T. HARRISSON

3538

the defendant is not present in the State, but the exercise of this authority is dependent on service outside the State in accordance with section 66 of the Federated Malay States Civil Procedure Code.

Holding this view, as I do, I have come to the conclusion that this appeal can only succeed if the case is a proper one for service outside the State of Brunei within the terms of section 66 of the Federated Malay States Civil Procedure Code. In the amended petition of appeal, however, it is claimed that the learned Resident was wrong in law in holding that in the application of this Code, the word "Brunei" should be read for the words "Federated Malay States," because in so far as this Code was applicable it could have been construed, in its application to the State of Brunei, not as though Brunei were the Federated Malay States but as though Brunei were one of the States which formed part of the Federated Malay States.

The reason for this curious proposition was not at once apparent but it became clearer in the course of argument. The various States which composed the Federated Malay States each had their own Courts, as is now the case in the Federation of Malaya. If a plaintiff in Perak applies for service outside the Federation of Malaya (or, formerly, outside the Federated Malay States), the fact that the subject-matter of the proceedings is land in Kedah would be sufficient to bring the matter within section 66. The startling suggestion was made that on this analogy, if a plaintiff applies in Brunei, the fact that the subject-matter of the proceedings is land in Sarawak will bring the matter within section 66. The Governor of Sarawak, it was pointed out, is High Commissioner for Brunei; the Chief Justice of Sarawak is Judge of Appeal in Brunei; and by virtue of section 4 of the Courts Enactment, 1908 (No. 5 of 1908), as amended by section 3 of the Courts (Amendment) Enactment, 1948 (No. 5 of 1948), a Circuit Judge of one of the Circuit Courts of the Colony of Sarawak may constitute the Court of the Resident when he is appointed to hold such Court by the High Commissioner with the concurrence of His Highness the Sultan. With the administrative and other arrangements between this State and the neighbouring Colony of Sarawak I need not deal, but I have no hesitation in saying that so far as this State is concerned, for the purposes of private international law, the Colony of Sarawak is a foreign country.

I agree with the learned Resident that the subject-matter of this suit does not fall within either paragraphs *(b)* or *(d)* of section 66 (1) of the Federated Malay States Civil Procedure Code. The property affected is not now within the State of Brunei. It was argued that the case might even come within paragraph *(b)* as His Highness the Sultan would have been made a defendant but for his immunity. I reject this argument as being without substance.

In the result the appeal is dismissed. I direct that this judgment be read in the Resident's Court, Brunei, and that a copy be furnished to the appellants' solicitors.

The Large Mammals of Borneo.

Apart from the only too common and often pestiferous Sambhur Deer (*Rusa unicolor*), we know remarkably little in Borneo of our other large wild mammals, of which there are—

1. The Asiatic Elephant (*Elephas indicus*)
2. Sumatran Rhinoceros (*Rhinoceros sumatranus*)
3. Wild Ox or Banteng (*Bos sondaicus lowi*)
4. Honey Bear (*Ursus malayanus*)
5. Clouded Leopard (*Felis nebulosa*)
6. Orang Utan (*Simia satyrus*)

In particular, little has been published on these in the past decade. The following information, collected 1945-8, in all four territories of the island, will help to bring the picture up to date. Information to 1931 has been fully dealt with by Mr. E. Banks (*Journ. Malay. Br. Royal Asiatic Soc.* IX, 1931, pt. II), and only new or additional data is here included. Mr. Banks' paper is an invaluable source of information for all interested in this subject, and the present writer is much indebted to him.

1. *The Asiatic Elephant.*

It is usually said that the elephants now feral in North Borneo were orginally a gift to the Sultan of Sulu from the East India Company about 1750; the Sultan parked these more-than-white (to him) elephants on the mainland. Elephants were certainly present earlier than that, however, for Pigafetta has left a fascinating account of his 1521 visit to the court of Brunei:

> "When we reached the city, we had to wait two hours in a prau, until there had arrived two elephants, caparisoned in silk-cloth, and twelve men, each furnished with a porcelain vase, covered with silk, to receive and to cover our presents. We mounted the elephants, the twelve men going before ....."

