AN ANTARCTIC FULMAR *FULMARUS GLACIALOIDES* FEEDING ON LAND

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Of the 95 species of the seabird family Procellariidae (Jouanin & Mougin 1979) only the two giant petrels *Macronectes* spp. and the Snow Petrel *Pagodroma nivea* have been reported to feed on land. In this note, we add this previously unexpected technique to the repertoire of another, the Antarctic Fulmar *Fulmarus glacialoides*, one of the fulmarine petrels, a group of taxonomically related species exhibiting scavenging behaviour.

The feeding habit usually recorded for this group is "surface seizing" while floating or swimming (Harper *et al.* 1985). The two sibling species of giant petrels are predators and take carrion at sea or on land (Johnstone 1977, Hunter 1983) and the Snow Petrel is reported occasionally to feed on land on seal placentas (Mougin 1968). In contrast, the Antarctic Petrel *Thalassoica antarctica*, the Pintado Petrel *Daption capense* and the two fulmar species *Fulmarus* spp. are known to be opportunistic scavengers feeding exclusively at sea, sometimes on fish offal (Beck 1969, Furness & Todd 1984, Montague 1984).

The feeding behaviour of the Antarctic Fulmar has been described at four antarctic localities. It is mainly a krill eater in Adélie Land (Ridoux and Offredo 1988), a fish eater in the Prydz Bay region (Arnould & Whitehead 1991), whereas in the Ross and Weddell Seas, squid is the main prey (Ainley *et al.* 1984). During the breeding season in Adélie Land, Antarctic Fulmars have never been seen foraging along the coastline (Jouventin & Robin 1984). Mougin (1975) has emphasized the exclusive sea-feeding habits of this bird.

On 27 June 1990 an Antarctic Fulmar was observed feeding on land on a carcass of a Gentoo Penguin *Pygoscelis papua* near the base of Port-aux-francais, 15 km from the open sea in the large bay of the Morbihan Gulf, Iles Kerguelen. The bird was standing near the penguin on the full length of the tarsus with extended wings, and was accompanied by Northern Giant Petrels *Macronectes halli*. The two species used the same feeding technique, the point of entry to the carcase being the flippers.

Agonistic interactions took place around the carcase and, even though the Antarctic Fulmar was more timorous and sensitive to the displays of the giant petrels (see Hunter 1983), it was faster to take pieces of flesh and to move off to feed at sea. Before the bird settled again near the carrion it always executed many flights over the feeding site.

This behaviour of feeding on land has not been described for the Arctic Fulmar *F. glacialis* (Furness & Todd 1984), but Fisher (1952) reports a bird "landing at a carcase of bear or seal left on the ice" in Spitzbergen. In his interesting observations on behaviour of captive Arctic Fulmars, Kritzler (1948) describes captive birds feeding either from the water or while perched on feeding trays. This author thought that the behaviour was not due to learning and may exist in the wild if circumstances render it useful. The observation of an Antarctic Fulmar feeding on terrestrial prey corroborates this opinion.

Among the Procellariidae, the proclivity to feeding on land has only been established for some

fulmarine petrels. This may be due to the position of their feet not being set so far back as in the other members of the family (e.g. gadfly petrels *Pterodroma* spp. and shearwaters *Puffinus* spp.). The Antarctic Fulmar is considered to be the weakest of all the group on its feet (Marchant & Higgins 1990) and we therefore suggest that observers should watch for such a modification of feeding behaviour in the Arctic Fulmar, and in Antarctic and Pintado Petrels.

Vagrant Antarctic Fulmars are abundant at the end of the austral winter and in spring around Iles Kerguelen. A group of 1 035 moulting birds was observed in a fjord in November 1987 (Ausilio & Zotier 1989). Our observation of an Antarctic Fulmar feeding on land was made during an atmospheric depression. The influence of severe meteorological conditions on seabirds has often been discussed, and when mortality occurs, it seems related to the condition and health of birds when stormy weather strikes (Powlesland & Imber 1988). In such bad weather conditions, many species of petrels (notably Blue Petrels *Halobaena caerulea,* Whiteheaded Petrels *Pterodroma lessoni,* Whitechinned Petrels *Procellaria aequinoctialis* and Slenderbilled Prions *Pachyptila belcheri*) take refuge in the Morbihan Gulf, a more sheltered place than the open sea, though open to western winds. Then, great concentrations of these birds can be seen along the coastlines of the gulf (pers. obs.).

We suggest that the Antarctic Fulmar seen feeding ashore was exhausted and suffering from starvation, and may have therefore used this feeding habit, unusual for such a pelagic seabird.

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