ARTICLE XXIII.—*Description of a New Species of Capromys, from the Plana Keys, Bahamas.* By J. A. ALLEN.

The Museum has recently received specimens of a small, short-tailed *Capromys*, collected by Mr. D. P. Ingraham on one of the Plana Keys, Bahama Islands, where he found the species abundant. Its nearest ally appears to be the *Capromys brachyurus* of Jamaica, a species (sometimes erroneously synonymized by authors* with the *Plagiodontia ædium* F. Cuvier of Hayti and San Domingo) which it resembles somewhat in external characters. It is also of interest to note in this connection that an allied form (*Capromys brachyurus thoracatus*) has been recently described by Mr. F. W. True from Little Swan Island, off the coast of Honduras.†

Capromys ingrahami, sp. nov.

Similar in size and proportions to *Capromys brachyurus* Hill from Jamaica.

Pelage coarse and harsh at the surface, softer beneath. General color above mixed reddish or yellowish brown, gray, and black, giving the general effect of grayish brown. The hairs individually are plumbeous at base, passing into blackish, subapically ringed with pale yellowish gray varying to yellowish brown, the extreme tip blackish; with these, however, are many hairs wholly blackish. Front and sides of head rather darker and with less brown; upper surface of both fore and hind feet brighter brown than the back; soles black, warty; basal half of tail well haired, pale rusty brown, as also the long hairs at its base, in contrast with the general coloration above; apical half blackish, the hairs short but concealing the annulations. Below, nearly uniform pale yellowish brown, barely a little more yellowish posteriorly. Ears of the usual form in *Capromys*, blackish, scantily haired on both surfaces, slightly fringed with dusky hairs on the anterior border. Whiskers long, blackish. Thumb rudimentary, being little more than a tubercle armed with a very short nail.

Measurements.—Head and body (two specimens), 280 to 320 mm.; tail vertebræ (still *in situ* in one specimen), 55; hind foot, 53 to 55; fore foot, 30 to 32; ear, height from crown, 16; greatest width, 17.

Skull.—Total length, 63 mm.; greatest width, 32; least width between orbits, 17.5; length of nasals, 21; length of frontals, 21; length of upper molar series, 15; distance between inner margins of the upper anterior molars, 2.5; distance between inner margins of posterior molars, 5.5; distance from anterior upper molars to incisors, 16; length of lower jaw (tip of incisors to posterior edge of condyle), 44; tip of incisors to tip of coronoid process, 48; height of condyle, 18.5; length of lower molar series, 14.5.

* *Cf.* Trouessart, Cat. Mam. viv. et foss. Fasc., III, p. 125.
† Proc. U. S. Nat. Mus., 1888, p. 469.

A second and somewhat older skull is slightly larger (total length, 66 mm.), but not otherwise different.

Type, No. $\frac{8968}{8088}$, Am. Mus. Nat. Hist., Plana Keys, Bahamas, Feb., 1891; D. P. Ingraham.

Mr. Ingraham collected 20 specimens of this animal, 14 of which he has kindly transmitted to me for examination, together with his MS. notes on their habits. The skins are distorted, unfilled specimens, and hence unsatisfactory for study and measurement. The above description was based on two specimens kindly presented by Mr. Ingraham to the Museum. The 12 additional specimens since received enable me to speak further of their external characters. The majority of the specimens present no very noteworthy differences from those above described. As nearly as can be judged they are nearly all of about the same size; several are smaller and evidently (judging by the femora attached to the skins) younger than the others. Unfortunately the specimens are not labeled with the sex, and it is impossible to determine the sex from the skins. Mr. Ingraham assures me, however, that he noticed no sexual difference in either size or color.

As regards coloration, some are quite strongly suffused with yellowish and have less black; others are faintly suffused, giving the general effect above of pale yellowish gray mixed with black. Below the color varies from soiled white faintly suffused with buff to rather strong buff. In most specimens the area surrounding the base of the tail, and also the basal third or half of the upper surface of the tail (sometimes the whole upper surface of the tail) is strongly rufescent brown; in other specimens this region is nearly or quite concolor with the back. A single specimen is melanistic, being entirely brownish black, varying to nearly black over the median line of the dorsal region, mixed with reddish brown, more especially over the lower back, sides of the body and feet.

Mr. Ingraham has kindly furnished the following notes respecting the discovery and habits of the animal it gives me pleasure to name in his honor, in recognition of his work as a collector during several winters spent by him in the Bahamas and in Yucatan. He says:

"On the morning of February 11, 1891, we anchored under the lee of the easternmost of the Plana Keys, in latitude about 22° 33′ north, longitude 72° 30′ west, and about half-way between the northeast point of Acklin Island and Mariguana of the Bahamas; and on going on shore we saw unmistakable signs of the little rodent known among the natives as the 'Hootie' [=Hutia].