In answer to enquiries, Mr. R. E. Parry, Director of Education, British North Borneo, has forwarded information mainly obtained from Mr. H. G. Keith, Conservator of Forests. There are probably over 1,000 elephants in North Borneo, ranging from the Padas River to the north, west to the Sapulut, and south going well over the Dutch border. They are certainly still scarce in Dutch territory however, and do not come south of the Sembakong River. The animal is protected, but illegal trapping is believed to take place on a considerable scale. Nevertheless, there appears to have been a considerable increase since 1931.

(*Continued on page 261*)

2. *The Rhinoceros.*

In 1931 Mr. Banks wrote:

"There can at the moment be no fear of Rhinoceros becoming scarce for as many as 36 trophies were brought into Belaga in two years not so long ago, and I have met men who have claimed to have shot over 30 in the course of their life time, but it must be evident that such a slow breeding animal cannot stand destruction for long at that rate so that the matter will one day have to be attended to."

Alas, that one day came some days too late,—and it was precisely such slaughter which, within a few years, virtually exterminated this fine beast in Sarawak. Since 1947 it has been fully protected, but the western side of the island can only hope to recoup its position if the small surviving stocks in north-west B.N.B. and in inner Dutch Borneo multiply, or migrate. There are now almost certainly no rhinoceros left in Sarawak, except possibly in the innermost section of the Third Division. Once abundant in the Upper Baram and Limbang, noticeably around Mt. Batu Lawi, there are now definitely none in the great areas. In 1934 Banks saw fresh tracks of one at over 6,000 feet on Mulu (*Sarawak Museum Journ.* III, 1935, p. 329), but extensive search of this area has revealed no trace of rhino since 1945, though old wallows and hunters' trails are still identifiable over a good deal of the interior. Old people in some places say that at one time rhino were so unshy they would come down quite close to villages, and in late 1945 one was reported at the edge of a rice-clearing on the Raya river in northern Dutch Border (near the North Borneo border).

There are still some in Dutch Borneo, and the recent tracks of one were seen (by the author) near the top of the high pass between the Poedjoengan tributary of the Bahau and Nahkramo on the Batang Kayan in October, 1945. In North Borneo, where full protection has long been in force, a considerable number are now believed to survive, mainly in the north-east, according to information from Mr. H. G. Keith. A single animal was reported in the Upper Padas in early 1946, and was later said to have moved back east.

The slaughter of this interesting mammal has been largely the work of the indefatigable Sarawak Ibans, especially those of the Rejang, who have hunted far into Dutch territory and in violation of Dutch law. As the animal became scarcer, the value rose and rose, until the impedimenta of a carcase totalled some $300 or more in value. Hard to approach, owing to its extremely sensitive hearing, the rhino (almost blind) was no easy kill. Most were shot at close range with muzzle loaders, but there are several good records of Punans blowpiping them, and a man from Belawit in Dutch Borneo speared and killed one many years ago—an act immortalised in a stirring song.

In view of the many hundred that must have been slain in Sarawak during this century, it is somewhat ironic that the Sarawak Museum has *no* specimen of the Rhinoceros.

3. *The Wild Ox.*

Evidently this species was once much more common than now. St. John met many all up the Limbang in the middle of the last century, but today they are exceedingly scarce in that area. In the upper Baram they are also much scarcer than previously. As with the rhinoceros, the wide-scale introduction of firearms has had its effect, and in this case also perhaps the spread and increase of Sea Dayaks (Ibans) in Northern Sarawak. Banks in 1931 wrote of them also in the Upper Trusan, but there has been no sign of any there for some years past now.

