J. L. B. Smith gives Natal as a locality. It might be thought, perhaps, that he was referring to Fowler's record which was published in a paper dealing with fishes "mostly from Natal and Zululand." But Smith gives 15 inches as the greatest recorded length; this is much greater than any actually published record (220 mm. G. and T.), and may be a misprint; Smith informs me (*in litt.* 21/5/41) that he has no specimens in his collection.

Dr. Kannemeyer explains that this species gets its name from its preference for rocky spots, as opposed to the mud-loving *Clarias*.*

Gephyroglanis sclateri.

	TL	L/H	H/E	S/E	I/E	I/d.a.n.	Pectoral Spine Serrations.	g.r.	Sex and Remarks.
Potchefstroom	75	3¾	5	2	1½	2	6–7	4+10	
,,	115	4	5½	2⅓	1¾	2⅓	9	4+12	
Kraai R.	135	4	5½	2⅓	1⅘	2⅓	11	..	Di. 8.
Upington	140	4	5½	2⅓	1⅘	2⅓	..	..	
Johannesburg	145	4	6	2½	1⅘	2⅓	12–13	5+13	
Upington	165	4	6	2½	1⅘	2⅓	..	..	♀ immature.
Potchefstroom	175	4	6	2½	1⅘	2⅓	14–15	..	♂ ,,
Vaal R.	185	4	6	2½	1⅘	2⅓	16	..	♂ ♀.
Upington	200	4	6½	2¾	2	2⅓	16–17	5+14	♂ ♀.
,,	210	4	7	3	2¼	2½	17	..	♂ ♀.
Kafue R.	210	4	7	3	2⅛	2½	14	5+15	♀ ovig.
Upington	215	4	7¼	3⅓	2⅓	2½	15	5+15	♀ ovig.
Potchefstroom	220	4	7⅓	3½	2⅛	2½	16–17	5+15	♂.
,,	230	4	7½	3½	2⅔	2½	16–17	5+16	♀ ovig.
Orange R.	300	4	7½	3½	2⅔	2¾	18–19	6+16	♀ ovig.*

23 specimens. * Kannemeyer's specimen.

Gephyroglanis gilli n. sp.

Clanwilliam Catfish.

Fig. 23, *c–g*.

Closely allied to *sclateri* (D i. 7, caudal lobes obtuse, etc.), but distinguished by the following characters.

The caudal lobes are more obtuse and the notch much shallower in *gilli* than in *sclateri*; the middle caudal rays being a little longer than the depth of the caudal peduncle instead of subequal (*cf.* fig. 23, *b* and *d*). As in *sclateri*, the lower lobe is usually slightly larger than the upper lobe. At 32 and 38 mm. the caudal is truncate with rounded corners; at 43 mm. slightly emarginate.

* Kannemeyer, Proc. 26/vi/95 in Trans. S. Afr. Philos. Soc., viii, p. xcvii, 1896.

The composition of the anal fin is different: 2 or 3 spines, 2 simple rays, 10 or 11 branched rays (including the last one, which in the smaller specimens is simple): total number 14–16. The usual formula is 3.2.10 = 15 (contrast with *sclateri*: 4.2.12 = 18).

The head is relatively larger and the eye smaller in *gilli* (*cf.* the 73, 77, and 105 mm. specimens of *gilli* with the 75 and 115 mm. *sclateri* in the tables).

The length of the snout is subequal to the postocular part of head. The snout is broader in *gilli*: distance between the anterior nostrils subequal to that between the posterior nostrils.

The distance between anterior nostrils equals distance between bases of anterior mental barbels (as in *sclateri*), but this distance is *twice* in distance between bases of posterior mental barbels; the latter distance almost as long as distance from anterior margin of eye and tip of snout. The distance between anterior nostrils is almost twice in snout in *gilli*, but almost thrice in *sclateri* (*cf.* fig. 23, *a* and *c*). The mucus tubules on the head are all simple (fig. 23, *c*), each opening by a single pore.

On the basis of these differences the institution of a separate species for the Olifants River form is justified. As Boulenger named his species after the then Director of the South African Museum, so it is appropriate to name this n. sp. after the present Director, Dr. E. L. Gill.*

Locality.—Olifants River system, Clanwilliam Division: in an irrigation furrow off the Jan Diesel's River in Bosch Kloof, Clanwilliam (Sept. 1936, K. H. B. and C. W. T.); Boontjes River, Citrusdal (A. C. H., K. H. B., and C. W. T., April 1937); upper reaches of Olifants River at the farm "Keerom" and in a side tributary on the farm "Noordhoek" (K. H. B. and C. W. T., Feb. 1939).

The dorsal fin formula is normally D i. 7, counting only one spine, although there is the same short blunt bony process in front of it as in *sclateri*. There are two very feeble and inconspicuous denticles on the hind margin of the spine at 55 mm., and 4–5 at later stages (fig. 23, *f*, *g*).

