The Wildfowl Egg-Grounds of West New Britain

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Wildlife ecologists have become concerned that the wildfowl egg-grounds in the Nakanai area (Cape Hoskins) of New Britain are in danger of disappearing. Large tracts of timber rights have been sold and as lowland rainforest is the birds' natural habitat, the wildfowl may well disappear and with them an important social and economic resource of the Nakanai people.

Not many people know about New Britain's thermal spring and solfatara areas. They are desolate places of hot springs, geysers and deep holes which reverberate to the sound of boiling mud. Forest grows right to the edge of the hot areas and there is a nauseous smell of sulphur. It is the strong sulphur fumes which inhibit growth in the immediate areas. There are three main solfatara areas in New Britain: smallish ones at Matupit (Rabaul) and Garu (Talasea) and a large one near to the Kapiura River about 20 miles from the Government station of Hoskins (*Figure* 1).

Plate I.—Hot springs area in New Britain

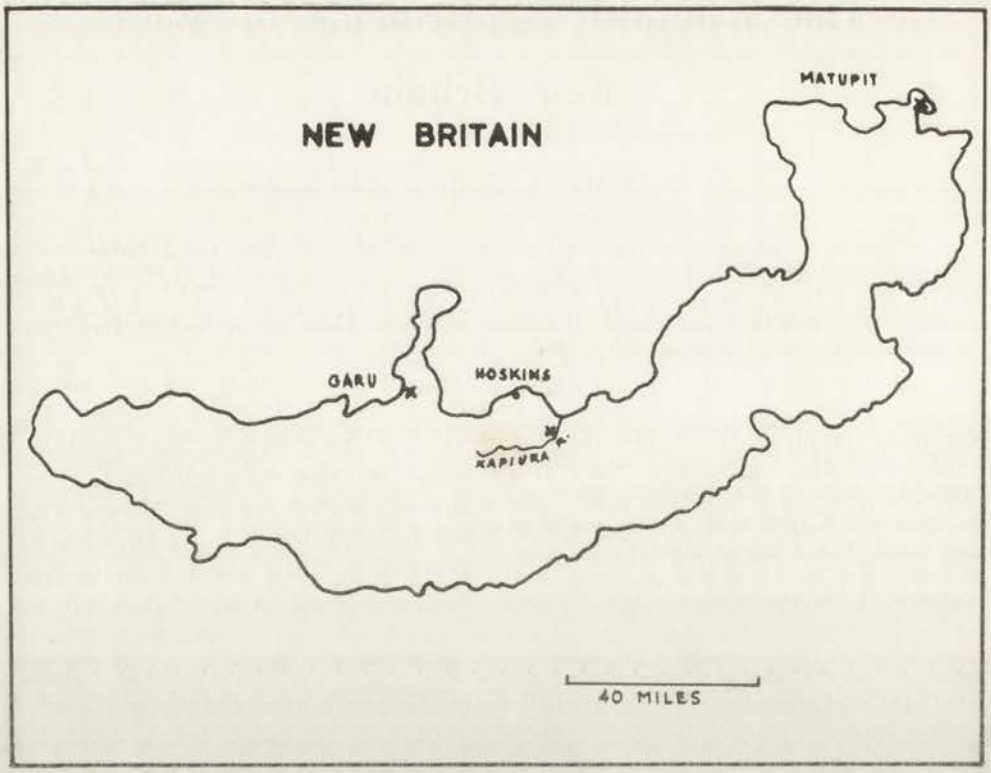

Figure 1.—Location of wildfowl egg-grounds

The bird, *Megapodius freycinet*, which we call the wildfowl, has utilized these hot areas for the purposes of incubating her eggs. In most other places the Megapodes build mounds of earth and leaves which decay, giving off enough heat to incubate their eggs. In the Nakanai area, the wildfowl burrow into the warm sands at just the right distance from the hot springs to give the correct incubating temperatures.

The birds fly considerable distances to the thermal area during the laying season, which coincides with the dry season—April to November. The hen burrows deep into the warm ground beneath the forest trees and amongst the roots and lays her eggs at the end of the hole—about 4 ft from the ground surface. There are usually six or seven such tunnels close together and the fowl may lay up to ten eggs in each. When she has laid her eggs, she fills up the tunnel again and usually only those who are expert can tell where the tunnels are. The hen has no further part to play in the care of the chickens.

After 6 to 9 weeks, the chicken will hatch out of the egg, and scratch its way to the surface using its large feet (hence the name Megapode). The chick is well developed at birth, covered with feathers and able to fly. It is able to feed and protect itself from the time of emergence from its tunnel.

Generally the wildfowl have similar habits to the domestic hen. They scratch for food, are able to make short flights out of danger and roost on low branches at night. They do not appear to have any sexual displays or display areas and are thought to copulate near the hot areas where the eggs are laid. Not much is known of sex differentiation nor of nesting habits. Their food consists of seeds, small fruits, insects and worms.

The people from nearby villages and some distant villages have gathered eggs for at least 100 years. The ownership of the egg-grounds has been jealously guarded, subject to tribal law and custom and has formed an intricate part of village economy and politics. Seri-

Plate II.—*Megapodius freycinet,* the wildfowl

ous fighting and deaths are still remembered by the older people as results of disputes over egg-grounds.