As the species does not occur south of the Rejang system, this decrease must be a matter for concern. The only place in the interior where it is now known to be numerous is in the great grass lands of the Bahau headwaters. Here the sparse population and remote topography has acted as protection in some degree, and this area is literally teeming with game—I have watched sambhur deer feeding at the salt licks openly across the valley, and groups of *Banteng* grazing, more remotely, the beautiful pale green hillsides, usually keeping near the forest edge. A particularly odd experience in September 1945 was to float down by parachute with a magnificent ox unknowingly below. Several seen in this area appeared to be crossed with the varicoloured domestic cattle which the Saban Kelabits of this area imported from the Upper Baram (they originally came up from Brunei Bay via the Limbang and Trusan Rivers about 50-60 years ago, and have now reached the Upper Kenyah houses further down the Bahau, and a few of the riverine houses on the Baram). But the position is uncertain, since a number of domestic cattle have also gone wild in this area.

Occasionally the Bahau animals wander long distances, and in early 1948 the tracks of one were seen in the Upper Libbun (the Baram's furthermost tributary). A determined pursuit by the people was unsuccessful, for the animal was moving alone and fast—back towards the Bahau.

It would seem that protection is desirable for this fine and harmless beast in all areas. Its flesh is not attractive, and it has no other economic value. It plays, moreover, a proud part in Borneo history. It was in pursuit of the "Temadau" (one Malay name) that Simau'un, brother of Wang Alak ber Tata, later "first Sultan of Brunei," made his famous journey into the interior and brought it under Brunei control. The ox kept always ahead of him, and he followed its blood trail, stopping off long enough in each river system to have a son. The animal, eventually cornered in the Padas, proved to have golden horns (Rangau spoken legend; recorded September 1947).

A word should be said about the supposed Wild Buffalo, *Babulus b. hosei*, since it is given full status as distinct, wild and indigenous in "North-western Borneo" in the recent and authoritative "Mammals of the Pacific World" by T. D. Carter, J. E. Hill and G. H. Tate (New York, 1945, p. 140). Ferile buffalos are common in coastal and upland Borneo, and some of the upland people have to spend days hunting their own (marked) beasts when the meat is required for a feast. But there has not been any reliable confirmation of the supposedly distinct local race described from a single Kuala Baram specimen (in the British Museum).

(To be continued.)

TOM HARRISSON.

The Large Mammals of Borneo.

(Continued)

4. *The Honey Bear.*

This is the only wild animal of which the native peoples are normally afraid, and many have been injured, some killed, by these animals when with young or hurt or sometimes for no apparent reason. It can be extremely bold, and is very strong. In most areas it is quite plentiful. Recently one attacked and wounded some Dayaks by the coast road beyond Miri. The R.A.A.F. had a tame one on Labuan in 1945 which attained a large size and remained on good terms with those it knew, but a menance to crockery, cookery and cook's morale.

Unless one saw the distinctive rows of claw marks up the tree trunks, one would not believe some of the trees this heavy and seemingly clumsy beast can climb, usually in its passion for honey. Only the Manis or Scaly Ant-eater can compete with it as climber. But the Bruang will eat almost anything, and in some areas is a menace to sweet potato and manioc grounds, uprooting whole plots—partly, it would seem, in play. In 1945 one opened a parachuted container and totally destroyed wireless sets, a medical outfit, and much else.

In some districts the gall bladder is hung up on the long-house verandah, allowed to decompose, drip and dry. It is then said to be an efficacious cure for various diseases, including malaria. The skin is extensively used for the decorative seating pads men hang on their behinds to keep dry when sitting down out of doors, or clean when sitting down in a long-house rice-beer party. The flesh is strong-scented and rather sweet, edible—and much eaten!

5. *The Clouded Leopard.*

Another fine animal that has probably been much reduced by pursuit—in this case for the value of skin as seating mats, teeth as ear-ornaments, and Chinese medical use. It is still, however, fairly numerous in the far interior of North and Dutch Borneo and Sarawak, though always extremely shy. Only a very few dogs will scent it, and it shows much skill in hiding in the wildest jungle (in the tree-tops). Nobody fears this huge cat, and there are derogatory stories about its prowess, and many leopard legends.

