



SPIRIT BEARS

You would think that an animal called the Black Bear would be black, but brown individuals are common and there is even a population of bears on the British Columbia coast in which pure white Black Bears are found. These coastal bears are considered a separate subspecies—the Kermode Bear—that was isolated from Interior bears for about two hundred thousand years while the coastal mountains were an impenetrable barrier of ice during the Pleistocene. The white bears are a recessive colour phase, somewhat like red-haired people; cubs from a black mother can be white and vice versa.

So most Kermode Bears are black, but on some of the larger coastal islands the proportion of white bears is quite high. About 20 to 30 per cent of the bears on 25-kilometre-long Gribbell Island, for instance, are white, while on 80-kilometre-long Princess Royal Island the ratio is about 10 per cent. On the adjacent mainland, only about 1 per cent of the bears are white.

White bears in a dark forest break one of the cardinal rules of ecology—Gloger's Rule—which states that animals living in humid environments tend to be darker in colour than their relatives found in drier habitats such as grasslands and deserts. How can these white bears persist in an

environment where they stand out like a polar bear in a coal pit?

The isolation of the island populations obviously helps the white form to persist, but there must be some advantage that white bears have over their black siblings that ensures the survival of this form. Dr. Tom Reimchen of the University of Victoria is studying these island bears, hoping to find out what this advantage might be. What special factors might be at work on these islands? There seem to be two obvious ones. First, coastal bears rely on the summer and fall salmon runs for much of their annual protein intake. And second, there are no Grizzly Bears on the islands.

Reimchen feels that salmon are the key to this puzzle. Because there are no Grizzly Bears on the islands, the Black Bears there can fish for salmon more freely than Black Bears on the mainland, so salmon are even more important to these bears. One of the possibilities Reimchen and his students are looking into is whether being white makes it easier for bears to catch salmon unawares. If white bears could indeed catch salmon more easily than black bears, that could explain the success of the white form on the islands. On the mainland, the white form is confronted with aggressive Grizzly Bears, and being white would almost certainly be a disadvantage in that case.