ADDITIONS TO, AND RANGE EXTENSIONS OF, THE SOUTH AFRICAN MARINE ICHTHYOFAUNA

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ABSTRACT

Range extensions for 24 species of western Indian Ocean fishes are recorded, including 11 new additions to the fish fauna of the Republic of South Africa. It was found that *Lycodontis laysanus* (Steindachner), as referred to by Smith (1962a), is the common Pacific *Gymnothorax eurostus* (Abbott). On the basis of specimens examined, *Gobius keiensis* Smith, 1938, is a junior synonym of *Gobius acutipennis* Valenciennes.

This paper is an outgrowth of a sampling programme of the intertidal and shallow water ichthyofauna of South Africa presently being conducted by the J. L. B. Smith Institute of Ichthyology. The ichthyocide rotenone is proving a highly efficient method for collecting specimens, particularly of cryptic and/or benthic species seldom obtained by other means. The overall aim of the programme is to allow us to pinpoint the dominant fish species in any type of habitat at a given locality. This, in turn, provides us with enough information to isolate specific topics for ecological research (particularly in the realm of resource subdivision). Comparisons can then be made between similar habitats (e.g. rock, sand and algal tide-pools) in other geographical localities which support different dominant species.

It is well known (Stephenson 1939; Darbyshire 1964) that the warm Agulhas Current sweeps down the South African coast from the north, following the continental shelf. From about Port St Johns (Transkei, 31°30′S), the shelf widens, forcing the current further offshore. Flowing up from the south, a wedge of relatively cooler water of variable extent overlies the shelf, separating the Agulhas Current from the shoreline. Local upwellings and seasonal fluctuations in the strength of the Agulhas Current result in complex conditions in this region. Elements of the warm water ichthyofauna are common (mainly as juveniles) in the tide-pools of the northern Transkei. While tide-pools of areas such as Coffee Bay (32°S) have a largely tropical/subtropical fish fauna (e.g. scorpaenids, labrids, pomacentrids, chaetodontids, acanthurids, etc.), the few collections and observations in this area to depths of about seven metres indicate a more or less typical temperate fauna (e.g. sparids, coracinids, cheilodactylids, clinids, etc.). (While the tide-pool fauna is comprised primarily of juveniles with only occasional adults, which probably seldom breed in the area, the subtidal species consist of both adults and juveniles, usually with established breeding populations.) If this generalization is borne out by further work, it would appear that temperature could be the decisive factor, and that the more tropical elements are confined to the tide-pools which are usually warmer than the sublittoral area. This would not be unexpected, since Branch (1975: 81), for example, points out that habitats become restricted at

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distributional extremes. The present paper deals with range extensions (mainly southwards) of Indo-Pacific fishes, with inclusion of a few endemics. A number of species new to the South African ichthyofauna have been collected, as well as others last reported more than 50 years ago. A few systematic changes have been necessary.

MURAENIDAE

Echidna leucotaenia Schultz, 1943

Material: RUSI 74–354, 1 (135 mm SL), Sheffield Beach, Natal (29°30'S)*

The species is described as being common at various localities in the central West Pacific (Schultz 1943: Phoenix and Samoan Islands, 1953: Marshall and Mariana Islands). It has been recorded from the western Indian Ocean by Smith (1962a) who obtained two small specimens (42 and 50 mm SL) from Pinda, Moçambique (approximately 14°S) and a 320 mm adult from Aldabra (about 10°S). The Natal specimen agrees well with Schultz's descriptions of the Pacific specimens. The following morphometrics are given for comparison with Schultz's (1953) description (measurements given in mm, followed by proportional measurements in parentheses). In standard length: depth 7,3 (18,5); head 17,7 (7,6); trunk 60,7 (2,2); dorsal origin 14,2 (9,5). In head length: depth 7,3 (2,4); dorsal origin 14,2 (1,2); eye diameter 1,6 (11,0); snout to rictus of jaws 5,9 (3,0); snout 2,9 (6,1); interorbital 2,2 (8,0). The teeth differ somewhat from those figured by Schultz (1953), but since he reports considerable variation with size, this would not appear to be significant. The coloration is as reported in the literature. Range extension for the species is about 1 668 km to the south.