Up till now, the Sarawak Museum has had no mounted specimens. In 1946 the present Curator was presented with a fine skin obtained by Pangeran Tanid, Chief of the Milaus (Muruts) on the Middle Kerayan (Dutch Borneo), who had shot it with a blow-pipe in a tree-top where it had been cornered while clearing the rice field. This method of obtaining animals is commonly used by the Kelabits and Muruts when clearing; if a scarce species is seen, the people promptly fell the trees all around to stop escape. A special elaboration of this technique is used on monkeys, when a favourite "roosting" tree is located, the surrounding jungle felled at night, and the monkeys picked off by gun and blow-pipe next morning.

Another specimen now in the Museum collection was cornered by dogs in the Ulu Baram early in 1947 and speared, and a third skin (incomplete) obtained by barter from Punans. In about April 1946 the Magoh Punans obtained a very large *pure black* leopard, though unfortunately, as they consider it only of barter value, they chopped off tail and feet. Luckily they had kept the lower jaw. This skin caused intense astonishment throughout the interior, where no one had ever seen a black leopard before. Mr. Banks says that on Mt. Matang "there is once supposed to have been a black one," apparently the only other record to date, though the bigger Asian mainland species, *Panthera pardus*, has a well-known black variety.

6. *The Orang Utan.*

Usually known hereabouts as Mias (Maias), there seems little doubt that this great ape has grown much scarcer over the past century. It is probably most numerous in North Borneo and over into the Sembakong area of north-east Dutch Borneo, where several were seen in July 1945. There are none in northern-Sarawak or north-western Dutch Borneo, but numbers further south. Mr. Ian Urquhart reports from Binatang on the lower Rejang River, Sarawak, that the ape is said to have been present in the immediate vicinity until fairly recent times. Here again, the increase and expansion of the Sea Dayaks has driven them further back from the navigable rivers. But the Chinese were also a factor in this case, as Mr. Urquhart points out in a letter (September 1948):

> "As regards how many maias there used to be, the answer appears to be 'plenty.' The whole area was completely uninhabited, and it is the Chinese from 1870 onwards who started developing from the Rejang River towards the Second Division boundary and the Dayaks from the Second Division who came into the Julau River and from there into Binatang District who drove these animals into the only remaining areas of virgin jungle. The Dayaks only started moving to the Julau area after 1861."

At present in that area it appears to be confined to the headwaters of the smaller streams, Darau, Narasit and Ilang. This is probably fairly representative of the general Sarawak pattern of shrinkage.

Although fully protected—in common with Rhinoceros and the remarkable Proboscis Monkey (confined to Borneo and now abundant in certain coastal areas)—by a new Sarawak Act in 1947, owing to the unfortunate encouragement given to a collector for the London Zoo earlier in that year, numbers of young have been brought in by Dayaks in recent months (and this generally means the mother has been killed first). Despite the closest attention, including penicillin, sulpha drugs and vitamin treatments, it is difficult to keep Maias taken as babies alive, and at least a dozen have died in friendly hands during 1947-1948.

To the weird stories of alleged Orang Utan strength must now be added the account of an American film-man who met a monster specimen in the Batang Kayan area of Dutch Borneo; it killed his cameraman who was "broken, by one blow from collar bone to abdomen" ("Black Borneo," London, 1946, p. 180). On this same day the author, Mr. Miller, not only also photographed wild oxen, but the first Proboscis Monkey (p. 167) ever seen in the interior, an apparently previously undescribed species called the Skunk Monkey (whose smell caused "a Dayak (to) fall out of a tree as if stunned," p. 158), and "a *flock* of Argus Pheasants with two-foot tail feathers." Many observers have spent years without seeing a single Argus, one of the cleverest of birds at self-concealment.

Incidentally, of the seven big mammals of Borneo (including the *rusa*), only this one—the Orang Utan—is so far on display in the Museum. It is hoped in the near future to remedy this.

The Orang Utan's smaller cousin, the Gibbon (*Hylobates cinereus*) is also on display. And there is a fine case of the big Proboscis or Long-Nosed Monkey (*Nasalis larvatus*). The widespread dialect name for this tall, ugly, boozy-schnozzled monkey is rather rude to our island neighbours—"Orang blanda." Apparently news of this nickname came as a shock to a distinguished Dutch visitor who came round the Museum one day; he seemed quite put out!