"The key is a small rocky islet, the highest point of which is probably not more than fifty feet above the surrounding ocean, with crevices and caves worn in the rocks by the action of water, and in many places broken strata of rocks piled upon each other, leaving cracks and crevices between and beneath them. The islet may be slightly more than half a mile wide and four or five miles long, entirely without fresh water except in the rainy season, when pools of fresh water may be found in the holes in the rocks. There is a small growth of shrubby bushes in the rocky crevices, and in some parts of the lower ground a growth of black buttonwood, and on the western end of the islet a light growth of the silver-leaved palm, with here and there different forms of cacti scattered over the island. A few paw-paw trees were also found where the seeds had evidently been dropped. About a mile and a half west of the key is another small key, of about the same size and of the same geological formation, but separated from it by a deep passage. This is the only land within twenty miles or more, and my sailing charts indicate a depth of water of several thousand feet.

"Although these islands are only about a mile and a half apart, their fauna is very distinct outside of a small lizard common to all of the rocky islands of that part of the Bahamas.

"The 'Hootie' [Hutia] occupies only the eastern island, which, with the lizard and a few varieties of birds, constitutes its entire [vertebrate] fauna. Neither am I able to learn of its being found in any other portion of the Bahamas.

"During my stay of two weeks, weather bound, under the lee of the island, I secured about twenty specimens of this animal, which at first I thought was gregarious in its habits, or inclined to live in colonies, but the occurrence of so many individuals at this point may have been due to the favorable conditions of the locality for affording it hiding places. I once saw quite a num-

ber together away from the rocks, among the palmettos, but on a subsequent visit to the island I came to the conclusion that the gathering was on account of its being about the rutting season. Its food was the leaves, twigs and bark of the bushes, especially the black buttonwood, and the succulent growth of the cactus plants. It seemed very fond of the fruit of the paw-paw, and even of the body of the tree itself, as I have seen the trunks of this tree, nearly as large as my body, eaten so nearly off that they would not sustain their own weight. A sweet potato left on the shore was eaten up, while the body of a bird, left to tempt them, was untouched.

"When wounded it seldom made any attempt to defend itself, although in one instance, when I put my foot on a wounded one, it tried to bite me. It feeds mostly by night, although found occasionally foraging during the day. I saw no indication of its burrowing, the numerous holes and crevices in the rocks perhaps rendering this unnecessary. In its movements and shape when running it reminded me very much of the Muskrat. It would run nearly as fast as I could. I had to shoot most of the specimens I obtained, but I secured a few, down in the palmettos, by chasing them and stamping on them, as they ran under the palmetto leaves. It was not shy, as when it was away from the rocks I could approach within twenty-five or thirty feet of it by moving cautiously, when it would take to the rocks.

"I opened a number of the animals during my stay for the purpose of securing a fœtus for an alcoholic specimen, but failed to obtain any."—INGRAHAM, *MS. Notes.*

As intimated at the beginning of this article, *Capromys ingrahami* is most nearly allied to the Jamaican *C. brachyurus* Hill, so far as can be judged by descriptions, no specimens of it being known to be extant in this country. Through the kindness of Mr. F. W. True, Curator of Mammals at the U. S. National Museum, I am able to make a direct comparison of *C. ingrahami* with his *Capromys brachyurus thoracatus*, from Little Swan Island, off the coast of Honduras, of which he has sent me the skull of the type and one of the two skins on which the subspecies was based. In general effect the coloration of some of the Plana Keys specimens

is indistinguishable from the skin of *C. b. thoracatus;* others, however, are more suffused with reddish brown. *C. ingrahami* is a much smaller animal, with a relatively longer tail. The skulls of the two forms show the same discrepancy in size, and besides differ much in various structural details. The anteorbital portion of the skull in *C. ingrahami* is much smaller, with the nasals much narrower and much less arched at the anterior border; the anterior palatine foramen is one-half narrower and much shorter; the maxillary portion of the zygomatic arch is much less expanded laterally, and the palatal surface is more deeply pitted in front of the molar series; the palatine surface is less extended posteriorly, terminating on a line separating the third and fourth molariform teeth, instead of extending as far as the posterior border of the last molar. The most striking difference is seen in the form of the zygomatic arch, the malar being one-third less in vertical expansion, and lacking entirely the angular expansion at the lower posterior border, which forms so prominent a feature in *C. b. thoracatus* (see Figs. 9 and 10), and also in *C. pilorides* and *C. prehensilis.* The two forms also differ slightly in details of dentition (see Figs. 1 to 4), and in the form of the mandibular rami.