Gymnothorax eurostus (Abbott, 1860)

Material: RUSI 74–354, 1 (248 mm SL), Sheffield Beach, Natal (29°30'S)

The species is known in the western Indian Ocean from a single specimen, 380 mm SL from Bazaruto (21°30'S/35°30'E), recorded as *Lycodontis laysanus* (Steindachner) by Smith (1962a: 434). It is said to be the commonest of the Hawaiian eels by Gosline & Brock (1965: 114). who place *G. laysanus* as a junior synonym of *G. eurostus* (page 315). Proportional measurements for the new specimen are followed by proportions derived from new measurements of the Bazaruto specimen, and are arranged as in Smith (1962a). Depth 13,3 (13,7) in total length, 1,6 (1,6) in head, which is 3,9 (3,9) in trunk and 8,3 (8,6) in total length. Cleft of mouth 2,4 (2,1) in snout, which is 5,3 (5,3) in head. Dentition as described by Smith (1962a) and Gosline & Brock (1965). Colour similar to Bazaruto specimen, but black spots relatively smaller and white spots increasing in size posteriorly along the body. The present record extends the range of the species about 890 km to the south.

*For full collection information, see Appendix.

OPHICHTHIDAE

Muraenichthys xorae Smith, 1958

Material: RUSI 74–349, 1 (282 mm SL), Sheffield Beach, Natal (29°30'S)
RUSI 74–354, 3 (212–287 mm SL), Sheffield Beach, Natal (29°30'S)

Smith (1958) described this species from a single specimen taken at the Xora River Mouth (32°10'S). Subsequently (1962b) he reported the range to lie between 31 and 34°S. I have been unable to find specimens, records or literature that would extend the range of *M. xorae* to the south of Xora, but there are specimens from Mnyameni (31°10'S) and Mtamvuna (31°05'S). Our examples from Natal extend the range of the species about 186 km north. This is a somewhat peculiar distribution, which may be extended when collections are made further north in Zululand (Kwazulu).

ENGRAULIDAE

Stolephorus commersonii (Lacépède, 1803)

Material: RUSI 3727, 1 (of 2) (60,0 mm SL), Umtata River, Transkei.

The species has previously been recorded (Smith 1961) from north of Durban. The present record extends the range of the species some 223 km south.

SCORPAENIDAE

Parascorpaena maculipinnis Smith, 1957

Material: RUSI 74–352, 1 (36,6 mm SL), Sordwana Bay, Kwazulu (27°30'S)

The specimen agrees well with Smith's (1957) description, possessing the black ocellus between the 8th and 11th dorsal spines and an entire margin to the right ocular cirrus (left cirrus absent). Taken in the same collection were three specimens of *P. aurita*, all with serrated margins to the ocular cirri. This species is previously known from seven specimens, one of which was from Inhaca (26°S). The above specimen represents a small (about 167 km) range extension south, but a new record for the Republic of South Africa.

CENTROPOMIDAE

Ambassis gymnocephalus (Lacépède, 1802)

Material: RUSI 74–314, 33 (13,9–22,2 mm SL), Kowie River (33°36'S)
RUSI 74–335, 15 (41,5–53,4 mm SL), Coffee Bay, Transkei (32°S)

The specimens are typical of the species possessing an interrupted lateral line, 14–16 predorsal scales, and dusky margins to the dorsal and caudal fins. The specimens from Coffee Bay contain mature gonads, indicating the presence of a breeding population. Previously recorded as far south as Durban, the present collections extend the range of *A. gymnocephalus* 371 km to the south.

POMADASYIDAE

Gaterin flavomaculatus (Ehrenberg in Cuv. & Val., 1830)

Material: RUSI 74–336, 1 (91,3 mm SL), Mapuzi River Mouth, Transkei (32°S)

The specimen agrees well with the description in Smith (1962c), but has a low lower-limb gill-raker count (14 + 1 + 17 instead of the more usual count of 18–19). The previous southern-most record for the species was Durban (30°S), a range extension of 223 km.

PEMPHERIDAE

Parapriacanthus guentheri (Klunzinger, 1871)

Material: RUSI 74–329, 6 (32,8–39,2 mm SL), Coffee Bay, Transkei (32°S)
RUSI 3868, 1 (40,2 mm SL), 2°37'03"S/40°40'09"E (off Kenya)