The Gibbon is not, of course, a monkey but an ape, as is the Mias. It is best known in Borneo by the native name "Wa-wa," a felicitous one, reflecting as it does those wild bubbling calls which ripple through the jungle at the first faint touch of dawn, thrilling animal music of the far-off hills. No sound better expresses the difference between the primitive path and the civilised urban in Borneo. In Kuching, Jesselton, Pontianak, one awakes to the crowing of Chinese roosters, the bickering of cats, and the new day's first clamorous jeep.

Happily the Wa-wa is numerous in most areas of virgin jungle, and really abundant inland in the interior, although considerably hunted for its flesh, and not infrequently kept as a pet. I have seen a nomadic Punan in the upper Tutoh (Baram tributary) suckle a baby son on one breast and a baby Wa-wa on the other. They make the nicest of pets, but are very susceptible to respiratory diseases, and on this account should not be let to mix in with crowds (e.g. taken on a ship).

Of the monkeys, there is another as well as the Proboscis which is worthy of mention, though not so large. This is the bright chestnut-coloured "Jelu merah" (Dayak) or "Kelasi" (this or some variant is the usual inland name). This shaggy, long-haired, ragamuffin animal is known to very few white men, and has no common name for that reason—scientifically it is *Pygathrix rubicundus*. I have only seen it above 4,500 feet in the headwaters of the Padas (North Borneo), Trusan, Limbang and Baram, (Sarawak), Bahau and Batang Kayan (Dutch). In the Kelabit country the Museum collectors did not meet it below 6,000 feet. It often moves alone, and is then generally shy; but small parties may be encountered and then they are usually quite tame. Round Mount Batu Lawi in the head of the Limbang they are quite numerous. As Mr. Banks has pointed out, in general this monkey has a peculiarly irregular distribution and little is known of it. Anyone who sees one (and it is easy to identify as our only all "red" monkey) should put the date and place on record, please.

* * * *

Outside the strict scope of these rough notes on Borneo's big mammals is one which I include, nevertheless, because I am so often asked about it: "Where does the Tapir occur in Borneo?" The Tapir is, of course, the striking black and white banded animal, something between a big pig and a baby elephant in appearance. The question is very naturally inspired by a North Borneo one cent stamp, which shows a Tapir; it was (Mr. Alan Dant informs me) first issued in 1909, and appeared in various guises up until 1939. Alas, Tapirs are unknown anywhere in Borneo!

North Borneo is indeed an enterprising colony philatelically, for as well as a remarkably exaggerated Proboscis Monkey (4 cents) and an Argus Pheasant which appears to have been crossed with a Peacock (5 cents), the *current* stamp issue includes a 2 cent Cockatoo (though none are found anywhere in Borneo); and a "Dyak" (their spelling); 15 cent, though that term is not applied in North Borneo and the person shown is quite evidently a Sarawak type, with clothes etc. such as are not to be seen further north.

TOM HARRISSON.

Birds in a Bornean Garden IV.

The small Cinnamon Chestnut Bittern was common in and around the ditches and the smaller Yellow Bittern was seen once. Very striking during the monsoon was the Chinese Pond-Heron, a khaki coloured bird with white wings most conspicuous in flight and quite eclipsed as soon as the wings were closed; they fed in ditches of an evening and were also seen on ponds and newly dug areas, half-a-dozen or so roosting in the trees at night. A Malay Bittern was seen twice, a foxy-reddish coloured bird with the rounded wings and uncertain flight of an owl or woodcock. A few Grey Wagtails, an occasional Eastern-Meadow-Pipit and once or twice the Eastern form of the common Kingfisher were seen around the ditches.

On the fish ponds the small Chinese Tern and the larger Panayan Tern were seen a few times hawking for flies during the monsoon, a Darter or Snake-Bird visited the larger pond, being seen fishing and drying its wings in characteristic cormorant-like attitude. A single Duck seen flying between the ponds was probably a Shoveller. The Great White Egret kept to the ponds or rested in neighbouring trees, flighting to and fro from pond to pond in early morning and late evening, sometimes together with a single large Eastern Purple Heron.

