

THE MAMMALS OF ST. CROIX, V. I.

By HARRY A. BEATTY

The mammalian fauna was very poorly represented on St. Croix. Of 8 recorded species, 3 of them, *Capromys*, *Isolobodon* and *Dasyprocta*, became exterminated during historic times, and probably were influenced directly by the destruction of the original forests. The dispersal over the island of the three extinct species and their importance in the Carib economy is borne out by the abundance of remains found in kitchen middens. Later, followed the introduction of 4 species of exotic animals. The arrival of *Rattus* is unrecorded. The mongoose was thought to be the answer to the sugar cane planter's prayer for an efficient enemy of the rats which had overrun the plantations, becoming an important pest and doing considerable damage to the crops annually. Amid much ceremony and well wishing 3 pairs of mongoose were liberated on the island in 1867. There is evidence that the rats have been considerably reduced but they are yet here and still a serious pest, along with the mongoose. The deer was brought in from the continent by the captain of a trading schooner about the year 1790.

I am indebted to Alexander Wetmore for determinations of the fossil material and to Geret S. Miller, Jr., for the identifications of bats. Remington Kellogg very kindly arranged the orderly presentation of the nomenclature and identified the mongoose and the deer. The *Muridae* was determined by the writer.

Class MAMMALIA

Subclass Eutheria

Order CHIROPTERA (Bats)

Family NOCTILIONIDAE

1 *Noctilio leporinus mastivus* Dahl

I think this is one of the most highly odorous of the bats and a keen olfactory can detect the pungent musk as the animal passes by even though it may be fifty feet away. It would be unusual to find *Noctilio* in the woods but a trip to the nearest body of water, whether it is a pool, a large dam or in a quiet bay, will reveal the aptness with which it can pick up insects and small fish on the surface. For the purpose it has developed a skin pouch controlled by the hind limbs and whatsoever is scooped up is quickly transferred to the mouth and as the creature continues in graceful flight a distinct crunching sound can be heard as the food is chewed in powerful jaws. This bat is rare.

Family PHYLLOSTOMIDAE

1 *Brachyphylla cavernarum* Gray

Small colonies seek shelter in old buildings in disuse or cluster together in dense tree tops. Common.

2 *Artibeus jamaicensis jamaicensis* Leach

This bat is often found in sizable colonies sheltering in old buildings side by side with *Brachyphylla* but the two species do not intermingle. Little bunches of five or ten can be seen hanging from the fronds of the coconut palm or in trees with heavy foliage. The female is often seen flying at dusk with her young clutching to the fur on her abdomen. A common species.

Family MOLOSSIDAE

1 *Molossus major* Kerr

This the most common bat on the island can be seen at dusk high in the air, pursuing flying insects. During daylight it secretes itself in crevices and more often in the dark ceilings in houses. Both sexes have a musk gland beneath the chin and its strong pungent odor pervades its haunts.

Order CARNIVORA

Family VIVERRIDAE (Mongoose)

1 *Herpestes javanicus auropunctatus* Hodgson

The impact of this vicious little predator upon the avian fauna is reflected in the rapid numerical decrease of ground-nesting birds, notably the Bobwhite (*Colinus virginianus*), after its introduction into the island from India, via Jamaica, in 1867. It has become well dispersed; its habits are very simple and my recent studies have shown that it can be eradicated from the island. That it is an exceedingly healthy little beast is shown in an intensive search for diseased material which, so far, has been unsuccessful but it is pestered by fleas (*Ctenocephalides felis*) and an insatiable appetite. It begins its day hunting for lizards on the dew-laden grasses at dawn and may climax it with a bird or two at setting of the sun. As an omnivorous feeder it is notorious and is fond of live reptiles, snails, insects and small animals as well as decomposing tissue and ripe fruits. During the mating season a den is prepared in a hollow log or other natural cavity and there a pair of kittens is born in July-August. The mongoose rarely climbs into trees and will haunt the borders of a pond in its search for crabs and dead fish. Erik Lawaetz tells a story

of how his attention was attracted to a tall tree by the squeaking of a rat. He saw a mongoose rummaging in the bulky leaf nest of a rat when suddenly the rat ran out and quickly reentered. This was followed by agonizing squeaks after which the rat lurched from the nest and fell to the ground twenty-five feet below. It had been injured by the mongoose, but dragged itself into the dense underbrush and was lost. The mongoose presently emerged from the rat's nest and, as Erik says, "was licking his chops." From the behavior of both the rat and the mongoose it is probable that young rats in the nest were the victims. But the mongoose has its trials too for one day I saw a hawk (*Buteo jamaicensis jamaicensis*) pick up a half-grown young from atop a rock pile. Similar occurrences have been related by the hill folks.