In 4 specimens out of 27 there are only 6 dorsal rays: one 38 mm., one 43 mm., and two between 70 and 80 mm.

As in *sclateri*, there are two forms of dorsal fin (fig. 23, *f*, *g*), which are irrespective of age (and by analogy, probably irrespective of sex also). The length of the base of the fin is the same in both forms, subequal to the snout.

* Written before Dr. Gill's retirement in January 1942.

In high fins the dorsal spine and 1st ray are equal to the distance from hind margin of opercle to, respectively, anterior margin of eye (or midway between eye and posterior nostril), and to posterior nostril. In low fins the dorsal spine and 1st ray are equal to the distance from hind margin of opercle to, respectively, hind margin of eye and to midway between eye and posterior nostril.

As in *sclateri*, the dorsal spine is a little longer than the pectoral spine (measured as indicated above) in the high fin form, but in the low fin form the two spines are subequal.

The margin of the low fin is even, with fine scalloping between the rays; the margin of the high fin is uneven, ragged, the rays projecting more or less beyond the membrane.

Although there is a slight amount of variation, there is no difficulty in at once separating the high and low finned forms. In the extreme forms, if they came from different river-systems, this difference might almost be regarded as constituting a specific difference. In fact, however, the difference appears to be due to habitat. In the case of *sclateri* no details are available as to the particular habitat of any of the specimens. But the Clanwilliam specimens were all collected by myself and my assistant Mr. Thorne and the following correlation can be observed.

The first seven specimens, 43–88 mm. in length, were caught in September 1936 in an artificial furrow leading from a side tributary of the Jan Diesels River. The furrow was from 1–2 feet wide and about the same in depth, with muddy bottom, and margins overgrown with vegetation. The current was moderate, and would probably be fairly constant even after heavy rains, as most of the flood water would be carried by the natural stream. All these specimens have low, untorn dorsal fins.

Four specimens, 70–105 mm., were caught in April 1937 in the Boontjes River near Citrusdal (a tributary of the Olifants River). The Boontjes is from 10–20 feet wide in this section; the bottom is rocky and stony in some places, sandy and muddy in other places. The specimens were caught under the banks of a muddy bottom; but they may have come down from the stony parts; the stony parts were not closely examined, as we were working with a fine net, and at that time we were unaware of the habits of these fish. These four specimens have high ragged fins.

In February 1939 in the upper reaches of the Olifants River ("Keerom") we discovered that these fish were quite common under the stones and boulders near the margin of the river. We found

them in a similar habitat in a side stream ("Noordhoek"). All these (16 specimens were killed, from 32–95 mm. in length) have high ragged dorsal fins.

Thus it appears that the low untorn fin is correlated with a placid and muddy habitat; whereas the high ragged fin is correlated with a stony and more turbulent habitat.

Several specimens were brought alive to Cape Town in February 1939 and handed over to Mr. A. C. Harrison. The smaller ones soon became quite tame and fed openly on Enchytraeid worms, but the larger ones remained shy. All were maintained in good condition until July 1939, when all but the smallest one died; and the latter died six months later. We hoped that they would attain maturity and breed in captivity, but apparently there was something lacking in the diet, as they all became very thin, although otherwise perfectly healthy.

Gephyroglanis gilli.

TL	L/H	H/E	S/E	I/E	I/d.a.n.	Pectoral Spine Serration.	g.r.	Sex and Remarks.
32	3½	5¼	2	1¾	1½	5	3+10	Di. 7.
38	3½	5¾	2¼	1¾	1½	6	..	Di. 6.
43	3½	5¾	2⅓	1¾	1½	4–5	..	Di. 6.
55	3½	5¾	2⅓	1¾	1½	6–8	..	Di. 7. 2 feeble dorsal spine serrations.
60	3½	6	2⅓	1¾	1½	5–8		
65	3½	6	2⅓	2	1½	5–10		
70	3½	6	2⅓	2	1½	6–10 *	4+10	4 feeble serrations.
73	3½	6¼	2½	2	1½	6–10		
77	3½	6⅓	2½	2	1½	7–10		
83	3½	6½	2½	2	1½	7–10		
88	3½	6¾	2¾	2	1½	7–10	4+11	
90	3½	7	3	2	1½	8–10 *	..	4–5 feeble serrations.
95	3½	7	3	2	1½	10 *		
105	3½	7	3	2	1½	10	4+11	Immature.

27 specimens.

* 11, 12, or even 13, owing to obvious duplication of one or two serrations.

Family GALAXIIDAE.

1906. Regan, Proc. Zool. Soc. Lond., 1905, ii, p. 363.
1915. Boulenger, *l.c.*, iii, p. 12.
1917. Gilchrist and Thompson, *l.c.*, p. 470.
1936. Scott, Pap. and Proc. Roy. Soc. Tasman. for 1935, p. 85.