basis of osteological characters. Tandy & Keith (1972) place this species in the *B. latifrons* complex on the basis of morphological features. Although the mating call is basically similar to that of other members of the '*regularis* group', its behaviour while calling is certainly very different and may perhaps support its exclusion from the '*regularis* group'.

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PANOPEA GLYCYMERIS (MOLLUSCA, PELECYPODA) IN THE SOUTH AFRICAN FAUNAL PROVINCE

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Panopea glycymeris (Born) (Family Hiatellidae) is a large bivalve mollusc with an interesting history. In life, the two valves of the shell gape anteriorly and posteriorly to allow the body of the animal and especially the siphons to protrude. The animal lies buried in sand or mud to a depth of one to two metres, with the posterior end uppermost, in a depth of water varying from low water of springs to several metres. The species is known to live from the Mediterranean and Atlantic coast of Portugal to North-west and West Africa as far as Baia dos Tigres in Angola (Kensley 1974). From its range, this is obviously a warm-temperate species, and is also known as a Pleistocene fossil from Port Elizabeth, Klein Brak River, and Velddrif in the Cape. Tankard (1975) dealing with thermally anomalous Quarternary molluscs from the Cape, regards *P. glycymeris* as an important constituent of the west coast estuarine-lagoonal facies, living in a water depth of more than five metres.

During March 1976, I accompanied an expedition to Meob Bay (approx. 24°30′S/14°30′E), a slight embayment on the coast of South West Africa, within Diamond Area no. 2, and found large numbers of valves of *P. glycymeris* littering the high water region of the beach. The shells were found along a 10 km stretch of beach south of Black Rock, a dolorite and granite outcrop which forms the southern end of Meob Bay. The majority of the shells were broken, which was not surprising considering the strong wave action of the area. Nevertheless, at least 30 complete valves were found on less than one kilometre of beach. These ranged in length

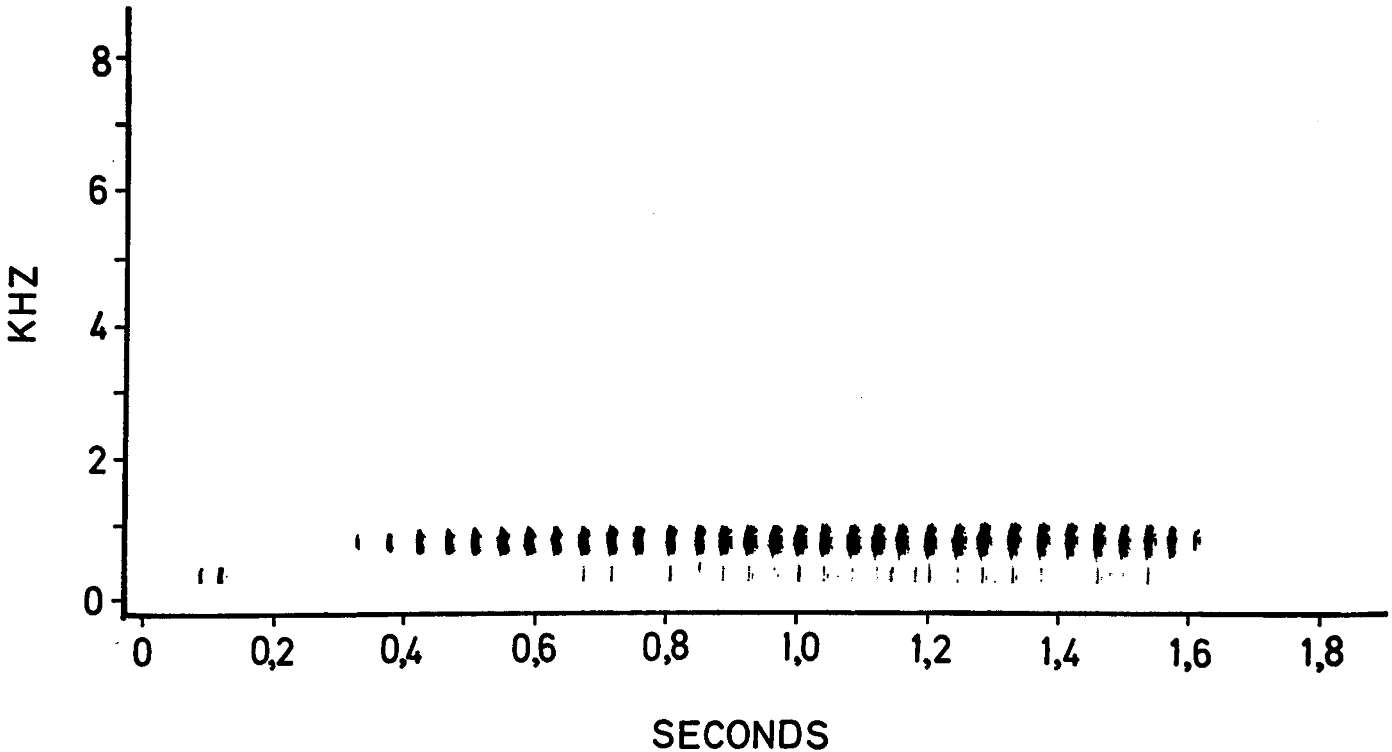

FIGURE 1

Sonagram of the mating call of *Bufo pardalis* recorded at Kei Road, Cape, 15 August 1971, 11h00, air temperature 15,0°C. (Wide band portrayal – 300 Hz filter).

