

SHORT NOTE

First confirmed record of
Lithognathus lithognathus
sympatric with *L. aureti*
(Pisces: Sparidae)

M. J. Penrith
State Museum Windhoek

The South African whitesteenbras *Lithognathus lithognathus* (Cuvier in Cuvier & Valenciennes 1830) has been recorded from the South West African coast on several occasions in the past, but in all cases these records could confidently be referred to the west coast steenbras *L. aureti* Smith. (Smith, 1962; Penrith and Penrith, 1969), and no confirmed records of *L. lithognathus* from coastal or estuarine waters north of the Orange River mouth have been published. The record from the estuary of the Orange River reported by Penrith and Penrith (1969) was believed to be a stray. A recent publication, apparently a random list of marine animals from Sandvishawe (Stuart 1975) lists *Lithognathus (lithognathus)* (Cuvier). It is uncertain what the author intended to convey from this notation, but since *L. aureti* is not listed, it is presumed that *L. aureti* is intended.

During recent biological fieldwork in Sandvishawe (more widely known by its old name of Sandwich Harbour) a single example of *Lithognathus* clearly different from *L. aureti* was obtained.

Sandvishawe is a shallow, up to 15 metres deep, embayment separated from the sea by a sand bar which is usually breached by a narrow mouth at all states of the tide, and situated approximately 23° 20'—25' S; 14°31' E, some 50 kilometres south of Walvis Bay.

The fish (Cat. no. SMP 1445) was taken in a gillnet set in 2 metres of water for 15 minutes at sunset on the 11/9/1974. It was taken, together with four examples of *L. aureti* and five *Lichia amia*. Standard length is 358 mm, maximum body depth 129 mm, caudalpeduncle depth 41 mm, and head length 115 mm. The body depth of 2,8 in standard length, and peduncle depth 3,5 in head length, together with 48 lateral line scales, 11 dorsal spines, 10 dorsal rays, 8 anal rays and head shape especially the mouth and lips clearly identify this fish as *Lithognathus lithognathus* and distinguish it from all others in the genus viz *L. aureti*, the more northern occurring *L. oliveri* and the widespread *L. mormyrus*.

The origin of this isolated record is uncertain. The cold water along the coast of south western Africa is largely due to wind induced upwelling. This system can break down for short periods. During periods when the inshore water is warmer than normal Cape species can move northward. With onset of cold water conditions they could be trapped in bays and other areas subject to solar warming. Water temperatures in Sandvishawe, Walvis Bay lagoon and Luderitz lagoon are usually 3—5° C above sea temperatures on the open coast. In certain cases this has resulted in permanent or semi-permanent populations becoming established outside their normal range, *Blennioclinus brachycephalus* in Luderitz (Penrith 1970), *Lichia amia* and *Mugil cephalus* in Sandvis. The single record of *L. lithognathus*, however, suggests a chance migrant. The coldest water on the west coast lies between Port Nolloth and Luderitz (Isaac, 1937). There are now two records of *L. lithognathus* from the west coast, one from within the maximum upwelling area (Orange River mouth) and the present example that had crossed the area to the warmer water in the

region of Walvis Bay (16–18° C in summer) (Stander, 1969). Local anglers report that during periods of warm water in the Walvis Bay region steenbras with pointed snouts are taken together with *Carcharhinus brachyurus* (J. Simpson pers. comm.). It is probable that these steenbras are *L. lithognathus*.

With the ability to cross the minimum temperature zone, *L. lithognathus*, which, on the east coast of Africa extends to subtropical conditions and is adapted to sandy conditions, could occur anywhere on the west African coast as an isolated individual. For this reason it should be noted that the figure labeled *L. aureti* in Blache, Cadenat and Stauch (1970: 331 fig. 854) is clearly *L. lithognathus* and not *L. aureti*. *L. aureti* is figured by Smith (1962) and Penrith and Penrith (1969).

The biological study of Sandvishawe is a joint study being undertaken by the Department of Nature Conservation and Tourism; the State Museum, Windhoek and the South African Museum, Cape Town. The assistance in the field of the other members of the field party is acknowledged.

This paper is published by permission of the Secretary of National Education.

REFERENCES

- BLACHE, J., CADENAT, J. & STAUCH, A.
1970 Clés de détermination des poissons dans l'Atlantique oriental. *Fauna Trop.* 18: 1–979. Orstom Paris.
- ISAAC, W. E.
1957 South African coastal waters in relation to ocean currents. *Geogr. Rev.* 27: 651–664.
- PENRITH, M. J. & PENRITH, M.-L.
1969 A new species of *Lithognathus* (Pisces: Sparidae) from the northern coast of South West Africa. *Cimbebasia* A 1: 99–111.
- PENRITH, M.-L.
1970 The distribution of the fishes of the family Clinidae in Southern Africa. *Ann. S. Afr. Mus.* 55: 135–150.
- SMITH, J. L. B.
1962 The sparid genus *Lithognathus* Swainson 1859 with description of an interesting new species. *S. Afr. J. Sci.* 58: 109–114.
- STANDER, G. H.
1964 The pilchard of South West Africa (*Sardinops ocellata*). The Benguella current off South West Africa. *Invest. Rep. mar. Res. Lab. S.W. Afr.* 12: 1–45.
- STUART, C. T.
1975 Marine fauna collected at Sandwich Harbour, Namib Desert Park, South West Africa. *Madoqua* Ser. 2 4: 101–102.