

Deer in New Guinea.

PART II : A PRELIMINARY NOTE ON THE DISTRIBUTION OF DEER IN THE TERRITORY OF PAPUA AND NEW GUINEA.

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ABSTRACT.

Two species of deer are recorded from the Territory of Papua and New Guinea, namely *rusa* (*Cervus timorensis*) and *axis* deer (*Axis axis*). Small populations of *rusa* exist in separated locations at Port Moresby, Gazelle Peninsula of New Britain, and the Hermit Islands. A larger population in the plains of the Trans Fly River area is contiguous with that of Merauke in West Irian. *Axis* deer exist in small numbers on the outskirts of Madang.

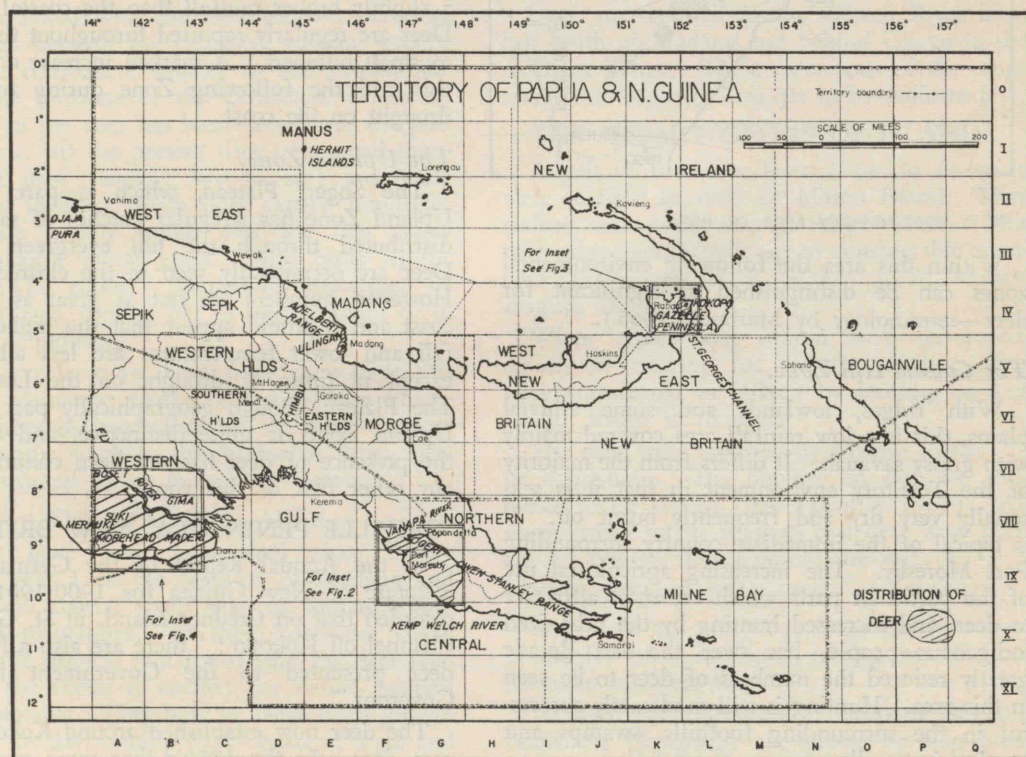
A preliminary account is given of the status and distribution of each group.

Bentley (1967) provided the first information on deer in the Territory of Papua and New Guinea. He reported deer of three species, namely *rusa* deer (*Cervus timorensis*), fallow

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deer (*Dama dama*) and *axis* deer (*Axis axis*), distributed in five separate localities. These are the Port Moresby area, Gazelle Peninsula of New Britain, the Madang area, the Hermit Group islands, and the Trans-Fly area of Papua (Figure 1). The present paper provides more detail of the distribution in these areas. The

Figure 1.—Distribution of deer in the Territory of Papua and New Guinea.



existence of fallow deer at Madang has not been confirmed, only axis deer being identified in specimens and observations.

THE PORT MORESBY AREA.

In general the rusa deer in the Port Moresby area are distributed in the area bounded by the Vanapa River and Galley Reach on the west, by the edge of the rain forest on the lower slopes of the Owen Stanley Range on the northern or inland side, and by the Kemp Welch River to the east (Figure 2).