C. ingrahami appears to resemble *Plagiodontia ædium* of Hayti in size, coloration, and in its relatively short tail, but it being a true *Capromys* needs no further comparison with *Plagiodontia.*

The present is by no means the first record of *Capromys* from the Bahamas. Catesby's *Cuniculus bahamensis* is evidently one of the larger species of the genus, but which one, or whether really from the Bahamas, is at present beyond determination. Columbus, however, on his first voyage to the West Indies, evidently found some form of the genus abundant at nearly all of the several Bahama Islands he visited; and Mr. C. B. Cory informs me that "a peculiar large rat, probably a *Capromys,*" is said to occur abundantly on the island of Mariguana, a few miles to the eastward of Plana Keys. Mr. Ingraham, however, replying to my inquiries on this point, writes me that he spent from the 22d of February to the 30th of March, 1891, at the island of Mariguana. He says: "The island has a coast line of about seventy-five or eighty miles, and I have walked nearly or quite half of this dis-

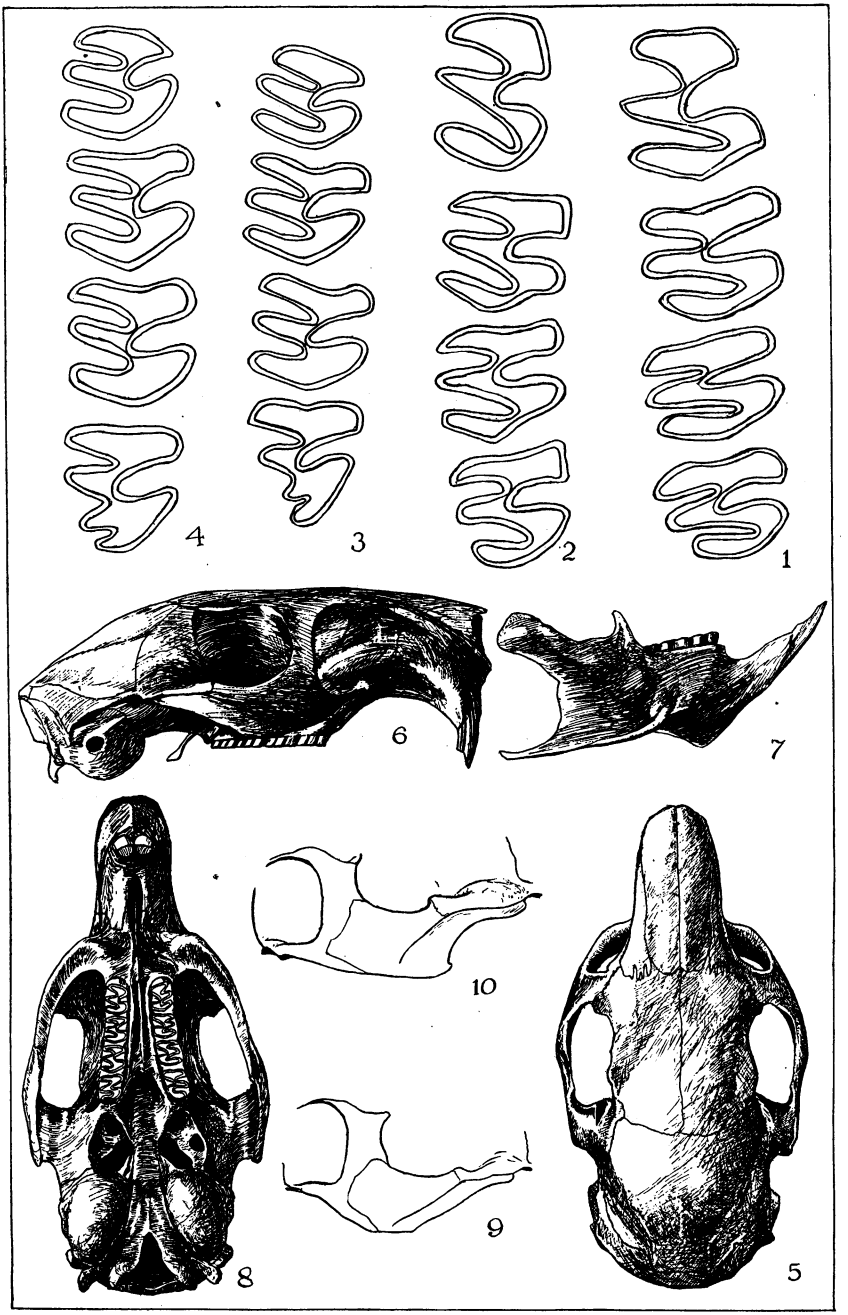
tance. I have been four or five miles into the interior, and indeed there is not a part fifteen miles in extent that I have not visited. I saw no signs of *Capromys* anywhere on the island, nor did I hear of any such animal from the inhabitants, who, however, repeatedly told me of the 'Hootie' on the Plana Keys. Hence I may say unhesitatingly that it is not found on the island of Mariguana."

