCOTT, H. H., 1924.—*A Synopsis of the Vertebrate Animals of Tasmania.*

McCoy, F., 1886.—*Prodromus of the Zoology of Victoria.* Dec. XIII. pp. 87-89. pl. CXXIII.

McCulloch, A. R., 1915.—Notes on and Descriptions of Australian Fishes. *Proc. Linn. Soc. N.S.W.* XL. pp. 259-277. pl. XXXV-XXXVII.

———————— 1917.—Studies in Australian Fishes. No. 4. *Rec. Aust. Mus.* XI. 7. pp. 163-188. pl. XXIX-XXXI. test-figs. 1-2.

———————— 1929.—A Check-List of the Fishes Recorded from Australia. *Aust. Mus. Mem.* V.

McCulloch, A. R., and Waite, E. R., 1918.—Some New and Little-Known Fishes from South Australia. *Rec. S. Aust. Mus.* I. 1. pp. 39-78. pl. II-VII. text-figs. 26-31.

Ogilby, J. D., 1906.—Some New Pediculate Fishes. *Proc. Roy. Soc. Qld.* pp. 17-25.

Schmidt, J. S., 1928.—The Freshwater Eels of Australia . . . *Rec. Aust. Mus.* XIV. 4. pp. 179-210. figs. 1-14.

Scott, E. O. G., 1934.—Observations on some Tasmanian Fishes, with Descriptions of New Species. *Pap. Proc. Roy. Soc. Tas.* 1933 (1934). pp. 31-53. pl. VI-VIII. text-figs. 1-2.

Waite, E. R., 1921.—Catalogue of the Fishes of South Australia. *Rec. S. Aust. Mus.* II. 1. pp. 1-208. pl. 1. text-figs. 1-332.

———————— 1927.—Supplement to the Catalogue of the Fishes of South Australia. *Rec. S. Aust. Mus.* III. 3. pp. 223-234. pl. XIII.

Waite, E. R., and Hale, H. M., 1921.—Review of the Lophobranchiate Fishes . . . of South Australia. *Rec. S. Aust. Mus.* I. 4. pp. 293-324. text-figs. 39-56.

Explanation of Plate

Plate V—

Fig. 1.—*Parascyllium multimaculatum,* sp. nov. Holotype. Male. Locality, Tamar Heads, Tasmania. Total length 710 mm.

Fig. 2.—*Rhycherus filamentosus* (Castelnau). Locality, Tamar Heads, Tasmania. Total length, 216 mm.

Fig. 1.

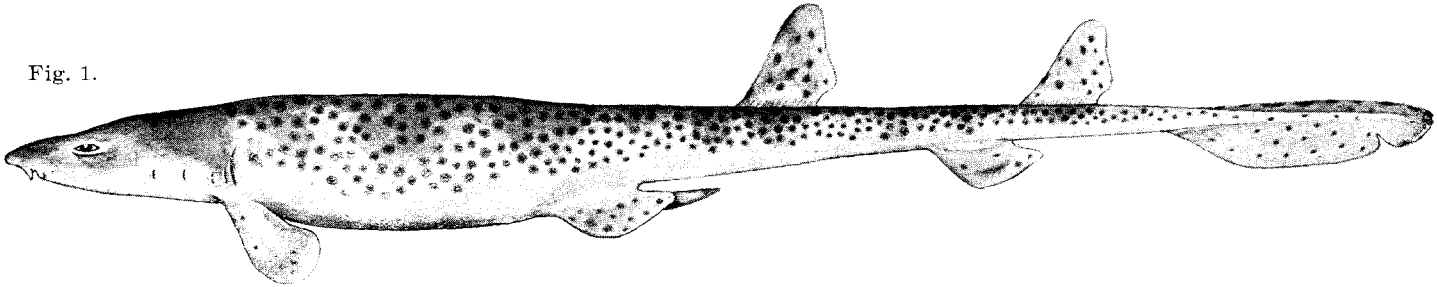

Fig. 2.

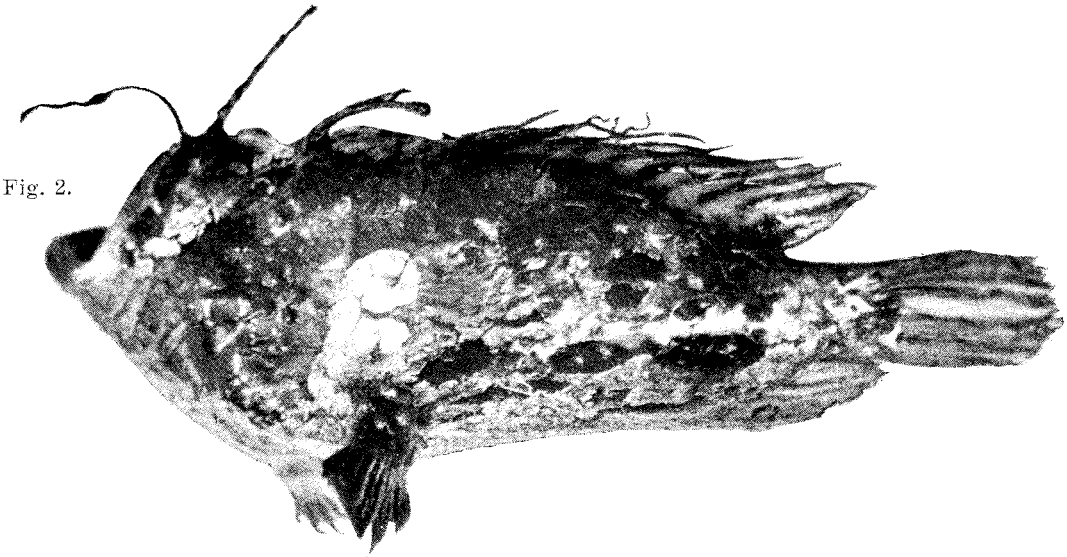

Fig. 1.—*Parascyllium multimaculatum*, sp. nov.

Fig. 2.—*Rhycherus filamentosus* (Castelnau) [E.O.G.S. del.] [Burrows photo.