DIURNAL ACTIVITY OF THE FOUR-STRIPED MOUSE, RHABDOMYS PUMILIO

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Little is known about the behaviour and ecology of *Rhabdomys pumilio* Sparrman, a murid rodent with a wide geographical distribution in Africa that extends into the Namib Desert (Coetzee 1969). Walker (1968) and Smithers (1971) report this rodent to be primarily diurnal in activity; the latter author noted occasional nocturnal activity with a tendency toward crepuscularity. Under laboratory conditions, Choate (1972) found *R. pumilio* active mainly during midday with some extension of activity into an artificial night. This paper presents additional data on the activity of *R. pumilio* in the field during the cool months of the year.

Daily activity was examined by comparing changes in the rate of capture in live traps over the 24-hour day. The study was conducted on the farm Aandster (25°23′S/16°04′E, Maltahöhe District) on the edge of the Namib Desert in South West Africa on two occasions (22–25 July and 28 September – 1 October 1974). Live-trapping was done continuously for three days and nights on each occasion, with traps being checked every 2–3 hours between dawn and dark. Because traps were not checked between nightfall and dawn, only the sum-total of nocturnal activity was obtained; this procedure seemed appropriate because the rate of capture at night was very low. Fifty Sherman live traps (23 × 9 × 7,5 cm) were placed 7–8 m apart in seven rows (6–8 m apart) of 6–8 traps each in an irrigated field. This field was planted with lucerne, which provided dense and uniform cover 30–45 cm high. Traps were shaded with cardboard covers and kept continuously baited with a mixture of peanut butter and rolled oats. At first capture, each mouse was marked with a toe-clipped number.

Temperatures in the shade 1 m above ground level were recorded with a Yellow Springs Instrument Telethermometer at the beginning and end of each trap check. Maximum daily temperatures recorded for the three days in July were 24, 20, and 26°C; minimum observed temperatures were 8, 12, and 14°C. In September, these respective temperatures were 33, 33, and 24°C maximum and 16, 21, and 5°C minimum. The moon was slightly less than one quarter full during July trapping and almost full at the end of September. No appreciable cloud cover existed during any phase of the study.

The hourly rate of capture of *R. pumilio* in each trapping span (from the end of one trap check to the beginning of the next) was computed by dividing the number of captures during that time by the length of the span (in hours). The rate of capture obtained in this manner was presumed to apply to all parts of the trapping span, and each hour of the day was thus assigned a rate of capture. When a given hour included two trapping spans, the average capture rate for the two trapping spans was assigned to that hour. For each month, three-day mean capture rates were computed for each hour of the day.

In July, 156 captures were made on 42 individual *R. pumilio* (18♂, 24♀); in September, 190 captures on 51 individuals (27♂, 24♀) were made. Only 18 captures of the total (5 per cent) were made at night. Three-day mean capture rates (animals per hour) in July were 0,3 at night, 1,6 for the first hour after dawn, and 4,8–6,8 during the remaining daylight hours. In September, the mean night-time capture rate was 0,2 per hour, compared with 3,5 for the first hour after dawn, 5,1–6,9 until three hours before dark, and 1,6–2,9 from then until dark. An approximate t-test (Sokal & Rohlf 1969: 376) was used to from 122 to 254 mm. On closer examination it was found that several valves possessed remnants of the hinge cartilage in the ligamental pit. Bearing in mind the solidity and weight of the shel's it is unlikely that they had travelled any distance up the coast under the influence of the northward-moving inshore current. It was further noted that those shells still carrying some ligamental material were coloured a variable slate-grey, especially externally, while the majority of shells were creamy-white. Shells of the bivalve *Lutraria lutraria* removed alive from the substrate are a similar slate-grey while dead shells bleach white quite rapidly. It is suggested that this grey colouration is due to staining from the black anaerobic sand/mud in which these bivalves live, and that the presence of colour in shells washed ashore indicates that these specimens had but recently died. From these observations it was concluded that there is a relatively large population of *Panopea* living in the immediate vicinity of Meob Bay. In Kensley (1974) I noted a record of a shell from Meob Bay from the State Museum, Windhoek, but as the specimen was not seen, the record was regarded as dubious.

As already noted, the wave action at this particular locality is very strong. Visual searching and digging from the lowtide mark to as far as the waves would allow revealed no sign of *Panopea*, and it is assumed that the population is situated either within the region of the farthest breakers or beyond.

It is of interest to note that old shell middens (presumably of Hottentot people) at Conception Bay some 80 kilometres north of Meob Bay contained occasional *Panopea* shells. Whether these were collected for food-value (unlikely, considering the almost inaccessible habitat) or for utensil value, is a matter for archaeological speculation.

The presence of *Panopea* at Meob Bay, *i.e.* within the South African faunal region as defined by Barnard (1925, 1950) adds to the faunal list its largest (in terms of mass) marine mollusc, and extends the range of the species southward by more than 800 kilometres. It is unlikely that this range is continuous, as I have seen almost all the coastline from Meob to several kilometres north of the Kunene River mouth, and have never found even isolated *Panopea* shells, let alone concentrated banks. The presence of this isolated relic population can perhaps be explained by reference to the sea temperatures (supplied by Dr D. Cram of the Division of Sea Fisheries). The temperature in the Meob area is known to range from 9,5°C to 19,5°C. This latter relatively high temperature may represent a localized pocket of warm water, but is nevertheless within the range of the living species in the Mediterranean and West Africa (Kensley 1974: 211). D. Cram (*in litt.*) suggests that larvae overdue for metamorphosis might have found a warm-water patch, settled, but might be unable to reproduce due to the generally low temperatures. This could explain why the species appears to be confined to this area and does not occur further north, *e.g.* at Sandwich Harbour where similar or higher temperatures are known.

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