Order RODENTIA

Family MURIDAE

1 *Mus musculus musculus* Linnaeus

Common in the fields and woods, and about dwellings. No parasites have been recorded from this mouse.

2 *Rattus rattus alexandrinus* Geoffroy

Tree rat. The nest of the tree rat is a familiar sight in the woods. It is constructed of green leaves that are loosely held together by the small branches clustered at the end of a limb; saplings and vines offer the best sites. But this rat is at home equally in the lagoons where the large bulky nest is placed in the small mangrove clumps often growing in isolated spots and the rat must swim to and fro on foraging expeditions. This nest is usually three feet in diameter and while the outside is quite dry, the core is always being replenished, almost nightly, with fresh green leaves. A test has shown that considerable humidity and a marked thermal increase are released by bacterial action on the green vegetable matter, creating an environment that must be essential to the physical comfort of the animal. When a nest is disturbed the rats flee instantly, plunging into the water and swimming below for twenty feet before surfacing.

3 *Rattus norvegicus* Berkenhout

House rat. The common rat about buildings. It is notorious for the destruction of chickens and small mammals, as well as doing wide-spread damage to stored produce. The nest is constructed of any thing available and the preferred location is in a tree hole, in boxes in the cellar or in burrows in the ground.

Family ECHIMYIDAE (Spiny Rats)

1 *Capromys* sp.

Skeletal material has been recovered from the kitchen middens in Carib settlements located in the western two thirds of the island which was heavily forested at the time.

2 *Isolobodon* sp.

Kitchen middens also yielded the only evidence known of the occurrence of the animal in the island.

Family DASYPROCTIDAE (Agoutis)

1 *Dasyprocta aguti* Linnaeus

There are no recent records of the agouti in St. Croix but it is yet found in the forests on some neighboring islands. Kitchen midden material indicates that it was abundant during the Carib era, and the wide extent to which it was used as food. The passing of the agouti from the island is, probably, simultaneous with the destruction of the heavy forests during historic times and it became an easy prey of hunting dogs.

Order ARTIODACTYLUS

1 *Odocoileus virginianus* subsp.

This form of the North American white-tailed deer has become happily adjusted to its environment on St. Croix, following its introduction in 1790. There is abundant evidence of its physical stamina and the examination of carcasses for internal parasites have yielded only the adult worms of *Cysticercus tenuicollis* which were attached to the mesenteries. This worm also has been reported from sheep in the island.

The deer is subjected to infestations with the cattle tick, *Boophilus annulatus microplus*. During a campaign devised for the extermination of this tick from the island the deer, it was agreed, was host to the tick and therefore a potential menace to the cleanup program and so was destined for a vigorous campaign of slaughter. In the course of the first twelve month period approximately one thousand two hundred deer were killed and many of them were carefully examined. All domestic animals, meanwhile, were subjected to dipping in arsenical solutions. At the close of the twelve month period I checked my field notes and observed that deer killed six months after dipping had begun were entirely tick-free and this record was maintained unmarred up until such time as the project was discontinued. Later, by a careful analysis of all the accumulated data, I was able to arrive at conclusions as following. It is wholly unnecessary to eradicate the deer on St. Croix in any attempt to make the island tick-free. The

only expedient suggested is an effort aimed at reducing the deer first to a numerical low level by increased hunting pressure and thereafter to maintain a continual movement of the deer in every section of the island. This could best be accomplished by a crew of beaters with dogs. By this method, the deer is not allowed to bed down in a favorite haunt which would be naturally infested with seed ticks. By frustrating the instinct of the seed tick to attach itself to a warm blooded host it will perish from the lack of nourishment within thirty days. Other stray ticks picked up by domestic animals were killed by dipping.

The rutting season for deer begins in June and is persistent until about September. The length of the gestation period is undetermined and it may be 120 days. The fawning season is from November to February when twins are born to the matured does and a single fawn is dropped by the young doe. The sex ratio of fawns is predominantly female and it is uncertain whether a set of twins will be of mixed or similar sexes. There is some evidence to bear out the belief that similar sexes, rather than the exception, is nearer the rule. The buck sheds his antlers during September-November and it is nothing unusual to see several of them ranging together at that time. The new antlers reach maturity about six months later. The yearling buck sprouts his spike horns at 7-8 months of age at a time when the fur is assuming the brown spotless coat of the adult. The exceptions at variance with this data are the records of fawns born in every month of the year. The post-seasonal fawning rate appears to be quite low, and is in itself a biological phenomena already observed among members of this family in the tropics. However, it is suspected that yearling does are principal offenders in these instances.