OBSERVATIONS ON THE AQUATIC GENET IN ZAIRE

John A. Hart

Department of Geography,
Michigan State University,
East Lansing, Michigan 48824

Robert M. Timm

Department of Entomology,
Fisheries, and Wildlife
and Bell Museum of Natural History,
University of Minnesota,
Twin Cities, Minnesota 55108

The aquatic genet, *Osbornictis piscivora*, recently has been termed "by far the rarest African carnivore" (Coetzee, 1977). Most of the few museum specimens in existence were purchased from local hunters. The reports of aquatic genets in the literature provide little information concerning natural history. In this paper, we review what is known of the distribution for *Osbornictis piscivora*, report new records of occurrence, and present information on habits based upon field observations made by Hart and the Bambuti Pygmies. The nomadic Bambuti with whom Hart lived from July 1973 through February 1975 reside in villages and hunting camps in the Ituri Forest, 60 to 100 kilometers west and northwest of Beni, Republic of Zaire.

We have information on three new specimens of *Osbornictis piscivora*, as follows: 1) adult female (weight 1,500 g) captured on 31 December 1973 at Masange, 60 km west of Beni; 2) adult male (total length 785 mm, tail length 340 mm, length of hind foot 83 mm, length of ear 41 mm, weight 1,430 g) captured at the same location on 16 January 1974; 3) adult of unknown sex (no measurements available) captured on 10 March 1974 at Masenze, 70 km west of Beni. Both locations have coordinates of 00° 30' N, 28° 45' E. The female from Masange contained a single embryo about 15 mm in length. The skull of the specimen from Masenze has been deposited in the James Ford Bell Museum of Natural History, University of Minnesota, Minneapolis, Minnesota, USA (catalog number 13071).

FIGURE 1. A Mbuti hunter holding an adult male aquatic genet (right) and an adult female black-legged mongoose (left) captured at Masange, Republic of Zaire, 16 January 1974.

The Masange specimens, captured by hunters, were flushed by dogs near a small stream. The Masenze animal was snared in a hidden noose attached to a springy sapling and set on a small game trail on the forest floor.

Only 13 specimens of aquatic genets have been reported previously; all were captured in the Republic of Zaire, east or north of the Zaire River (see Rahm, 1965, 1966; Verheyen, 1962). All specimens, with one exception, were reported from heavily forested districts between 500 and 1,500 meters in elevation. The single exception is a locally tanned skin purchased near Butembo (see Schouteden, 1948). Quite probably this animal was actually captured in the lowland forest region to the west where people from Butembo have trade contacts. Butembo, at about 1,700 meters elevation, was originally covered by montane forest. The character of this original cover and ensuing second growth, quite unlike the lowland forest where all other aquatic genets have been captured, coupled with heavy human settlement, makes it unlikely that *Osbornictis piscivora* occurs in the area.

Our three aquatic genets were captured in a hilly district, between 700 and 1,000 meters in elevation, covered by extensive stands of virgin timber intermixed with second growth vegetation of varying age. The area is well drained and there are many streams and small rivers.

Osbornictis piscivora appears to be generally solitary in its habits, as hunters usually encountered this genet alone. Nevertheless, the two individuals taken at Masange, a pregnant female and an adult male, were captured only two-and-a-half weeks apart from the same local area of forest.

The two specimens from Masange were captured by Bambuti with the use of basenji, a small breed of dog. Hunters release one or more dogs, each wearing a wooden clapper, in a suitable area of forest. The dogs move ahead, criss-crossing back and forth until one encounters a fresh animal scent. A change in the sound of the wooden clapper informs hunters when a dog is on a trail. The hunters cannot know what game is being tracked so they follow the dogs until the game is flushed, put to bay or lost. This opportunistic method means hunters capture a wide variety of small game. In addition, hunters cover many microhabitats in their area, including rocky hill sides, bottom lands, virgin forest, and second growth.

The results of such hunts yield a sample of the diurnal mammalian fauna of the area. The proportion of the different species captured over a number of hunts may indicate their relative abundance. The following small carnivores (followed by number of captures and percentage of total) were taken with the use of dogs by Bambuti in the Masange-Masenze area in 53 hunts that resulted in 113 captures: Alexander's mongoose, *Crossarchus alexandri*, (76 - 67.3%); black-legged mongoose, *Bdeogale nigripes*, (28 - 24.8%); marsh mongoose, *Atilax paludinosus*, (5 - 4.4%); aquatic genet, (2 - 1.8%); spotted-necked otter, *Lutra maculicollis* (1 - .9%); and unidentified mongoose, (1 - .9%).