The Coffee Bay specimens were schooling with a large aggregate of *Pempheris oualensis* (see below) in a shallow (*ca* 2 m) gulley close to shore. The species has not been recorded from South African waters since von Bonde (1924) described *Parapempheris argentus* from 29°36'S/31°16'E (off Durban) in 60,5 m of water. The consecutive number lists the specimens as 'small fishes' of which '2 bottles' were obtained. A number of von Bonde's meristics would appear to be inaccurate, particularly since the statement 'Length of largest specimen: 70 mm' (1924: 12) implies more than a single specimen. Thus, the value 1,6 for the pelvic fin is highly improbable, the anal fin count probably includes the elements of the last split ray separately, while the first anal spine appears to have been overlooked as well (see Plate 2, Figure 2). My seven specimens give DV + 9, A III + 21–22 (mean 21,5) and lateral line 72–75 (mean 73,6). All meristics fall near the central modes given for a single population of *P. ransonneti* from Totoro Miyazaki Prefecture,

Japan by Tominaga (1963: Table 2). The morphometrics are also very similar, and it seems possible that there may be only a single, polymorphic species. However, I have been unable to find the Y-shaped luminous organ in front of the ventral fins mentioned by Tominaga (1963: 273) for *P. ransonneti*, and so retain *P. guentheri*. Data for the specimens reported on by Jones & Kumaran (1966: 172) indicate that *P. argenteus* is a junior synonym of *P. guentheri*.

Pempheris oualensis Cuvier in Cuv. & Val., 1831

Material: RUSI 74–329, 381 (24,2–69,9 mm SL), Coffee Bay, Transkei (32°S)

A widely distributed species, previously only recorded north of Durban (30°S). The present specimens fall into Tominaga's (1963) Group C, having a large number of small concealed scales beneath the larger surface scales, and are identified as *P. oualensis* on the basis of pigmentation, anal fin ray counts and number of lateral line scales.

Range extension is 223 km south, although there is an unsubstantiated report of a juvenile from the Swartkops River near Port Elizabeth (34°S).

CREEDIIDAE

Apodocreedia vanderhorsti de Beaufort, 1948

Material: RUSI 3728, 1 (49,8 mm SL), Ponta de Oura, Moçambique
RUSI 3729, 2 (71,5–73,7 mm SL), Tongaland coast, Kwazulu
RUSI 3730, 6 (55,2–74,8 mm SL), Inhaca, Moçambique
RUSI 74–349, 10 (50,1–64,2 mm SL), Sheffield Beach, Natal (30°S)

The type description was based on three specimens, although de Beaufort mentions in a footnote that the collector (Professor van der Horst) had obtained a further 51 specimens from the same locality. Ten of these specimens were sent to the Smith Institute, and consist of six *Apodocreedia vanderhorsti*, three *Kraemeria samoensis* and one *Gonorynchus gonorynchus*.

The present specimens differ in certain respects from the type description. Almost all have small clusters of vomerine teeth on the posterior part of the lateral heads of the vomer, and a number of them (particularly those from Inhaca) have a few teeth on the palatine. The anterior fleshy projection on the premaxilla points directly anteriorly, and not ventrally as in de Beaufort's figure. The statement by de Beaufort on the lower jaw teeth appears to be in error. He says that there are '. . . 13–20 slender, pointed, somewhat curved teeth'. The lower jaw teeth in my specimens are very similar to the upper jaw teeth; there are approximately 30 of them, arranged posteriorly in two ill-defined rows. It appears that de Beaufort mistook the labial cirri (of which there are 15–19) for teeth (Figure 1). The cirri certainly fit his description of the lower jaw teeth far better than the teeth themselves.

I find slightly different meristic values from those he records, and somewhat less variation

in my 19 specimens that he found in his three: dorsal rays 36–40 (mean 37,5) where he records 33–38; anal rays 32–35 (mean 33,1) where he gives 29–31; pectoral rays 12–13 (mean 12,5) where he finds 12; and 56–58 lateral line scales (mean 56,7) as opposed to 57–61 in de Beaufort's account.

Range extension for the species (previously recorded only from the type locality, Inhaca) is about 445 km south.

