

ZOOLOGICAL RESULTS OF THE GEORGE VANDERBILT SUMATRAN
EXPEDITION, 1936-1939.* PART V.—MAMMALS COLLECTED
BY FREDERICK A. ULMER, JR. ON SUMATRA AND NIAS

BY GERRIT S. MILLER, JR.

Associate in Biology, United States National Museum

INTRODUCTION

This paper gives the results of my study of the mammals that Mr. Frederick A. Ulmer, Jr. collected while a member of Mr. George Vanderbilt's second Sumatran expedition (middle of March to middle of June 1939). Mr. Ulmer worked chiefly in the southern part of the province of Atjeh, north to Blankedjeren (a little north of the latitude of Mount Löser) but he also collected specimens in the provinces of Sumatra's East Coast and Tapanuli, as well as on the island of Nias.

Accounts of the Atjehan and East Coast collecting stations have already been published by Mr. Rudolph Meyer de Schauensee and Mr. Sydney Dillon Ripley in their article on the Birds of Atjeh (these Proceedings, vol. 91, 1939, pp. 311-368, May 23, 1940). The same writers have listed the birds collected by Mr. Ripley on Nias (Proceedings, vol. 91, 1939, pp. 399-413, May 24, 1940) and have mentioned by name 4 of the mammals, *Macaca phaeura*, *Rattus maerens*, *R. barussanus*, and *Arctictis niasensis*, taken there by Mr. Ulmer. From the narrative given by Mr. de Schauensee and Mr. Ripley (1939, pp. 311-316) I have abstracted, for the purposes of this paper, the following outline of the expedition's itinerary:

March 17, 1939. — Field work began on the Labuan River half way between the port of Belawan Deli and the town of Medan, both situated in the province of Sumatra's East Coast.

March 20. — Motor trip from Medan to the central highlands around Brastagi (East Coast Province) and thence in a generally northwestward

* Parts I-III of this series appeared in vol. XCI, 1939 (1940), of these Proceedings as follows: Part I, Birds from Atjeh, by de Schauensee and Ripley; Part II, The Fishes, by Henry W. Fowler, pp. 369-398, May 24, 1940. Part III, Birds from Nias Island, by de Schauensee and Ripley; Part IV, The Reptiles, by J. Townsend Sackett, in *Notulae Naturae*, no. 41, March 4, 1940. Part I contains 9 plates (4 colored) and a map; Part II, 11 text-figures; Part III, 2 plates. Botanical collections are reported in *Notulae Naturae*, no. 47, May 31, 1940, Botanical Results of the George Vanderbilt Sumatran Expedition, 1939. Plants from Mt. Löser, by E. D. Merrill.

Geographical names in this paper follow the English spelling. In the other reports the Dutch spelling was used. Thus Agusan here = Agoesan; gunong = goenong, etc. The Expedition's route map is found in Part I. (Editor.)

Proceedings of the Academy of Natural Sciences
of Philadelphia, 54 1942 pp. 107-165, pls. 3-6

direction to Kuta Tjane (alt. about 500 ft.) in Atjeh, Sumatra's most northerly province. Immediately around this town there are many rice fields and coconut palms. In May, on the return trip a good deal of collecting was done in this neighborhood, mostly at a distance from the town in places where there was much mixed original and secondary forest. From Kuta Tjane the motor road continues 20 km. to the base of Gunong [Mount] Shaitan (900 ft.). Beyond this point horses must be used; the valley of the Alas narrows and the forest growth is mainly original rain forest. Along the valley 24 km. farther on lies the village of Meluwak (2,100 ft.). Here the trees are very large, often about 250 feet high, and the transition from lowland fauna to highland fauna takes place.

After 4 days in Meluwak the party moved along the valley 24 km. to Kungke (3,100 feet) where there are many durian trees and where orang-utangs are common.

From Kungke the road continues through the Alas valley for about 8 km. and then northeasterly for 10 km. to Agusan (4,900 ft.), and to Blangkedjeren¹ (15 km. farther on) lying in a valley (2,900 ft.) the bottom of which is covered with ricefields. Here the landscape is park-like and there is a complete absence of the jungle that is so dense in the Alas valley.

On March 28 the party moved 20 km. westward to Blangnanga (3,700 ft.), on a bluff overlooking the Tripa River. Here it remained for 9 days, working at altitudes ranging from 3,500 to 4,700 ft.

From Blangnanga the trail ascended very steeply to 7,900 ft., where Bivouac No. 1 was made. At 6,500 ft. the change was very noticeable from foothill jungle to moss forest, with trees averaging only 15 to 40 feet in height, very hard, knotted and twisted. Everywhere the ground and the branches of the trees were covered with a deep carpet of moss and ferns. From Bivouac No. 1 the trail passed over a narrow 9,000 foot ridge to Bivouac No. 2 deep in the forest at 6,900 ft.

