

there is a sort of mutual-benefit-alliance between the penguins and the tussock. The millions of penguins sheltering and nesting amongst the grass saturate the soil on which it grows with the strongest manure, and the grass thus stimulated grows high and thick, and shelters the birds from wind, rain, and enemies, such as the predatory gulls.

On the beach were to be seen various groups of penguins, either coming from or going to the sea. There is only one species of penguin in the Tristan group; this is, *Eudyptes saltator*, or the "well diving jumper." The birds stand about a foot and a half high; they are covered, as are all penguins, with a thick coating of close set feathers, like the grebe's feathers that muffs are made of. They are slate grey on the back and head, snow white on the whole front, and from the sides of the head projects backwards on each side a tuft of sulphur yellow plumes. The tufts lie close to the head when the bird is swimming or diving, but they are erected when it is on shore, and seem then almost by their varied posture to be used in the expression of emotions, such as inquisitiveness and anger.

The bill of the penguin is bright red, and very strong and sharp at the point, as our legs testified before the day was over; the iris is also red. The penguin's iris is remarkably sensitive to light. When one of the birds was standing in our "work room" on board the ship with one side of its head turned towards the port, and the other away from the light, the pupil on the one side was contracted almost to a speck, whilst the other was widely dilated; Captain Carmichael observed the same fact.* The birds are subject to great variations in the amount of light they use for vision, since they feed at sea at night as well as in the day time.

It seems remarkable that there should be only one species of penguin at the Tristan da Cunha group, since in most localities several species occur together. It would have seemed probable that a species of "jackass" penguin (*Spheniscus*) should occur on the islands, since one species (*S. Magellanicus*), occurs at the Falkland Islands and Fuegia, and another (*S. demersus*), at the Cape of Good Hope, intermediate between which two points Tristan da Cunha lies. The connection between these two widely separated *Sphenisci* is wanting; it perhaps once existed at Tristan, and has perished.

Most of the droves of penguins made for one landing-place, where the beach surface was covered with a coating of dirt

* In the "Supplement to the British Museum Catalogue of Seals and Whales," p. 7, reference is made to a like peculiarity of the iris in the case of *Otariu jubata*.