Mr. Ingraham, who has visited a large number of the keys and islands of the Bahama group, further informs me that he has never heard of the existence of any similar animal elsewhere in the Bahamas. An animal so helpless and easily destroyed as the Hutia may, however, have formerly existed at many points in the Bahamas and Antilles, where it is now extinct.

The first European explorers of the West Indies found these peculiar rat-like animals abundant in various parts of the Antilles, and vague descriptions of them were given under their various native names by the writers of the sixteenth and seventeenth centuries, notably by Oviedo in his "Historia general de las Indias," published in 1547, and later by Rochefort, Duturtre, and Browne. As these little beasts were in great quest as food, from the delicacy of their flesh, by both the natives and the Spanish colonists, they quickly began to become scarce, a fact noted even by Oviedo, who says they were hunted by dogs brought from Spain. They were so common in Jamaica at the time of Columbus's visit that he is said to have "victualled the famous canoe expedition of Diego Mendez with them."* The narrators of his voyage make frequent mention of their abundance not only in the Bahamas and at Jamaica, but also in Cuba and Hispaniola. Oviedo speaks of three kinds, and later writers mentioned others, without, however, describing them so as to give a very clear conception of their characters. They have been referred to as occurring throughout the Greater Antilles, except in Porto Rico, and in the Bahamas. The earlier natural history compilers introduced them into their works, greatly to the distraction of later systematic writers.

Although these animals are apparently still not uncommon at certain localities on the larger islands, they have doubtless everywhere greatly decreased in numbers, and probably at many points

* Zool. Journ., Vol. IV, 1829, p. 277.



1, 3, 5–9, Capromys ingrahami; 2, 4, 10, C. brachyurus thoracatus.
(1–4, *about four times natural size*; 5–10, *natural size.*)

have been wholly extirpated. Though said to be still common in Hayti and San Domingo, and in portions of Cuba, they have been practically exterminated in Jamaica. Specimens, however, are very rare in collections, and even at this late day our knowledge of the group is very inexact, while some of the forms have doubtless already become extinct.

Five or six species have of late years been commonly recognized, about as follows :

1. *Capromys pilorides* (Say). Hab. Cuba.
2. *Capromys prehensilis* Poeppig. Hab. Cuba.
3. *Capromys brachyurus* Hill. Hab. Jamaica. Now nearly extinct.
4. *Capromys brachyurus thoracatus* True. Hab. Little Swan Island, off coast of Honduras.
5. *Capromys ingrahami* (as above described). Hab. Easternmost of the Plana Keys, Bahamas.
6. *Plagiodontia ædium* F. Cuvier. Hab. San Domingo.

Of doubtful status is *Capromys melanurus* Poey, from Cuba. Possibly some of the other supposed nominal species may have a valid basis, as I have before me three distinct species alleged to have come from Cuba. Besides, I am informed on credible authority that a long-tailed, as well as a short-tailed, Hutia is found in Hayti. Nothing however can be done in the way of a satisfactory revision of the group with the material at present accessible in American museums.

Explanation of the Figures.

Fig. 1. Pattern of enamel folds, left upper molar series, in *Capromys ingrahami* (No. $\frac{8088}{8969}$, Am. Mus.).

" 2. Same, in *C. brachyurus thoracatus* True (No. $\frac{22681}{15897}$, U. S. Nat. Mus.).

" 3. Same, left lower molar series, in *C. ingrahami*. From same specimen as Fig. 1.

" 4. Same, left lower molar series in *C. brachyurus thoracatus*. Same specimen as Fig. 3.

" 5–8. *C. ingrahami*. Figs. 5–7 from same specimen as Figs. 1 and 3; Fig. 8, from a somewhat older and larger specimen (No. $\frac{8088}{8968}$, Am. Mus.), No. $\frac{8088}{8969}$ having the base of the skull imperfect.

" 9. Zygoma of *C. ingrahami* from same specimen as Figs. 1, 3, 5–7.

" 10. Zygoma of *C. brachyurus thoracatus* True, from same specimen as Figs. 2 and 4.