On the third day the base camp Blangbeke was reached. This camp was situated on a flat heathy plateau whose surface had an average elevation of about 7,000 ft.; surface of the "blang" mostly bare or covered with grass interspersed with patches of bushes and low trees. Thence to the top of Mount Löser conditions were virtually uniform. The party now proceeded by a series of "bivouacs" until on May 6 it made the ascent of Mount Löser's peak no. 1. This peak lies northeast of peak no. 2, to which it is connected by a long ridge; the altimeter reading on peak no. 1 was 10,300 ft. Peak no. 2 is probably 200 feet higher. On May 11 the party

¹ "Blang" is a word in the language of the Gajos, the people inhabiting the central highlands of Atjeh. It means 'open place' or 'clearing' as opposed to thick jungle. High in the mountains these grassy meadows are numerous. They are similar to the 'balds' in the Great Smoky Mountains in Tennessee; and the surrounding tangles of rhododendron increase this resemblance. The native radjas are called 'kedjuruns', and thus the village of Blangkedjeren and its grassy valley are actually 'the radja's clearing'." (Letter from Mr. Ulmer, April 22, 1940; for appearance of a "blang" see Pl. 6, fig. 6.

returned to Blangkedjeren; and by May 18 collecting was finished and the entire party was once more in Medan. The expedition was then officially over, except that Mr. Ripley and Mr. Ulmer visited Tapanuli Bay (May 31-June 2) and the island of Nias (June 5-13) while final arrangements were being made for the homeward voyage.

The collection of mammals made during this expedition numbers 240 specimens pertaining to 66 species, three of which, *Callosciurus nigrovittatus*, *C. vittatus*, and *Rattus rajah*, are represented by two subspecies each. The total number of recognized forms is therefore 69, of which six, belonging to the genera *Presbytis*, *Hylobates*, *Callosciurus*, and *Rattus*, are here described as new. This material is of particular interest because the mammal fauna of Sumatra's highland districts has hitherto been practically unrepresented in American museums.

1. *Echinosorex gymnurus gymnurus* (Raffles)

Yuerra gymnura Raffles, Trans. Linn. Soc. London, vol. 13, p. 272, 1821 (Type locality, Sumatra, near Benkulen).

Echinosorex gymnurus Cabrera, Genera Mammalium, Madrid, p. 58, 1925.

Echino-Sorex gymnurus gymnurus Chasen, Handlist, p. 11, April 1940.

20371, ♀ imm., Kuta Tjane, Atjeh (600 ft.); large upper premolar beginning to pierce maxillary bone. Head and body, 297; tail, 241, hind foot with claws, 57; ear from crown, 22. Skull, condylobasal length, 168; zygomatic breadth, 31; breadth of braincase at roots of zygomata, 22; depth of braincase (median), 16; mandible (from articular process), 51; depth of mandible at middle of m_2 , 6.4; maxillary toothrow (alveoli), 38.6; mandibular toothrow (alveoli) 33.4; weight, 11.2 oz.

The specimen shows no peculiarities. "Captured alive by natives near Kuta Tjane. Had a very offensive odor. The Malays call this animal 'Tikus bulan' (= moon rat)." This quotation and others of the same kind are taken from Mr. Ulmer's field notes.

2. *Hylomys suillus maxi* Sody

Hylomys suillus maxi Sody, Ann. and Mag. Nat. Hist., ser. 10, vol. 12, p. 438, October 1933 (Type locality, Giesting, Lampung, southeast Sumatra); Chasen, Handlist, p. 12, April 1940.

20372, ♀ ad. Blangnanga, Atjeh (3,600 ft.); 126.5 × 17.5 × 26.5 × 10. Wt. 1.9 oz.

20373, ♀ ad. Blangbeke, Atjeh (7,000 ft.); 123 × 21 × 26 × 15. Wt. 1.6 oz.

20374, ♀ ad. Blangbeke, Atjeh (7,000 ft.); 111 × 23 × 26 × 14.5. Wt. 1.1 oz.

20375, ♀ imm. Blangbeke, Atjeh (7,000 ft.); 94 × 21 × 25 × 13. Wt. 0.8 oz.

20376, ♀ ad. Blangbeke, Atjeh (7,000 ft.); 117 × 22 × 25.5 × 14. Wt. 1.5 oz.

20377, ♂ ad. Blangbeke, Atjeh (6,800 ft.); 128 × 22 × 27 × 14. Wt. 1.9 oz.

these spike traps. The relentless pursuit of the rhinoceros was spurred by the fabulous prices paid by wealthy Chinese for the horns, bones, blood, and other portions of the animal. Rhinoceros horn is credited by the Chinese with curing all diseases; but they particularly prescribe it as an aphrodisiac. The pawong used to obtain 250 rupees (guilders) for a catty (1.36 lbs.) of powdered horn.

"On the south side of Gunong Löser we entered an area of fire-blasted timber and the pawong said that the rhino-hunters years ago fired the forest to drive the animals down to the valley where they could be slaughtered. He also mentioned that the natives, except when hunting, avoided the rhinoceros-inhabited mountains because truculent rhino bulls often charged unwary travellers.

"A Captain of the Dutch regiment stationed at Blangkedjerèn said that in his four years in Atjeh he had seen but one rhino. It was near the west coast and was, curiously enough, the one-horned *R. sondaicus*.