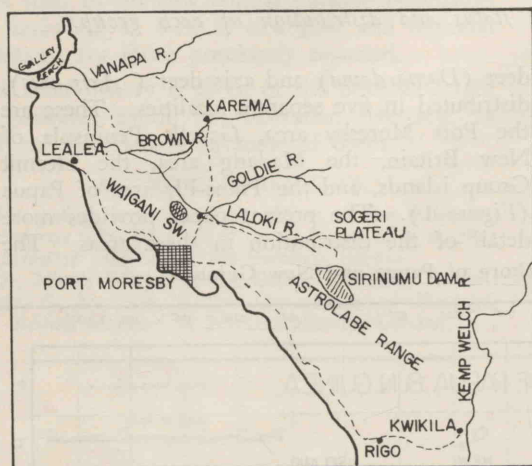


FIG. 2. PORT MORESBY AREA OF PAPUA

Within this area the following environmental zones can be distinguished as significant for deer—terminology by Marbutt (1965).

The Coastal Hill Zone.

With ridges, lowlands and some alluvial plains, this is a low rainfall area covered mainly with grassy savannah. It differs from the majority of the Territory environment in that it is seasonally very dry and frequently burnt off. It is typical of the immediate country surrounding Port Moresby. The increasing agricultural use of the particular parts which are most attractive to deer, and increased hunting by the urbanized indigenous people, has over the last decade greatly reduced the numbers of deer to be seen in this area. Hunting is still moderately successful in the surrounding foothills, swamps and up the river valleys.

The Swamp Zone.

Appears to hold the greatest concentrations of deer at present. Along the edges of the swamps extensive areas of cover and food develop around the permanent or seasonal standing water. The Waigani swamp complex, less than eight miles from the centre of Port Moresby, still contains significant numbers of deer, though in lesser numbers since the drought of 1965, and increased shooting with shotguns.

Alluvial Plains Zone.

Consistent hunting takes many deer where the Swamp Zone intermingles with this Zone, for example along the Brown River from the bridge at Karema through to Galley Reach. This area contains some tall evergreen forest having extensive grassy patches, particularly associated with the swamps and meandering river channels and 'round-waters'.

The Foothills Zone.

Comprises most of the Astrolabe Range. This area is covered mainly with savannah but it has a slightly higher rainfall than the coastal plains. Deer are regularly reported throughout this zone in small numbers. A marked increase occurs in this and the following Zone during times of drought on the coast.

The Upland Zone.

The Sogeri Plateau, which is part of the Upland Zone has irregular patches of savannah distributed through the tall evergreen forest. Deer are occasionally seen in the cleared areas. However, numbers are not as great as on the coast and it would appear that the higher rainfall and lower temperatures are less attractive, except in times of drought on the Lowlands. The Plateau, though geographically part of the Upland Zone, is quite distinctive, and to date the presence of deer has not been confirmed in any other part of this zone.

GAZELLE PENINSULA, NEW BRITAIN.

In the Annual Report of the German Protectorate of New Guinea for 1900-1901, it is recorded that on Credner Island, in St. George's Channel off Kokopo: "there are also a few red deer presented to the Government by the Governor".

The deer now established around Kokopo are rusa deer. In the 1950's they were commonly

seen on the roads and close to most of the stations during mornings and evenings. The limits of distribution appear to have been between Cape Gazelle on the east to Varzin and Toma on the west (Figure 3).

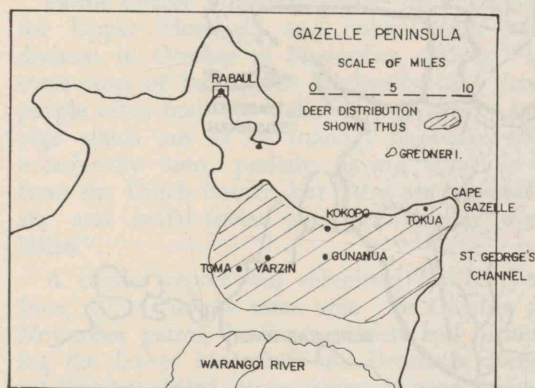


FIG. 3. APPROX. DISTRIBUTION OF RUSA DEER ON THE GAZELLE PENINSULA NEW BRITAIN.

Coincidental with the establishment of cocoa plantings beneath the extensive coconut stands, and the consequent activity in and around the accessible portions of the peninsula, a marked decline in the deer has been noted over the past ten years. At the present time only small numbers of deer (usually two to six) are rarely reported in areas which once carried hundreds. They are usually found near the few grassy areas, mainly kunai grass. They camp in the *Ficus* (wild rubber) plantations established by the Germans, coming out to feed at night or in the early morning.

No deer have yet been reported outside this coastal plantation fringe of the Gazelle Peninsula, although penetration of the back country, for example south to the Warangoi River, may be unrecorded owing to lack of observers.