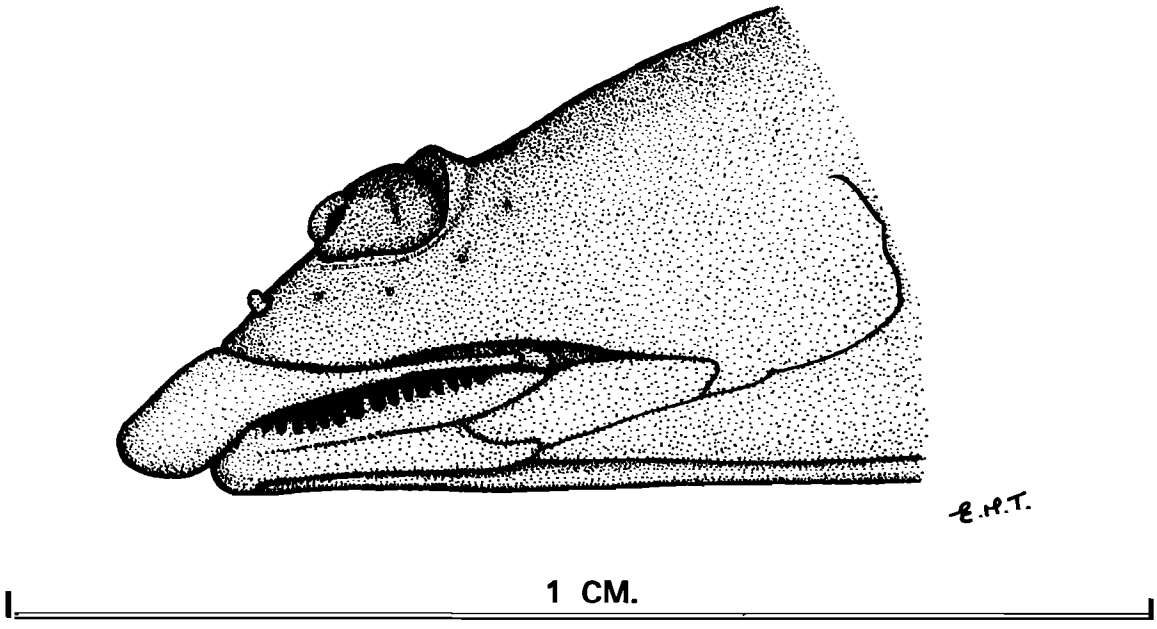

FIGURE 1

Apodocreedia vanderhorsti: RUSI 74–349, 59,3 mm SL.

Left lateral view (from slightly ventrally) of anterior head region to show labial cirri.

LIMNICHTHYIDAE

Limnichthys nitidus Smith, 1958

Material: RUSI 74–70, 1 (30,9 mm SL). Ballito Bay, Natal
RUSI 74–349, 40 (22,0–30,7 mm SL), Sheffield Beach, Natal
RUSI 74–354, 1 (24,3 mm SL), Sheffield Beach, Natal

RUSI 74–356, 28 (23,7–29,8 mm SL), Chaka's Rock, Natal
(All about 29°30′S)

A pooled sample of five specimens from each of RUSI 74–349 and 74–356 gives the following counts (the mean is given in parentheses): D22–24 (23,2); A26–27 (26,2); P12–13 (12,6); L1 39–41 (39,8). These values are slightly higher than those given by Smith (1958), but do not appear to be significant. Previously only recorded as far south as Bazaruto (21°30′S), the present specimens extend the range of the species some 798 km south.

LABRIDAE

Coris africana Smith, 1957

Material: extant aquarium specimen, collected at Coffee Bay, Transkei (32°S), January 1975. Present size: ± 60 mm SL.

Easily recognizable from its colour pattern, the species has not previously been recorded south of Durban (30°S).

Stethojulis albovittata (Bonnaterre, 1788)

Material: RUSI 74–356, 1 (95 mm SL), Chaka's Rocks, Natal (29°30′S).

Identified using the key in Randall & Kay (1974), this species has been recorded previously as far south as Delagoa Bay, Moçambique (26°S). The present record extends the range about 445 km south. The Institute also possesses an uncatalogued 80 mm specimen from Xora (32°10′S) in the *axillaris* colour phase.

POMACENTRIDAE

Abudefduf notatus (Day, 1869)

Material: RUSI 74–333, 3 (46,6–56,8 mm SL). Tshani, Transkei
RUSI 74–339, 1 (35,0 mm SL), Coffee Bay, Transkei
RUSI 74–344, 2 (33,6–58,4 mm SL), Preslies Bay, Transkei.

The above specimens agree with Smith's description (1960b), and are diagnosed by three scales between the end of the lateral line and the base of the dorsal fin, scalation on the head extending to the nostrils, and scales on the lower limb of the preopercle. The species proved rather common in the Sheffield Beach area just north of Durban, where adults were observed feeding in the water column with *A. cingulum* in depths down to 3 m (no deeper dives were made). The Transkei

specimens are juveniles, but observations suggest that they are relatively common. Live coloration differs from that given in Smith 1960b: 332), both juveniles and adults being slate-grey, with yellow fins and narrow light bars. The bar between the base of the eighth dorsal spine and the vent is most prominent, being about one scale wide.

