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BIRD LIFE ON A SEA VOLCANO

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Illustrated from photographs made on the U. S. S. *Albatross*, 1891.

THERE is no reason why pictures showing animal life in out of the way places should not be published by the Zoological Society, even if they do not relate directly to the work of the Zoological Park and the Aquarium.

The photographs of sea birds reproduced in this BULLETIN, have been brought to light because they deserve a better fate than to remain buried in a private photograph file. They were made by the writer and his assistants in 1891 while serving with the Fisheries Steamship *Albatross*.

Bogoslof Volcano in Bering Sea, where the photographs were made, has had a century-long struggle with the sea for its existence and is of alluring interest quite aside from its ornithological wonders. It rose from the sea on May 7, 1796, and its birth was accompanied by earthquake. Volcanic rocks were hurled as far as Umnak in the Aleutian Islands, thirty miles away. It has changed in height and form many times since then. In 1806, lava flowed from it into the sea. In 1888, its volcanic ashes fell on Unalaska Island forty miles away.

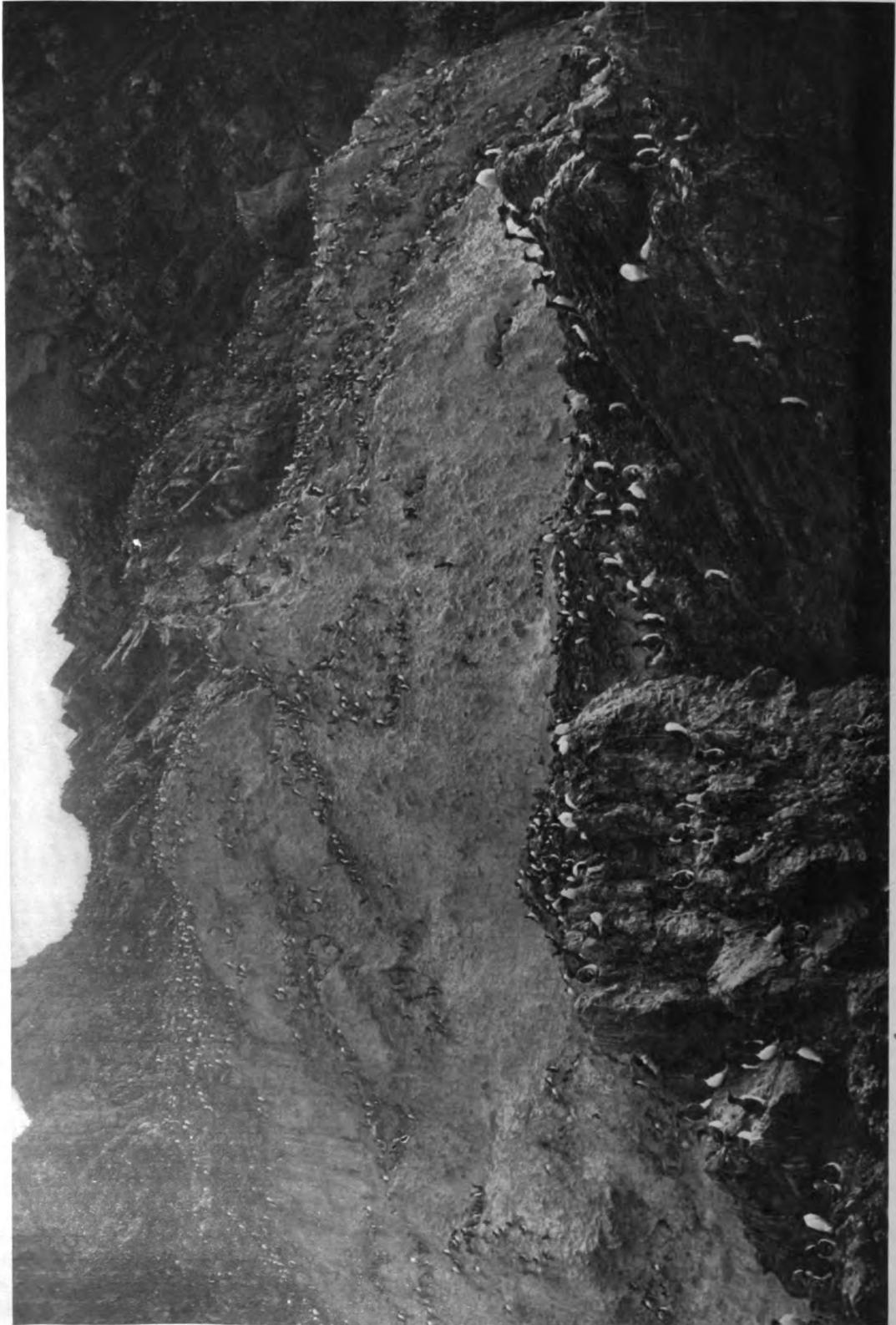
The ever changing form of Bogoslof has been recorded by many vessels. During recent years, beaches connecting the newer and older parts of Bogoslof have appeared, disappeared and reappeared. The writer has observed marked changes during successive visits.