THE MADANG AREA.

Deer have been established since before World War I on the outskirts of Madang and along the coastal roads and in the adjoining coconut plantations. In these parts the virgin country is tropical rain forest, and the deer feed where the forest is cleared for native gardens or plantations. They hide in dense *Ficus* growth during the day, coming out to graze at night and in the early morning.

Although locally the deer are called fallow, there is no evidence for this species as yet; all antlers and skins examined so far were axis. The numbers are small, the total being variously estimated between 50 and 150 animals, but there is little information on the size or outer boundaries of the population.

During investigations by Mr. G. J. O'Leary in October, 1968 (Departmental report), local residents readily identified pictures of axis antlers and skins as similar to the deer seen around Madang. The approximate limits of distribution extended from Binnen Harbour to Yabob village on the south, westerly to Sisiak village, and north and west to Meiro Plantation, including the *Ficus* forest used as the daytime refuge. The rain forest is broken by small patches of secondary growth on old garden sites and by present day gardening which is attractive to the deer.

An axis skull and skin taken several years ago was obtained. The known localities for deer in the Madang area are given in Figure 4.

Deer are reported in the Gumm River area, just south of Madang and behind Uligen in the Adelbert Range. These extensions of the range away from Madang have yet to be confirmed.

THE HERMIT GROUP OF ISLANDS.

A pair of rusa deer from a zoo in Australia were released in 1909 on Maron Island. They walked via a sandy strip to Arkeb Island. This pair subsequently built up to considerable numbers (Letter from H. R. Wahlen to A. Bentley, August, 1953).

When Arkeb and Maron were developed, mainly by clearing for coconut planting, deer were transferred or driven by hunting to Luf Island, which is all scrub.

The deer were reported by Cilento (1928) to be flourishing. The number on Luf was estimated to be 200 in 1953 (Bentley 1967). An unconfirmed report suggests that deer were present on Ninigo Island before the war.

THE TRANS FLY AREA OF PAPUA.

Rusa deer are present in large numbers west of the Fly River in Papua, having crossed from Merauke in West Irian.

In West Irian the deer at Geelvink Bay and Hollandia (Jajapura) are quoted by Van Bemmel (1949) as rusa imported by Lulofs from