Previously recorded in deeper water from Inhaca northwards, the present specimens represent a southward range extension of about 668 km.

Abudefduf sexfasciatus (Lacépède, 1802)

No specimen of this species has been taken from Coffee Bay, Transkei (32°S) but it has been observed in gullies there during January 1975. In May 1975 a large number of juveniles (*ca.* 4 cm SL) were seen feeding in the water column together with similarly sized *A. saxatilis*. Identification was based on the barred pattern and the dark margins to the caudal fin lobes. Previously recorded from Durban northwards (Smith 1960: 332).

Abudefduf sparoides (Cuvier in Cuv. & Val., 1830)

Material: RUSI 74–345, 1 (45,9 mm SL), Preslies Bay, Transkei (31°50′S).

An unmistakable species, agreeing well with Smith's (1960b: 335) description. Previously known from Durban northwards, a range extension of about 204 km. Another specimen observed (but not captured) in a tide pool 3 km south of Port St John's (31°35′S). In addition, there is an uncatalogued specimen from Xora (32°10′S).

BLENNIIDAE

Entomacrodus striatus (Quoy & Gaimard, 1836)

Material: RUSI 74–356, 1 (66,0 mm SL), Chaka's Rock, Natal (29°30′S).

The specimen agrees relatively well with Smith's (1959b: 241) description. I find DXII 14, AII 16, P14, V I 4, 20 gill rakers (of which three have bispinnate tips). The colour pattern agrees with Smith's (1959b: Plate 14C) figure. Previously found from Inhaca Island north (26°10′S), the present record representing a southern range extension of about 390 km.

Istiblennius gibbifrons insolitus Smith 1959

Material: RUSI 74–352, 1 (90 mm SL), Sordwana Bay, Kwazulu (27°30′S).

The above specimen agrees with Smith's description (1959b: 242) and the type specimens. Previously reported as far south as Inhambane (24°S), the Sordwana specimen extends the range some 390 km southward.

GOBIIDAE

Gobius acutipennis Valenciennes in Cuv. & Val. 1837

Material: RUSI 74–335, 11 (30,2–44,5), Coffee Bay, Transkei
RUSI 74–341, 2 (49,0–53,9 mm SL), Umtata River, Transkei
RUSI 74–342, 5 (17,1–35,8 mm SL), Umtata River, Transkei
RUSI 263, 1 (43,8 mm SL), Kei River Mouth, Transkei. Holotype of *Gobius keiensis* Smith, 1938

I find that the holotype of *G. keiensis* has the following meristic values which differ from those given by Smith (1938: 319; 1960a: 301 – original values in parentheses): dorsal VI + I 11 (VI + I 12); anal I 11 (I 12), pectoral 21 (19) and gill rakers 3 + 4 (1 + 9). This latter character is of considerable interest. Ventrally, the medial (oral) gill rakers of the first gill arch tend to cross over the anterior face of the arch to a more lateral position. Two or three relatively large flap-like triangular appendages (possibly derived from gill rakers) are found at the base of the first arch (these have not been included in the above counts). The lateral (branchial chamber) face of the first ceratobranchial bears four gill rakers, largely fleshy, which increase in size dorsally. Smaller specimens have three fleshy gill rakers on the first epibranchial, the medial two of which appear to unite to form a fleshy, anteriorly projecting ridge in the largest two specimens.

Measurements made from the anterior tip of the lower jaw to posterior end of the maxilla fluctuate greatly, apparently depending on such variables as whether the premaxillae are protruded, whether the palatoquadrate arch is abducted, whether the hyoid arch is abducted, etc. Thus, I have some specimens where the tip of the maxilla lies in front of the eye, others where it lies behind the eye. In five specimens from two populations (RUSI 74–342 and 74–335), the following variation in morphometrics was found (with holotype of *G. keiensis* in parentheses): snout tip to posterior maxilla in head length 1,7–1,9 (1,75); length of ventral fins in standard length 4,0–4,5 (4,4); head length in standard length 3,2–3,5 (3,2). I find the second dorsal spine slightly shorter than the fourth (third spine broken) in the holotype of *G. keiensis* with values of 10,3 mm and 10,4 respectively.

From the above evidence it appears to me that *G. keiensis* Smith, 1938, is a junior synonym of *G. acutipennis*, a view supported by the collection near the type locality of the former of an additional 18 specimens of *G. acutipennis*. Hill (1966) has reported *G. acutipennis* to be fairly common in the Umlalazi estuary, Zululand (about 29°S). The furthest south the species has been taken is the Kei River specimen (about 33°S), a range extension of 445 km.