Birds of prey were numerous, from the tiny Malayan Black-Legged Falconet bowing away in the top of a rubber tree between casting for insects, to the big all black Birds-Nest-Eagle and the large changeable Hawk-Eagle, white with a speckled breast and black wing tips as seen in flight from underneath. The round blunt-headed Peregrine Falcon was seen several times, just the opposite shape to the very common Brahminy Kite, distinguished in flight even at a distance by its comparatively short tail and rounded stern when compared with other birds of prey. A Serpent-Eagle, once during a wild monsoon morning the white-bellied Sea-Eagle, a single Sparrow-Hawk chasing the ground Doves, the smaller Hawk-Eagle and two unidentified species were seen: of the last, one took a large fish from the pond and may well have been the Smaller Grey Fishing Eagle driven from its haunts by the riverside as the waters flooded with monsoon rains.

In the evening many Swifts paraded, the comparatively long-winged Large Palm-Swift and the Small Palm-Swift being prominent; the White-Rumped Malayan House-Swift was present, and it was possible sometimes to see the small Swiftlet with a white vent which makes a mossy nest use-

defined territory. If shot or trapped, their places are eventually filled but nowhere are they more numerous than to be encountered two or three times daily. Such for example are the barking deer (*Muntiacus*) and large mouse-deer (*Tragulus javanicus*), giant and Prevost's squirrel (*Ratufa bancana* and *Sciurus prevostii*) living a good citizen's, quiet, jungle life, never increasing to be conspicuous, never too rare not to be encountered at some time.

The dependence of numbers on different conditions is well illustrated among some geographical races of Prevost's squirrel. It is the commonest jungle squirrel on the mainland of Borneo, common in the sense that two or three will be encountered during almost any day's search. It lives in old jungle, is not inconspicuous and has nothing to do with cultivation, in coconut palms or various native fruit orchards. In these the plantain squirrel (*Sciurus notatus*) is pre-eminent. Among the coconut palms it nips off the buds or gnaws holes in the young nuts, it attacks the ripe bananas and even pine-apples, damages the growing shoots of rubber trees and is a constant attendant on lime, orange and soft-fruit trees, one of Borneo's outstanding pests.

Unlike Prevost's squirrel, it is no longer found as a rule in old jungle and thrives as a general scrounger, in numbers far beyond anything the other squirrel has ever approached. But on the island of Labuan lives a race of Prevost's squirrel, black with a chestnut underside, that was once a rarity but with a gradual disappearance of the old jungle and its final extinction during the Japanese occupation, Prevost's squirrel was found to change its habits. It is now a denizen in family parties of the numerous coconut palms, the smaller, perky, plantain squirrel which used to live in them has been driven off and the once shy, retiring, solitary, jungle-living Prevost's squirrel has now taken its place. Here they can be seen at any time, no longer fearful of human habitation and a bigger pest than the model it has displaced.

In the jungle Prevost's squirrel never spreads beyond a fairly large territory, with transitory families and a solitary or paired existence, dependent for subsistence on jungle produce. Bereft of jungle on Labuan Island, it has abandoned territory, solitary existence and natural produce, driven out its nearest rival and adopted a congressional, aggressive, cultivation-fed life, which has led to numerical success far beyond that of its jungle-living cousins.

Large Mammals of Borneo (3).

It was not intended to continue this series, but it seems to have evoked interest; and also provoked a number of letters (including one to the *Sarawak Gazette* from Mr. Richards) on the distribution of the red monkey, *Jelu Merah*. Moreover the very interesting article on the Bearded Pig in the February issue has reawakened a lot of memories and cost several hours looking up old notes, which shall now be inflicted upon the reader.

With regard to the *Jelu Merah*, Mr. Richards is right in saying that in the southern part of Sarawak it occurs at low attitudes. Mr. D. L. Leach and Mr. R. N. Baron, among others, have given me similar records from this area. It was not intended to suggest that this was not so, but rather to indicate that so far as it is known as we go further north the animal becomes largely (and in some places exclusively) a high mountain species. This is a very unusual state of affairs, and that is why further records from all part of Borneo would be of interest.