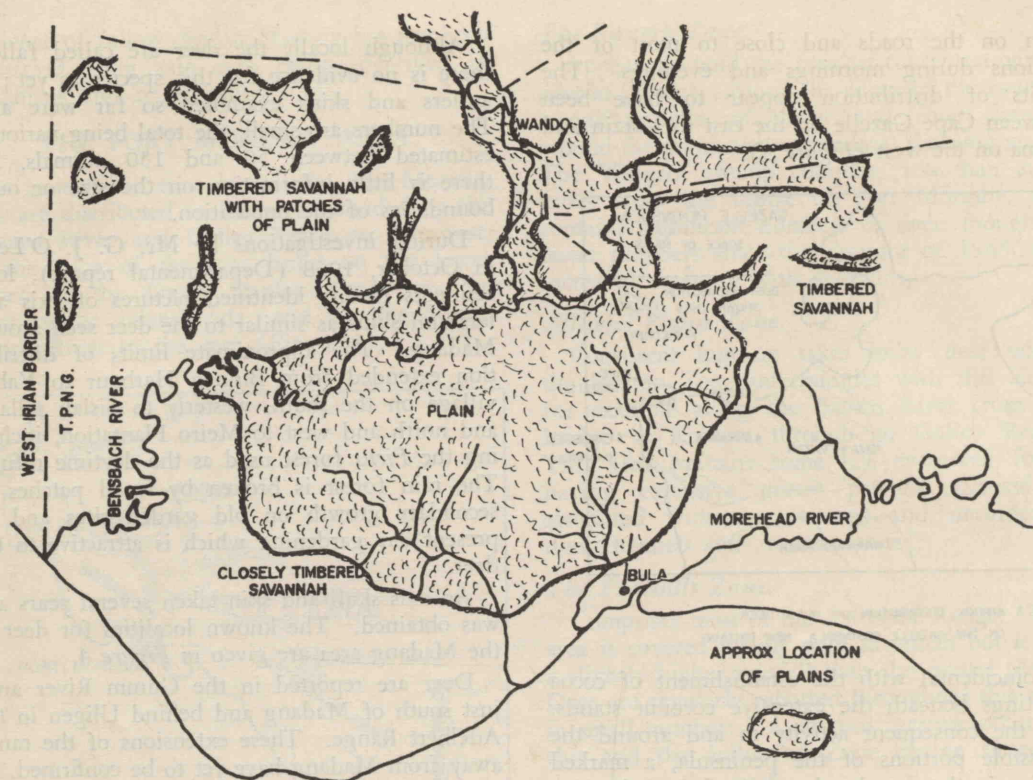


FIG. 4 BULA PLAIN WESTERN DISTRICT OF PAPUA

the Halmaheras in 1920. Brass (1968) saw several deer of unidentified species on a walk in June, 1938, from Hollandia to Lake Sentani, where the rain forest had been much disturbed by native cultivation and had been replaced by grass. The deer on the Onin Peninsula are said by Van Bemmell to have originated from Ceram in 1913, having been brought there by Raedt van Oldebarnevelt. No mention is made by Van Bemmell of the deer at Merauke. Brongersma (1958) gives a photograph of rusa deer from West Irian.

Local reports put the introduction of deer to Merauke at about 1920. Numbers have greatly increased. In Papua the main concentration is on the large plains between the Bensbach and Morehead Rivers. Deer are occasionally shot in small numbers throughout the whole area south of the Fly River, where the native population is relatively sparse. They are occasionally shot by the natives as far north as Boset near the intersection of the Fly River with the border, some

120 miles from the coast; at the few settlements such as Suki Lagoon and Maderi Plantation on the south bank of the Fly; and as far east as Daru Island and in the islands in the mouth of the Fly estuary. The density of the deer population away from the plains of the south-west corner is low.

Deer were not heard of during the first and second Archbold Expeditions in 1934 and 1936-1937. The areas visited included open type vegetation about Lake Dariumbu on the Middle Fly, at Gaima on the Lower Fly, on Daru and the very extensive open areas in the Wassi Kussa areas—Brass (1968).

Local discussion places the first observation of deer at Suki Lagoon as early as 1938, when the station was established. There were few observers in the Western District at that stage and reports of the spread of the deer are difficult to interpret. Other informants recall seeing the first deer through their villages, for example in the Morehead area, as late as 1956 and even

in 1960 in some areas. If this is true, a considerable upsurge in numbers seems to have occurred in the late 1950's and early 1960's. The data from the few patrol reports seem to confirm this picture.

Patrol Officer Giffard reported on a visit to the Upper Morehead and Suki Census subdivision in October to November, 1956; "In some areas of bush game is plentiful and these people often hunt the wallabies, cassowaries and pigs which are to be found. Deer are also occasionally seen, probably having come over from the Dutch border, but these are extremely shy and swift footed and are scarcely ever killed".

A similar report was submitted for May to June, 1957, for the same area. In October to November patrols in these districts and including the Lower Morehead and Bensbach census subdivisions listed other common native game but deer were not mentioned, whereas at the present time they are a feature of the landscape.

In May to June and October to November, 1967, deer were reported by the natives, but were very seldom seen. Tracks were seen by the party.

October, 1958, is the occasion of the first Patrol Officer's report of deer being seen in large numbers in the Trans Fly Census Division. In May to June, 1959, deer were very plentiful during the field trip and the carriers were able to eat venison every day. The native gardens at Oriomo were surrounded by strong fences, reputedly to keep out deer.

Through 1961 and 1962 deer were reported plentiful on each trip in areas where previously deer were not mentioned.

Occasional reports have been made of deer swimming to various islands off the coast and in the Fly River. It is probable that deer have crossed the Fly several times. However there is no evidence that they have spread far beyond the Fly River at this stage.

From 1965 to December, 1967, deer were shot commercially for meat in the vicinity of the Bensbach River. They were shot at night within a few miles of the river. The carcasses, including only the hind and forequarters and the saddle, were frozen and flown to Port Moresby for shipment overseas. In all some 200,000 lb. of meat was exported in this period.

On 4th October, 1968, during a period of 2¼ hours, 15 north-south transects were flown by the author at 300 ft. over the plains between the Bensbach and Morehead Rivers. Over approximately 150 miles, some 4,250 deer were counted within the half mile band of country covered by the transect. They were clustered in small groups of 3 to 10 animals around the water holes along the creeks, and within the greener areas of the creek watersheds. Much of the plain was dry and without deer. Transposing these figures, an average of 57 per square mile, to the total area of about 100 square miles, the total number of deer on the plain that morning would be of the order of 5,000 to 6,000. Density of the deer within the scrub and forested area away from the plain would be lower, but a much greater area is involved, and the total population is unknown.

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