Kraemeria samoensis Steindachner, 1906

Material: RUSI 3732, 3 (27,2–29,5 SL), Inhaca Island, Moçambique (26°S).

The three specimens were found among a collection of 10 supposed *Apodocreedia vanderhorsti* (q.v.) sent to Professor Smith by Professor van der Horst. They are typical representatives

of their species (Smith 1959a; Jones & Kumaran 1967), and represent the first report from mainland Africa. Previously recorded from the Seychelles (5°S), India, Samoa and the Marshall Islands, these specimens represent a southward range extension of 2 226 km and 2 412 km west.

Quisquilius eugenius Jordan & Evermann, 1902

Material: RUSI 74–333, 1 (35,3 mm SL), Tshani, Transkei (32°S)
RUSI 74–344, 1 (24,4 mm SL), Preslies Bay, Transkei (32°S).

Easily recognizable by its barred colour pattern, the species has been reported as far south as Inhaca (26°S) by Smith (1959a, 1960a). Range extension is 668 km south.

Taenioides jacksoni Smith, 1943

Material: RUSI 74–341, 1 (23,6 mm SL), Umtata River, Transkei
RUSI 177, 1 (67,1 mm SL), St Lucia estuary, Natal (28°S). Holotype.
RUSI uncatalogued, 1 (67,8 mm SL). No data.

The dorsal fin count in the original (Smith 1943: 71) and subsequent (Smith 1959a: 221, 1961: 330) descriptions (D 33–34) appears to be in error – I find VI 32, VI 32 and VI 31 respectively for the above specimens. The anal fin count varies from I 28 – I 29, and the pectoral fin has 16–17 rays. Vertebrae 26 (including ural centrum). Previously recorded only from St Lucia, this new record extends the range of the species 445 km south.

ACANTHURIDAE

Acanthurus nigrofuscus (Forsskål, 1775)

Material: RUSI 74–329, 2 (59,3–59,4 mm SL), Coffee Bay, Transkei.

The only previous description of this species from Southern African waters is that of Barnard (1927: 778), based on a single specimen from Natal (as *Teuthis elongatus*). His description of the black spots at the bases of the last few rays of the dorsal and anal fins, the black margin to the sheath of the caudal spine, and the thin white border of the lunate caudal fin leave little doubt as to the identity of his specimen. Apart from the East Indies and the Pacific, Randall (1956) records this species from the Red Sea and Mauritius. The above specimens thus represent a minimum of 111 km range extension south, and the first record of the species in South African waters for nearly 50 years.

BOTHIDAE

Bothus pantherinus (Rüppell, 1828)

Material: RUSI 74–328, 2 (31,6–32,7 mm SL), Bushmans River, Eastern Cape (33°42'S)
RUSI 74–337, 1 (42,6 mm SL), Mapuzi, Transkei.

The species may be recognized by the 6–8 short gill rakers, narrow interorbital, lateral line scale count and mottled colour pattern with a dominant black spot beginning at about the 50th lateral line scale. It has previously been reported (Smith 1961) from Durban (30°S). The present records extend the range about 408 km south.