The Bearded Pig was the only large mammal not discussed in my two previous articles (December and January). The February *Sarawak Gazette* article covers a great deal of pig ground. But there is also a good deal that may well be added to keep the record complete.

Nothing has so far been said about the importance of pigs in the native economy of the country. It is true that no success has yet been made of curing hams or otherwise preserving the flesh on a commercial scale. But there is in fact an extensive trade in *smoke-dried* pork over the interior of Borneo, particular in the north. In north-west Dutch Borneo there is a much higher density of population. There are large areas of wet padi cultivation in the farthest hinterland, and one may see a dozen longhouses scattered about a small open valley with its own irrigation system. These valleys are among the most beautiful sights in Borneo, having an exquisite colour and completeness of their own which is all the more impressive because of their isolation amidst hundreds of miles of jungle and mountain reaching unbroken away down to the coastal plains, with never a place between where one can feed that man has a permanence of settlement or nature a milder pattern of its year. In these densely inhabited areas, even the collection of firewood has become a major problem, since all the adjacent hillsides and jungle areas have been combed for centuries. Game is correspondingly scarce, and although there are buffalos they are not so numerous that they can be a daily item of diet. The need for meat is largely satisfied by fillets of small pork, roughly an inch square, which are traded impaled on sticks nine inches long. These sometimes make astonishing journeys across country from hand to hand, starting from those areas where there are plenty of pigs. They are exchanged principally for salt, mats and baskets, and there is a well recognised system of values.

A second important economic aspect of wild pig is in the value of its fat. Since the war, the price of pig's fat had been so good that it actually pays to carry a kerosene tin full of it—which is about all a man can carry—for perhaps twelve days' walking, and maybe another fortnight's canoeing. For the last year it has been a more profitable item than damar, rottan or anything else the upland people can obtain. Broadly speaking the farther inland you go in Borneo the more skilled and persistent the inhabitants are as hunters. Pig hunting, in particular, is something more than merely seeking for food. In some sense it has the qualities of past head-hunting—the exhibition of one's prowess (spearing a big pig requires boldness and skill), a demonstration of one's masculine rivalry, an outlet for some of those emotions which a self-respecting male can never satisfy in routines, however pleasant his home, friends, food, work and leisure.

It seems to me that there is a considerable potential in this attitude, which could develop into something economically fruitful for the people in the areas, who at present find it difficult to obtain

a cash product with which to buy the things that they nowadays need from the outside world—namely, objects made of iron or cloth. Pig's skin is a commodity with a world value. These people, who can skin any animal beautifully, might be able to produce the required object for secondary retreatment elsewhere. Moreover, the Bearded Pig has, as its name implies, a lovely lot of bristles. These, too, have a market value outside Borneo (shaving brushes, etc).

In the Kuching area a number of Chinese hunters are currently doing good pig business, too. One man who works the Sungei Tengah district with a large pack of dogs averages between $100 and $150 a month over the year. On one night in February one man took six pigs on the Sungei Tengah Estate—a local record. On the Samarahan, Dayaks are at present selling surplus pork over and above their own needs at 40 cents a kati, but they appear to bother very little about rendering down the fat.