Bogoslof has been a stronghold of the sea birds from the beginning, but the bird tenants must have been ejected often with great violence. On the rough volcanic pile the birds nest almost anywhere. While there are portions of

the volcano from which they are excluded by clouds of steam and sulphurous vapors, they nest so close to such areas that the eggs in some places are doubtless warmed as much by the volcanic heat of the rocks as by the sitting birds. I have climbed among nesting guillemots where the rocks were heated enough to warm my chilled fingers. There are enough dead birds in some places to show that they often fly too close to the danger zones, not always being able to discriminate between hot steam or poisonous vapors, and the dense fog banks that drift about the island. Nevertheless they multiply amazingly and their numbers can only be described as myriads.

The guillemot makes no nest, laying its large single egg on any ledge wide enough to hold it, so that the egg comes in direct contact with the rock. The great mass of the birds of Bogoslof are guillemots, (*Uria lomvia arra*), but there are a few puffins and kittiwake gulls. Perhaps the scarcity of nest-building birds can be explained by the total lack of nest-making materials such as grasses and dry seaweeds. Bogoslof has neither land nor sea vegetation and is unique in this respect as compared with other bird islands. The guillemots hold almost undisputed possession, while on other bird islands of the region they share the cliffs with puffins, fulmars, kittiwakes, auklets, cormorants and other nest builders. Birds like puffins, fulmars and auklets, seeking deep crevices for their nests, would have a hard time on Bogoslof where deadly vapors may ooze forth almost anywhere.

The numbers of guillemots to be seen on the rocks at a given time do not indicate the actual



GUILLEMOTS ON THE HEIGHTS OF BOGOSLOF



A STEAM-SWEPT BIRD ROOKERY ON BOGOSLOF VOLCANO, BERING SEA



GUILLEMOT FROM BOGOSLOF VOLCANO

bird population. There are such numbers on the wing, or on the surface of the sea, at the same time, that the observer visiting the island soon decides that most of the guillemots are not at home.

They cover the adjacent waters everywhere and keep flying off shore in bands so great that the island seems to be encircled with a wide belt of swiftly moving birds. They meet the approaching ship when still miles away, and are so numerous in the water that they scarcely keep clear of the oars of the landing boats.

The guillemot is a staple in the food supply of the Aleutian and Pribilof natives. The thick, meaty breasts are wholesome and palatable, and one soon gets used to eating them. As the supply of birds is large, it could be drawn upon for war time food in case of necessity. It ought not to take long to load a refrigerator ship with guillemots at Bogoslof.

THE SPADEFOOT TOAD

By IDA M. MELLE

THE spadefoot, though one of our common toads, is least often seen because of its habit of spending a large portion of its life—perhaps a couple of years together—underground, and coming forth, as a rule, only during the night. Great humidity is required to



DISTANT VIEW OF BOGOSLOF VOLCANO