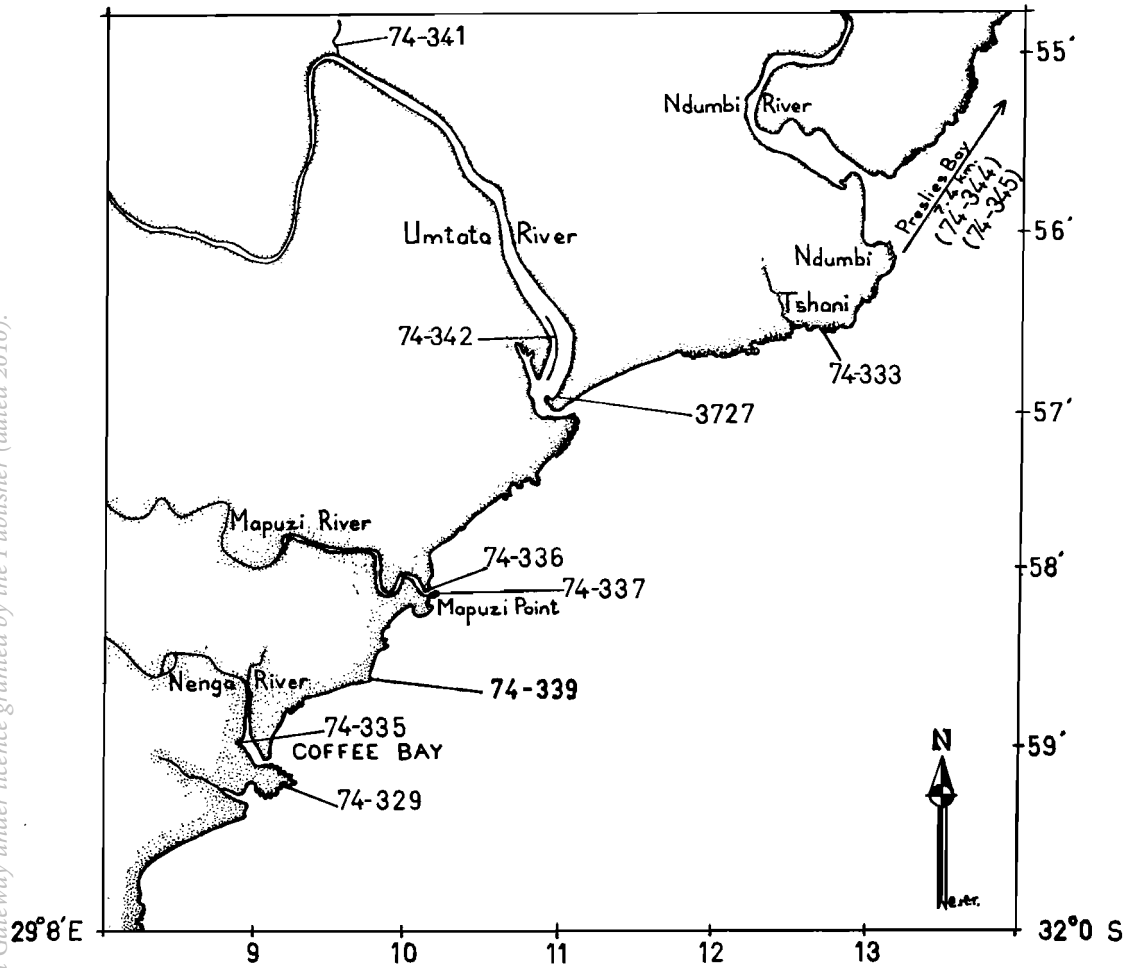

FIGURE 2

Map showing collecting stations in the Transkei. Numbers represent RUSI catalogue numbers.

TETRAODONTIDAE

Canthigaster amboinensis (Bleeker, 1864)

Material: RUSI 74–333, 1 (36,7 mm SL), Tshani, Transkei
RUSI 74–329, 1 (31,5 mm SL), Coffee Bay, Transkei.

The species is characterized by 11–12 dorsal fin rays, white (or pale blue) and smaller black spots on the body, and blue lines curving posterodorsally from the eye, some of which meet their opposites in the midline. The first and last specimen recorded from South African waters was described from Durban (= Port Natal) by Günther in 1870 (although specimens have been collected at Inhaca since that time). Range extension is about 223 km south.

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APPENDIX

Detailed information for catalogue numbers given in text. Depths given are maximum.

RUSI 177 *Taenioides jacksoni*, holotype. Mud burrow in St Lucia estuary, Natal. Coll: W. T. Jackson.

RUSI 263 *Gobius keiensis*, holotype, mouth of Great Kei River. Transkei. Coll: R. Heathcote.

RUSI 3727 *Stolephorus commersonii*, 1, east bank of Umtata River in bay behind rocky outcrop, mud bottom, depth 1 m, seine net. Coll: M. M. Ntloko, 1/8/74.

RUSI 3728 *Apodocreedia vanderhorsti*, 1, Porta da Oura, Moçambique. Coll: S. F. More, –/10/63.

RUSI 3729 *Apodocreedia vanderhorsti*, 2, in sand at low tide, Tongoland coast, Zululand (Kwazulu). Coll: O. Bourguin, 1965.

RUSI 3730 *Apodocreedia vanderhorsti*, 6, in sand at low tide, Inhaca Island, Moçambique. Coll: Professor van der Horst.

RUSI 3732 *Kraemeria samoensis*, 3, in sand at low tide, Inhaca Island, Moçambique. Coll: Professor van der Horst.

RUSI 3868 *Parapriacanthus guentheri*, 1, off Kenya (2°37′03″S/40°40′09″E), from mouth of *Epinephelus undulosus*, taken by hook and line, 36,5 m. Coll: J. F. C. Morgans, 17/4/59.

