*H. albigularis* during 1500–1800 hrs and between 0830–0930 hrs on the following day. Table 1 summarizes the relevant data. No bird was recorded more than once per minute.

All three pairs of birds were feeding large young at the time. In neither series of observations were the flights display flights. All involved either feeding flights, flights to a waterhole or away from a source of disturbance. We believe that under certain conditions of high ambient temperature, high incident radiation and intense activity (flying), birds become heat-stressed to the point where normally employed heat-dissipating mechanisms become overloaded. The extension of legs into the slip stream, while creating extra drag, appears to facilitate the unloading of, at least, part of this heat-load. It seems unlikely that the birds deliberately undertook flights to increase convective cooling through increased air flow over the whole body surface, as has been reported by Marder (1973) for the brown-necked raven *Corvus corax*.

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# THE CUTICULAR LAYER OF THE SKIN OF CERTAIN CYPRINIDAE

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It is well known that some fish are sensitive to rough handling and that when part of the mucous covering the skin, including scales if the fish has scales, is removed accidentally the fish usually die, especially when kept in confinement (see van Oosten 1957 for review). According to Whitear (1970) the cuticular layer in bony fish has a dual origin; one part is secreted from the surface epidermal cells and the other from the goblet mucous cells which spread over the skin. The two components are not histologically disguishable and the cuticle is a homogeneous mucous layer containing mucopolysaccharides, albumin, lipids, various ions and *n*-acetyl neuraminic acid (Pickering 1974; van Oosten 1957). The functions assigned to this layer include the lessening of body friction in water, mud coagulation properties, lubricating properties, osmotic regulating effects, nutrition and the protection from attack by bacteria and fungi (van Oosten 1957). In the latter instance it is not clear exactly how the mucous layer protects the animal and the possibility had to be considered that the cuticle may have an antimicrobial or such like function.

The animals used in this study were all freshwater teleosts of the family Cyprinidae. Mudfish (*Labeo umbratus* and *Labeo capensis*), yellowfish (*Barbus holubi*) and carp (*Cyprinus carpio*) were used. In the first instance the normal flora occurring in the mucous layer of these fish was investigated and compared to that of water. On difco deoxycholate agar and phenylethyl alcohol agar it was found that mucus supports a broad spectrum of gram negative and positive bacteria, including lactose fermenting bacteria, seemingly in larger numbers than in water. This is not surprising considering the composition of mucus. No antibiotic or bacteriostatic effects were observed.

In the second place, an unidentified zygomycetous fungus was isolated from lake water and inoculated onto Difco 1½% malt extract agar plates. Mucus and scales from all four fish species were subsequently placed in the petri dishes and in this case also the mucus supported a rich growth of fungi. No mycostatic or mycocidal effects could be observed.

The general opinion is that when a fish with scales is roughly or inexpertly handled, scales and part of the mucous layer are removed. Fungi (especially *Saprolegnia*) grow on the exposed skin surface, penetrate the skin and the fish then dies from secondary bacterial infection (Mulder – personal communication). From the present results it is clear that mucus from the four investigated species definitely does not have any antibiotic function and, therefore, does not protect the animal in this manner. It seems more probable that the rate of mucus production is critical in protecting the fish from colonization by parasites, fungi and bacteria (Pickering 1974). The continuous replacement of the mucus probably acts in much the same way as the sloughing off of keratin in the mammal. Nothing is known about the actual rate of mucus production in fish. It is, however, possible that the stress of capture and actual handling of the fish may cause goblet cell discharge and this in turn can cause the cuticle to be thrown off (Whitear 1970). Colonization by fungi would then be easier and secondary bacterial or other infections would follow.

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# NOTES ON AN EFFICIENT CAT TRAP FITTED WITH A REMOTE SIGNALLING DEVICE

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ABSTRACT

Difficulties in collecting feral cats under adverse climatic conditions on Marion Island, prompted construction of live traps fitted with 27 mHz transmitters signalling trap release. Construction and application of the apparatus is described and discussed.

### INTRODUCTION

In August 1973, the Mammal Research Institute, University of Pretoria, established a mammal research programme on Marion Island (46°52′S/ 37°51′E) in the southern Indian Ocean. This programme included research on the status of the feral house cat (*Felis domesticus*). Because of the very elusive nature of these cats they were difficult to shoot, and it was necessary to construct a trap to capture them alive. This was successfully achieved using simple materials available on the island.

### DESIGN AND CONSTRUCTION

The traps have a frame of 2 cm diameter galvanized conduit piping covered with 2 cm mesh wire netting (Figure 1). A U-shaped aperture, 15 cm high and 17,5 cm wide, provides entry to the cage and access to the bait which is positioned at the other end of the trap. A sliding section, of the same dimensions as the end sections of the trap, forms the drop-door which seals the entrance once the trap has been sprung. The vertical side pieces of this door consist of 3 cm conduit which fit over two upright lengths of the 2 cm conduit. These two uprights are set approximately 2 cm ahead of the front section of the cage. They guide the drop-door as it falls freely to close off the