"The small *Didermocerus sumatranus* has poorly developed skin folds, and because of its smooth skin is called in Malay 'badak gajah' (elephant-rhinoceros) or 'badak kerbau' (buffalo-rhinoceros). The larger *Rhinoceros sondaicus* has heavy skin-folds and the entire skin surface is finely scamed, giving it a scaly appearance. Because of this the Malays call it 'badak bersih' (scaly rhinoceros) or 'badak tenggiling' (pangolin rhinoceros)."

65. *Tragulus napu niasis* Lyon

Tragulus napu niasis Lyon, Proc. U. S. Nat. Mus., vol. 52, p. 455. December 30, 1916 (Type locality, Kwala Mojeia, Nias); Chasen, Handlist, p. 194, April 1940.

20412, ♂ imm. (third molars below margins of alveoli; milk dentition slightly worn), Hilisimaetano, southern Nias; 457 × 79 × 132 × 38. Skull, greatest length, 99.8; zygomatic breadth, 39.8; mandible, 73.2.

This specimen shows no peculiarities as compared with those of the original material (8 skins) collected by Abbott in 1905.

"Shot at 10 P. M. in thick jungle. Many ticks."

66. *Rusa equina* (Raffles)

Cervus axis Raffles. Trans. Linn. Soc. London, vol. 13, p. 263, 1822 (not of Erxleben, 1777).

Cervus equinus G. Cuvier, Oss. Fossiles, ed. 3, vol. 4, p. 45, 1825 (based on the *Cervus axis* of Raffles and on specimens collected in Sumatra by Diard and Duvaucel; vicinity of Benkulen may be regarded as the type locality).

Rusa equina Gray, List Spec. Mamm. Brit. Mus., p. 179, 1843.

Cervus unicolor equinus Chasen, Handlist, p. 201, April 1940.

20236, ♀ imm., permanent dentition in place, just beginning to wear, Blangbeke Dua (3,700 ft.), Atjeh, May 10, 1939. 1696 × 189 × 482, ear from notch, 169; ear from crown, 200; greatest length of skull, 331; zygomatic breadth, 130; occipital breadth, 96; palatal breadth including first molars, 96.8; length of nasals (median), 98; greatest combined breadth of nasals, 31; ratio of nasal breadth to length, 31.6; length of mandible from

body, 2100; height at shoulder, 970. Skull, condylobasal length, 482; zygomatic breadth, 192; breadth of braincase above roots of zygomata, 192; depth of braincase to lower margin of occipital condyles, 122; mandible, 362; upper molar-premolar row (alveoli), 152; lower molar-premolar row (alveoli), 143.

The Malay tapir is strictly protected by Dutch law in Sumatra; not even scientific institutions being allowed to collect it. Our specimen was one of a pair trapped alive by natives in the swampy lowland jungles of Mengbang Muda, in the Asahan district, for Carl Berthold. They were exhibited in the Deirenpark at Medan and the mate is still there.

Carl Berthold, the well-known animal dealer of Medan, has noted that rhinos in the wilds suffer from an eye disease and are often blind.

The Malay name of 'kuda ayer', for this beast is very appropriate, literally meaning 'water-horse'."

Didermoceros sumatrensis (G. Fischer)

Rhinoceros *sumatrensis* G. Fischer, Zoognosia, vol. 3, p. 301, 1814. Based on Bell's "double horned Rhinoceros of Sumatra", Phil. Trans. Roy. Soc. London, vol. 83, p. 3, 1793.

Rhinoceros sumatranus Raffles, Trans. Linn. Soc. London, vol. 13, p. 268, 1822.

Didermoceros sumatranus Hubback, Journ. Mamm., vol. 20, no. 1, p. 1, February 14, 1930.

Rhinoceros sumatrensis Chasen, Handlist, p. 207, April 1940.

20242, ♂ imm., skull only (m¹ and m² in place, m² below alveolar margin). Condylobasal length, 482; zygomatic breadth, 255; lacrimal breadth, 140; occipital depth thru condyle, 165; mandible, 397; mandibular depth thru coronoid process, 78; maxillary toothrow (alveoli), 200; mandibular toothrow (alveoli), 205±.

Carl Berthold presented to us the skull of an immature two-horned Rhinoceros captured in Atjeh by the natives several years ago. Mr. Berthold obtained a permit from Buitenzorg to keep it in captivity, but before he could reach Atjeh the natives killed it and so he preserved only the skull. Rhinoceroses are close to extinction in northern Sumatra, although a few are supposed to remain in remote parts of the Wilhemina Range. A 'pawong' or native chieftain told us that the animals once were very numerous on the plateau at Blangbeke. Scattered about the blangs we saw many shallow clay-lined pools in which he said the rhinos used to wallow. Some of these depressions were dry, with roots and sods torn up as if by the animals' horns. The pawong and his men hunted the rhinos here twenty years ago, using both guns and dead-falls over the rhino trails. We encountered the remains of a deadfall along the trail to Blangbeke. It consisted of a huge log in which, originally, a sharpened bamboo blade was inserted. This spear was suspended over the trail and the blundering rhino tripped the rattan trigger-cord, releasing the spear. Sometimes natives were killed in these traps. The pawong personally had captured 24 rhinos with