

## A New Species of *Galaxias*.

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IN Scott's 1935 revision of the Galaxiidae the genus *Galaxias* is defined as having the dorsal fin inserted well to the rear, the vertebrae numbering more than 50, teeth present on entopterygoids, tongue and jaws, the latter uniserial, and 5, 6, or 7 rays in the ventral fins. The latter character is regarded as of subgeneric importance, the forms having 7 rays being placed in the first subgenus, *Galaxias*, those with 6 having an anagrammatical subgenus *Agalaxis* created for them, while a 5-rayed form is left unaccommodated pending further consideration. The possibility of variation in this character appears to have been disallowed, but the present investigation has shown that variation may occur not only within a species, but within an individual. Of the 10 specimens examined during the preparation of the present paper two have 6 rays in one fin and 7 in the other, one ray in one of the latter fins being rudimentary, five have 7 rays in each fin, one has 7 in one and 8 in the other, one of the latter being rudimentary, and one has 8 in each. A consideration of the specifications of these specimens listed in the appended table reveals no differences in other characters that would suggest specific distinctness of any individual, and it is further to be noted that all had the protruding lower jaw which is so marked a feature of this species. Variation in the number of ventral fin rays has also been observed in several other New Zealand forms, and while it is probable that these are more constant than the present species it is obvious that this character is useless as a sub-generic distinction, and that the divisions proposed by Scott cannot be maintained. The subject of the present paper is therefore referred to *Galaxias*, which is here regarded as a genus without other than specific divisions.

### *Galaxias prognathus* n.sp.

B 6-8, D ii-iv 6-8, A ii-v 7-10, P i-ii 9-12, V 6-8, C v-ix 14 vi-viii. Vertebrae 54-56.

Head 5.80-6.55 in standard length.

Depth 6.47-9.37 in same. Eye 6.0-8.6 in head which is much depressed, its width 1.35-1.78 in its length. Mouth short, maxillary not extending to anterior of eye, lower jaw much the longer. Teeth on tongue biserial, lower jaw without lateral canines, teeth on entopterygoids weak, uniserial in some instances, irregularly biserial or grouped in others; entopterygoid bones fragile. 6-10 gillrakers on lower limb of anterior arch, pyloric caeca lacking in the specimens examined, stomach longer than in *G. attenuatus*. Length of pectoral fin contained 2.3-3.0 in distance from its origin to origin of ventral, ventral inserted at .48-.50 of the standard length, its length contained 2.36-3.04 in distance from its origin to origin of anal. Dorsal inserted at .68-.71 of the standard length, its height contained

·85–1.12 in its basal length. Origin of anal under 4th–5th ray of dorsal, its height contained 1.01–1.16 in its basal length. Caudal moderately emarginate. Least depth of tail contained 2.54–3 in distance from rear of dorsal to base of caudal.

Colour: Greyish mottling on pale slaty ground, ventral surface almost white.

Maximum total length observed 75 mm.

Named on account of the protruding lower jaw.

Holotype in Canterbury Museum.

Type locality, Wilberforce River, Rakaia Valley, Canterbury.

SPECIFICATIONS OF 10 SPECIMENS OF *Galaxias prognathus* n.sp.

Standard length (mm.).	Head in length ratio.	Depth in length ratio.	Length of P. in distance from P. to V.	Length of V. in distance from V. to A.	Dorsal fin insertion ratio.	Ventral fin insertion ratio.	Least depth of tail in distance from D. to C.	B.	D.	A.	V.	Vertebrae.
59	6.55	7.6	3	2.50	.69	.50	2.70	7-8	iii 7	ii 8	8-8	56
55	6.40	8.33	2.65	2.36	.69	.49	2.87	7-7	iv 6	iv 8	6-7*	56
55	6.32	6.87	2.61	2.36	.70	.49	2.71	6-6	iv 6	v 7	7-7	54
52	6.11	8.96	3	2.44	.69	.49	2.75	6-6	iv 7	vi 8	6-7	55
61.5	6.47	6.47	2.91	2.66	.69	.49	2.54	7-7	iv 7	iv 8	7-7	55
47.5	5.93	6.78	2.30	2.46	.68	.49	2.91	8-8	iii 7	iii 10	7-7	55
46	6.13	7.66	2.72	2.50	.70	.49	2.62	8-8	iv 7	iv 7	7-8*	56
66	6.31	7.33	2.90	3.04	.71	.48	3	7-7	iii 8	ii 9	7-7	54
37.5	6.20	9.37	2.55	2.40	.69	.50	3.10	7-7	iv 7	iv 8	7-7	56
60	5.80	8.80	3	2.46	.68	.49	2.80	7-7	ii 7	ii 10	7-7	56

\* Includes one rudimentary ray.

*Variation.*

The abnormal degree of variation noted in the number of ventral fin rays occurs also in the number of branchiostegals, the same figures applying in each instance. The point of insertion of the ventral fins is more constant than in most species, while the head in length ratio, pectoral ratio and tail ratio is about normal. A variation of 3 in the number of vertebrae is quite usual, but in view of the frequency with which the highest observed number appears in the present group it seems probable that higher counts will be obtained when more material is available. It is also probable that the present limits in other characters will be somewhat extended.

*Affinities.*

This species agrees completely with *G. attenuatus* and *G. paucispondylus* in the absence of lateral canines from the jaws and less completely in the elongated body, the point of insertion of the ventral fins and the absence of pyloric caeca; in the two latter species the caeca may be entirely lacking or rudimentary.

*Prognathus* agrees fairly well with *attenuatus* in the length of the pectoral and ventral fins, but differs greatly in the form of the anal. It differs from both of the species mentioned in the shorter

head, the conspicuously protruding lower jaw, and the number of vertebrae; *paucispondylus* has 51-53 vertebrae and *attenuatus*, so far as investigated, 62-63. Species in which the number of vertebrae agrees with, or overlaps, the specification of *prognathus* differ so greatly in other characters that comparison is unnecessary.

*Distribution and Habits.*

*Galaxias prognathus* has been collected from only the Wilberforce and Harper Rivers, in the Rakaia Valley, Canterbury. It has not been taken at altitudes below 2000 ft., but its rarity precludes a precise determination of its range. Spawning appears to occur in late autumn or early winter; males taken in April were almost mature, and a female taken at the same time contained ova measuring 1.16 mm. The smallest mature male observed was 52.8 mm. in total length, and the smallest mature female 67 mm.

LITERATURE CITED.

- SCOTT, E. O. G.. 1935. Observations on Fishes of the Family Galaxiidae, *Proc. Roy. Soc. Tasmania*, pp. 85-112.



FIG. 1.—*Galaxias prognathus*.



FIG. 2.—Eight-rayed ventral fin of  
*Galaxias prognathus*.  $\times 12$ .



FIG. 3.—Six-rayed ventral  
fin of *Galaxias prognathus*.  
 $\times 12$ .

To face page 424.