Indiviual egg gatherers can collect 40 to 80 eggs in 1 day and at times over 50 people can be seen working over the burrows. An experienced digger can tell by the appearance of the surface sand which of the many holes are likely to contain eggs. They dig down—often head first—until sometimes completely out of sight, following the ramifications of the burrows. Women, rather than men, make such forays underground in the Nakanai.

Detailed study of the egg-grounds will be needed to measure present and potential production. It has been estimated that over 2,000 eggs have been consumed at one village sing-sing. There are indications of average minimum monthly collections of 5,000 eggs. Records for the whole of the 1971 egg-laying season indicate roughly 15,000 eggs were harvested at each of the Pokili and Garu egg-grounds. At a local price in Hoskins of 3 for 10c, the eggs can be seen as a valuable resource for the people.

All known egg-grounds are subdivided for egg rights, with ultimate authority resting with particular village leaders or communal authority regarded as owning the land. These men regulate the egg collecting by both their own clans and the clans of other villages. Such leaders as Boas of Galilo village and Lima and Toma-

gu of Koimumu village (these villages having the largest undisputed rights within the Nakanai egg-grounds) are becoming increasingly concerned by diminishing supplies of eggs. They can point to areas which 30 years ago had huge supplies, which have now dwindled to nothing. This decline in supplies could be due to a number of things, not least of them being over consumption of eggs. Other factors could be prolonged disturbance of egg-grounds (e.g. one large egg-ground used to be very near a village); alterations in volcanic activities causing different ground temperatures; and logging activities. As far as overcollection and disturbance goes, the local leaders have taken firm steps to help conservation. They have determined who may take eggs and on which day or week they may do so. Neither adult birds nor chicks leaving burrows may be killed. No picnicking, shooting or other village activities are permitted on or near the egg-grounds. To add weight to these village laws, the people are trying to get their Local Government Council to adopt the rules and to impose penalties when the rules are broken.

An immediate problem will be to ensure the protection of the forest area for at least 5 miles around the egg-grounds as the forest is vital for feeding and sheltering the wildfowl. Timber rights have been sold in great quantities all about the Hoskins-Kapiura area. Attempts to 'take away' the egg-grounds and hot springs area from the people in order to 'preserve' its special features would be self-defeating. Likewise attempts to buy the egg-lands would be so complicated and fraught with ownership claims as to prove impractical. In short, any plans for the management of the Nakanai egg-grounds must be designed as an operation of the people by the people (with guidance) and on their own traditional land.

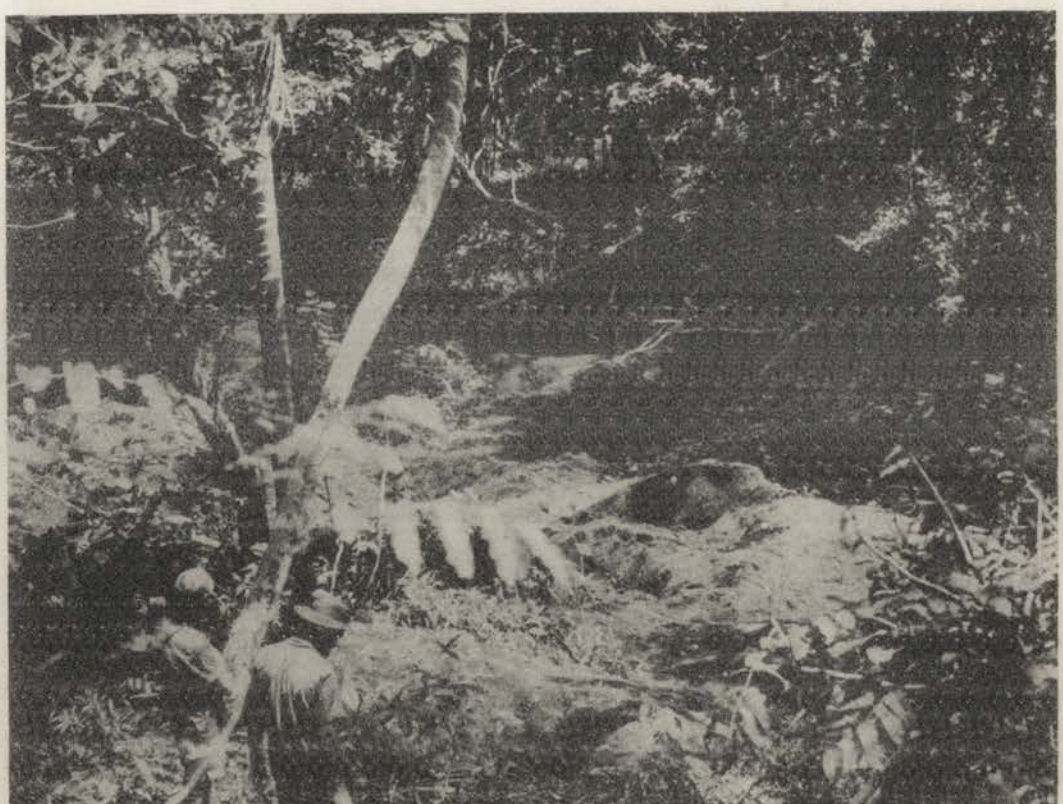

Plate III.—Egg-grounds among forest trees