RUSI 74–70 Tide-pool with zoanthids, rock and sand bottom, depth 75 cm, rotenone, Ballito Bay (between Clark Bay and Lucky Dip), Natal. Coll: T. H. Fraser & family, 10/8/70.

RUSI 74–314 Rocks about 200 m upstream from mouth, mud bottom, rotenone, Mansfield Creek, Kowie River, Eastern Cape. Coll: T. H. Fraser & B. Truter, 9/3/72.

RUSI 74–328 East bank of estuary, between car park and mouth, sand and mud bottom, depth 2 m, up to 10 m from shore, short seine (1 cm stretch mesh), Bushman's River, Eastern Cape (34°41′32″S/26°40′04″E). Coll: R. Winterbottom, R. E. Stobbs, A. Bok, 9/5/74.

RUSI 74–329 Gully (4 × 16 m) perpendicular to shore line, rock and sand bottom with some algae, depth 1,8 m, rotenone, south-west side of Coffee Bay, Transkei (31°59′49″/29°09′14″E). Coll: R. Winterbottom, R. E. Stobbs, 6/8/74.

RUSI 74–333 Mid to upper tidal pools on rocks 400 m east of holiday camp, rock and pebble bottom with red algae and zoanthids, depth 1 m, rotenone, Tshani, Transkei. Coll: R. Winterbottom & R. E. Stobbs, 7/8/74.

RUSI 74–335 Blind ending bayou on west bank, 400 m from mouth, mud and stone bottom, depth 1,3 m, four hauls with 5 mm stretch mesh seine, Nenga River, Coffee Bay, Transkei: Coll: R. Winterbottom & R. E. Stobbs, 7/8/74.

RUSI 74–336 Pool between sea and first bend in river, sand and stone bottom, depth 2 m, rotenone, Mapuzi River Mouth, Transkei. Coll: R. Winterbottom, R. E. Stobbs, J. van Tonder, 8/8/74.

RUSI 74–337 Rock pools on south-eastern arm of river, rock and sand bottom with much algae, depth 0,8 m, rotenone, Mapuzi, Transkei. Coll: R. Winterbottom, R. E. Stobbs, J. van Tonder 8/8/74.

RUSI 74–339 Rock pools on coast below golf course, bedrock and boulder bottom with much algae, depth 0,6 m, rotenone, Coffee Bay, Transkei. Coll: R. Winterbottom, R. E. Stobbs, J. van Tonder, 10/8/74.

RUSI 74–341 Reed-margined creek on east bank about 5 km above river mouth, mud and pebble bottom, depth 0,8 m, rotenone, Umtata River, Transkei. Coll: R. Winterbottom, R. E. Stobbs, J. van Tonder, 11/8/74.

RUSI 74–342 Within 1,4 km of mouth, mud bottom, small bottom trawl, Umtata River, Transkei. Coll: R. Winterbottom, R. E. Stobbs, J. van Tonder, 11/8/74.

RUSI 74–344 Pools along rocky foreshore to east of bay, rock and sand bottom, depth 60 cm, rotenone, Preslies Bay, Transkei. Coll: R. Winterbottom & R. E. Stobbs, 12/8/74.

RUSI 74–345 Gully along rocky foreshore to east of bay, rock and sand bottom, depth 1,2 m, rotenone, Preslies Bay, Transkei. Coll: R. Winterbottom & R. E. Stobbs, 12/8/74.

RUSI 74–349 Gully parallel to shore, about 2,5 km north of Salt Rock Hotel tidal swimming pool, rock and sand bottom with much algae, depth 3 m, rotenone, Sheffield Beach, Natal. Coll: R. Winterbottom & R. E. Stobbs, 4/9/74.

RUSI 74–352 Beachrock cave on inner reef to north of headland and 60 m south of small stream passing main gate, rock and sand bottom with some algae, depth 3 m, rotenone, Sordwana Bay Nature Reserve, Natal. Coll: R. Winterbottom, 10/9/74.

RUSI 74–354 Gullies parallel to shore, about 2,6 km north of Salt Rock Hotel tidal swimming pool, rock and sand bottom with moderate algae, depth 4 m, rotenone, Sheffield Beach, Natal. Coll: R. Winterbottom & R. E. Stobbs, 5/9/74.

RUSI 74–356 Gullies 100 m south of commercial tidal swimming pool to south of municipality, rock and sand bottom with moderate algae, depth 1,2 m, rotenone, Chaka's Rock, Natal. Coll: R. Winterbottom & R. E. Stobbs, 6/9/74.