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ROCK KESTREL ATTACK ON A CAPE ROCKJUMPER CAUGHT IN A SPRING TRAP

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Spring traps (also referred to as small clap traps, snap traps or flap-traps) are a common bird trapping device basically consisting of a spring loaded frame covered in thin net that snaps shut over the target animal when the trigger mechanism is activated, much in the way a classic mouse trap would do, except it is non-lethal. They are commonly baited with meal-worms *Tenebrio molitor* or superworms *Zophobas morio*. They are a key tool for the capture of insectivorous birds for ringing or scientific research (e.g. Lee & Barnard 2013, Smit & McKechnie 2010). They can also be used for the capture of a wide range of birds during breeding seasons when insects feature heavily in chick diets, and examples of non-insectivorous birds captured at our study site at Blue Hill Nature Reserve, Western Cape, include Cape Bunting *Emberiza capensis*, Cape Bulbul *Pycnonotus capensis*, Yellow Bishop *Euplectes capensis* and Cape Francolin *Pternistis capensis*. They would also be useful for catching lizard species, as these are common bycatch, and have also been recorded to catch meerkat, and small mongoose species (Raijmakers, pers comm).

The Cape Rockjumper *Chaetops frenatus* is a terrestrial foraging species that prefers open habitat in mountain environments (Lee et al. 2015). They are facultative co-operative breeders living in small family groups (2-5) and found only in the Fynbos biome (Holmes et al. 2002). The use of mist-nets in their typical habitat are generally impractical, and during our studies we have relied heavily on spring traps. We have caught 44 adult birds and one juvenile

since initiating this project in 2013, representing the largest dataset of its kind. Birds are colour ringed and resighting rate is >80% suggesting little harmful effect from this capture technique. However, unmonitored traps can expose captured birds to a wide range of terrestrial predators, especially diurnal mongoose species or even snakes (Raijmakers, pers comm).

Generally, traps are placed on the ground or exposed rocks in such a way that they can be monitored from one observation point. Distance between traps varies, but a trap line is usually 10 traps at about 10-20m intervals. Trap locations are marked with ribbon on a nearby bush, to aid finding and retrieving traps. Traps are generally serviced around once an hour in order to refresh mealworms or move traps where ants have found the bait; this is especially a problem in warmer weather. This is important because ants will also attack any captured bird.

Here we report on an attack by a Rock Kestrel *Falco rupicolus* on a Cape Rockjumper that occurred around midday on 7 September 2015. A trap line had been laid out over suitable terrain in a known Cape Rockjumper territory on the Blue Hill Nature Reserve. It was monitored by two researchers. A pair of Cape Rockjumpers were observed foraging in the vicinity of the traps for approximately 30 minutes. A female Cape Rockjumper was then observed to take the bait in a trap and was captured. One observer relayed this information to other researchers on other trap lines in the vicinity by radio, while the second researcher maintained observations on the trap. Less than 10 seconds after the trap was activated, a Rock Kestrel landed on the Cape Rockjumper in the trap. The researchers immediately proceeded to run towards the trap, frightening off the Rock Kestrel. The Cape Rockjumper was alive, although it had lost many body feathers, probably due to shock moult. Shock moult or 'fright-moult' involves the loss of feathers from the rump, back and breast in birds and is thought to be a response for evading capture, since the rump is often the closest part of the body to a pursuing predator, and the loss of these does not doom the individual (Møller et al. 2006).

An inspection of the bird revealed scratch wounds on the head, but no severe bleeding or other injuries. The bird was kept



over-night in a bird cage with meal worms and water for further monitoring, and released the next day, where she was observed to re-join her mate. The birds displayed and called, suggesting she was in an acceptable state of health.

The speed with which the attack occurred was a surprise, especially since the observers were unaware of the presence of the Rock Kestrel. We have undertaken hundreds of hours of close behavioural monitoring of Cape Rockjumpers. Cape Rockjumpers frequently alarm call at the appearance of Rock Kestrels. As the diet of Rock Kestrels are dominated by arthropods (Van Zyl 1994), we assumed that alarm calls were cases of mistaken identity for other birds of prey known to prefer small birds as prey e.g. Rufous-breasted Sparrowhawk *Accipiter rufiventris* or Peregrine falcon *Falco peregrinus*, although Rock Kestrels have been recorded to take bird prey items up to the size of a Rock Dove *Columba livia* (Hockey et al. 2005). At around 55g, a Cape Rockjumper is over a third the weight of a Rock Kestrel (160g). No attack on free ranging birds has been observed during our observations, although Rock Kestrels are commonly observed. When the Cape Rockjumper was captured, it alarm called, and the male bird responded with calls and agitated movement. It is possible that this alerted the raptor to the vulnerability of the bird in the trap and it thus made an opportunistic attack.

The take home message for bird ringers using this trapping technique is that constant vigilance of spring traps should be maintained in order to ensure bird safety for a technique that is especially likely to expose captured birds to harm if not quickly retrieved.

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