The previous article mentioned several ways of catching pigs; but there are some others not mentioned which are peculiarly interesting. One is a device, placed usually at the side of a path where it is regularly crossed by pigs. A piece of wood or rottan is lightly strung a few inches above the ground, so that it offers no resistence or impediment to a pig in its progress. The pig pushes this object, which is attach by a cord to a bamboo arm. The bamboo arm is pulled up as the pig proceeds. When the pig is free of the obstacle this arm is released and falls back sharply to strike another and fixed bamboo with a loud report, just behind and above the pig. This almost invariably makes the pig bolt on along its line of advance. On this line, a few feet ahead, are a number of sharply pointed bamboos, suitably camouflaged. On these the pig impales itself. Apart from its novelty, an important advantage of this system is that anybody going along the track can see this device, which is indicated with a mark (a frilled stick placed on a forked stick pointing towards it). There is therefore no danger of anyone running into the bamboos, whereas there is a very real danger in the more usual device, which may be set anywhere and at any angle. Indeed the habit of placing sharp bamboos in the ground was widespread and popular in much of Borneo during the head-hunting days and was revived in some areas during the last war. Among other places of revival was the garden of the Dutch (Malay) district officer at Balawit, a centre of guerrilla activity in 1915. Mr. W. S. Singgal was fed up with people stealing his vegetables; he arranged bamboos suitably in his garden, warning authorized entrants before hand. The following morning one of his three policemen was carried in, horribly wounded in one foot. Unfortunately this man recovered within six weeks,—for he subsequently went over with a troop to the Limbang and (again owing to his own stupidity) was shot by the Japanese while going downriver in a canoe.

A peculiarly ingenious device is favoured in the headwaters of the Baram. Here many of the river banks are ten to fifteen feet high, steep, of rich earth. Pigs coming down to water or to seek fruit from overhanging trees, slide down these banks. Along a favourite pig line, just before a steep part, five or six whole bamboos are placed side by side along the axis of the track, tilted at a slight angle leading down to and over the edge, and thinly covered with earth and leaves to look natural. When a pig steps on this, its legs at once get out of control; it slides on down unable to stop itself even if it can see what is ahead—a prepared pit. This principle in the past was even used with rhinoceros, the device being placed on the track of the rhinoceros at a sharp descent on a slope. The remains of such a rhinoceros trap is still to be seen at about 5,000 feet on the Apad Dari Mountains, on the left hand side of the track two and a half days out from Long Peluan on the way of Padali. The same principle is commonly used by natives of north central Borneo with buffaloes. Often buffaloes become quite wild in hill areas, and it is difficult to catch them when a sale or exchange or inheritance is involved. Most villagers therefore have some place particularly favoured by buffaloes (if possible a salt lick) heavily and permanently fenced in, except for a small entrance through which the buffalo become used to going to and fro. When some one wishes to catch a buffalo, the sloping bamboos are introduced into this entrance. The buffalo goes in all right. But, even with quite a slight incline, it is incapable of getting up the sloping slippery bamboos again.

No account of the Bearded Pig would be complete without reference to the special school of pig hunters which is growing up at Lawas, and of which the shining light is my friend Mr. Hugo Low, chief clerk there. They specialize in shooting while sitting up trees, and this almost appears to be their principal week-end occupation—with marked success. But perhaps Mr. Low would give an account of their doings another day?

I remarked, in the previous article (January Gazette) that Tapirs are unknown in Borneo. I have received an interesting letter from Mr. E. E. F. Pretty, British Resident, Brunei, who writes:—

> "This may be the case nowadays but I can assure you that 20 years ago on two occasions I saw these animals on the Golf Course of Brunei, about 6 miles outside the town, round about 6 p.m. On one occasion there were three of them together just entering the jungle and on the other occasion they were right on the fair way. You may be interested to know this."

This record, by a man of Mr. Pretty's long experience, is important. Although the Tapir is shown on North Borneo stamps, Mr. E. Banks, in his "Popular Account of the Mammals of Borneo" (*Journal Malayan Branch, Royal Asiatic Society IX*, 1931, p. 18) states categorically:

> "In spite of repeated statements to the contrary, there has been no authentic record of a Bornean Tapir and though natives sometimes assert their presence their stories have so far never held water; a Sadong Malay described in correct detail to Everett the appearance of a Tapir he had killed in Dutch Borneo but the teeth he produced in evidence were those of a Rhinoceros."

Other writers agree with Banks, and I myself have never heard or seen clue or sign of one in Borneo. The Tapir family (*Tapiridae*) is known by only a few species. One, *Tapirus indicus*, an animal of swampy forest areas especially, is *proved* (by specimens) only from Tenasserim south through the Malay Peninsula to Sumatra. All the other species of the family are confined to Central and South America.