It seems unlikely that the habits of aquatic genets could account for their infrequent capture. Even if aquatic genets were nocturnal or crepuscular, thus rarely encountered by hunters, one would still expect them to be captured in snares. Hart, however, learned of only one *Osbornictis piscivora* snared in the Masange-Masenze area between 1973 and 1975, despite active inquiry among local trappers. This contrasts with several of the nocturnal genets which are regularly captured, judging from reports of trappers, and the numbers of skins preserved in the villages and offered for sale along the roadsides.

Both the Bambuti and neighboring Bantu agriculturalists consider aquatic genets to be rare. Most hunters and trappers have rarely if ever encountered it, and many local people are not even familiar with its name. Furthermore, the meat of the *Esele*, as the aquatic genet is known in the local languages Kibila and Kipakombe, is taboo and cannot be eaten, except by male elders.

The food and foraging habits of aquatic genets are an unknown but contested issue. The choice by Allen (1919) of the specific name "*piscivora*" implies that aquatic genets eat fish. Prigogine (cited by Schouteden, 1948 and Verheyen, 1962), on the other hand, reported learning from local people near Butembo and Katshungu, from whom he purchased skins, that the aquatic genet "feeds exclusively on Crustacea."

The Bambuti told Hart that aquatic genets primarily eat small fish, but on occasion will eat cultivated cassava tubercules (*Manihot* sp.), which have been left to soak in small streams as part of the preparation of flour. The stomach of the adult aquatic genet snared on 10 March 1974 contained numerous bones of small fish and one entire spineless catfish (family Clariidae), about 10 cm in length. At the time, the Bambuti suggested this fish was the favored prey of aquatic genets.

Additionally, dental morphology supports our observations that aquatic genets are piscivorous. According to Ewer (1973), the dentition of *Osbornictis* is adapted to deal with slippery vertebrate prey such as fish and frogs. She found it surprising that Verheyen (1962) reported that aquatic genets eat only crustaceans.

We also suggest that the distinctive bare palms of *Osbornictis* may be associated with specialized foraging habits and diet. The clariid catfish, which may represent a major element of the diet of aquatic genets, are nocturnal and live in small muddy holes in undercut stream banks. Bambuti often fish for these catfish by stirring up mud in likely holes, and then either feeling for and grabbing the fish with their hands or catching them with hooks baited with worms. Aquatic genets also may catch clariid catfish from muddy holes, bare palms being an adaptation which allows them to feel and handle these slippery prey.

ACKNOWLEDGMENTS

We thank Donna Day Baird, Elmer C. Birney, Terry Butler Hart, Lawrence R. Heaney, Carl D. Hopkins, and Roger D. Price for their helpful discussions, and comments on earlier drafts of the manuscript. Hart was supported by a grant from the Thomas J. Watson Foundation.

LITERATURE CITED

Allen, J. A. 1919. Preliminary notes on African Carnivora. *Journal of Mammalogy* 1: 23-31.

Coetzee, C. G. 1977. Order Carnivora. *In*: J. Meester and H. W. Setzer (Eds.), *The Mammals*

of Africa: An Identification Manual. Smithsonian Institution Press, Washington, D.C.

Ewer, R. F. 1973. *The Carnivores.* Cornell University Press, Ithaca, New York.

Rahm, U. 1965. Distribution et ecologie de quelques mammiferes de l'est du Congo. *Zoologica Africana* 1(1): 149-166.

_____. 1966. Les mammiferes de la foret equatoriale de l'est du Congo. Ann. Musee Royal de L'Afrique Centrale (Tervuren, Belgique), serie in-8°, *Sciences Zoologiques* 149: 37-121.

Schouteden, H. 1948 (1950). L'Osbornictis piscivora. *Bulletin du Cercle Zoologique Congolais* 20(1): 10-11.

Verheyen, W. 1962. Quelques notes sur la zoogeographie et la craniologie d'Osbornictis piscivora Allen 1919. *Revue Zoologie Botanique Africaines* 65(1-2): 121-128.