FOOD HABITS OF *AUBRIA SUBSIGILLATA* IN GABOON (ANURA: RANIDAE)

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ABSTRACT

In Gaboon, the frog *Aubria subsigillata*, at least at certain periods of the year, eats fishes of the genus *Epiplatys*. The fish are caught when they jump out of the water to escape their aquatic predators, or to look for different surroundings.

The African ranid genus *Aubria* Boulenger is represented by a single species, *A. subsigillata* (Duméril 1856), whose range covers the Guinean and Congolese forests. Although a robust species, the males are distinctly smaller than the females. Both sexes have a typical ranid body form, with a pointed muzzle and a uniform dark-green to olive back. In contrast, the ventral part has highly characteristic yellow or light-green spots, which are round on the abdomen and quadrangular below the head.

Owing to its nocturnal, burrowing habit, *Aubria subsigillata* is difficult to observe, and this explains why it is relatively scarce in zoological collections, where it is usually represented only by very young specimens. In fact, the species is common in many forested areas, for instance in the Ivindo valley and in the Wolen N'Tem in Gaboon, as well as in the Lobaye valley, Central African Republic, in the centre of the flooded primary forest that covers the south-west part of the country. In both regions, it seems to be always localized in wet, shallow parts and on the banks of brooks, as well as in permanent or temporary ponds.

During the day, the frogs burrow deeply into the loose, wet ground. I collected them frequently at 50 cm or deeper, while looking for Apoda. The method of digging is not well known, and is being studied during the present research programme. As soon as night falls the frogs emerge from their inconspicuous holes and become active, the activity stopping some time before sunrise. In fact I rarely collected specimens in the open after 01h00.

I was unable to observe mating or spawning. The eggs are very abundant and of the *Bufo* type. The tadpole, described by Schiøtz (1963), is dark-coloured and reaches 35–40 mm in length. Its development is fast, metamorphosis occurring on approximately the twenty-fourth day in the field. In behaviour the tadpoles belong to the 'social' type and frequently aggregate to form a compact ball. When they leave the water, the innumerable young froglets literally cover the bank like a carpet and remain there several weeks before beginning to dig. This contrasts with the behaviour of another frog, *Conraua crassipes* (Buchholz & Peters 1875), the young of which start to burrow as soon as they have left the water. These aggregations of young frogs represent a food much appreciated not only by adult *Aubria*, but also by *Ptychadena*, *Bufo camerunensis* Parker (1936), and even *Bufo superciliaris* Boulenger (1887).

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On several occasions in Gaboon I had the opportunity to observe by night, first in the moonlight, then with a petroleum lamp (since a hunting torch drives the frogs away), groups of adults clustered around small forest ponds. These ponds are caused by the uprooting of trees during storms and their subsequent rotting; they contain water almost all the year round and have an important and varied fauna. The frogs had their heads facing the water surface and were snapping up small animals which seemed to be leaping out of the water. To my surprise I found that these animals were fishes of the genus *Epiplatys* (Cyprinodontidae), which are known to leap out of water by curving the body in the search of a more convenient biotope when the ponds are drying out, or in order to escape predators. This feeding habit, which I thought at first to be exceptional, seems on the contrary to be the rule, at least in Gaboon, as was proved by many dissections.

During several trips in Gaboon, I collected about 250 adult specimens of *Aubria*. Of these, 190 were dissected for parasitological research and the stomach contents were studied at the same time. The results were as follows:

Number of specimens dissected	190
Empty stomachs	21
Stomachs containing food	169
Stomachs containing fish	103 (i.e. 62 per cent)

The details of the food content were as follows:

Arthropods, various	15,5%
Young *Aubria*	18%
Hymenochirus boettgeri	3%
Molluscs	1%
Aphyosemion sp. (Cyprinodontidae)	2%
Epiplatys macrostigma and *E. sheljuzhkoi* (Cyprinodontidae)	60%
Plant material	0,5%

There are many frogs which feed occasionally on fish. This is well known by the fish-farmers who are obliged to destroy the green frogs which eat their young fish. To my knowledge, however, this is the first time a species of frog has been found to feed customarily on fish, and moreover in a most original way. I intend to pursue the study of this interesting habit during a forthcoming stay in Gaboon.

REFERENCES

SCHIØTZ, A. 1963. The amphibians of Nigeria. *Vidensk. Medd. dansk naturh. Foren.* 125:1–92.

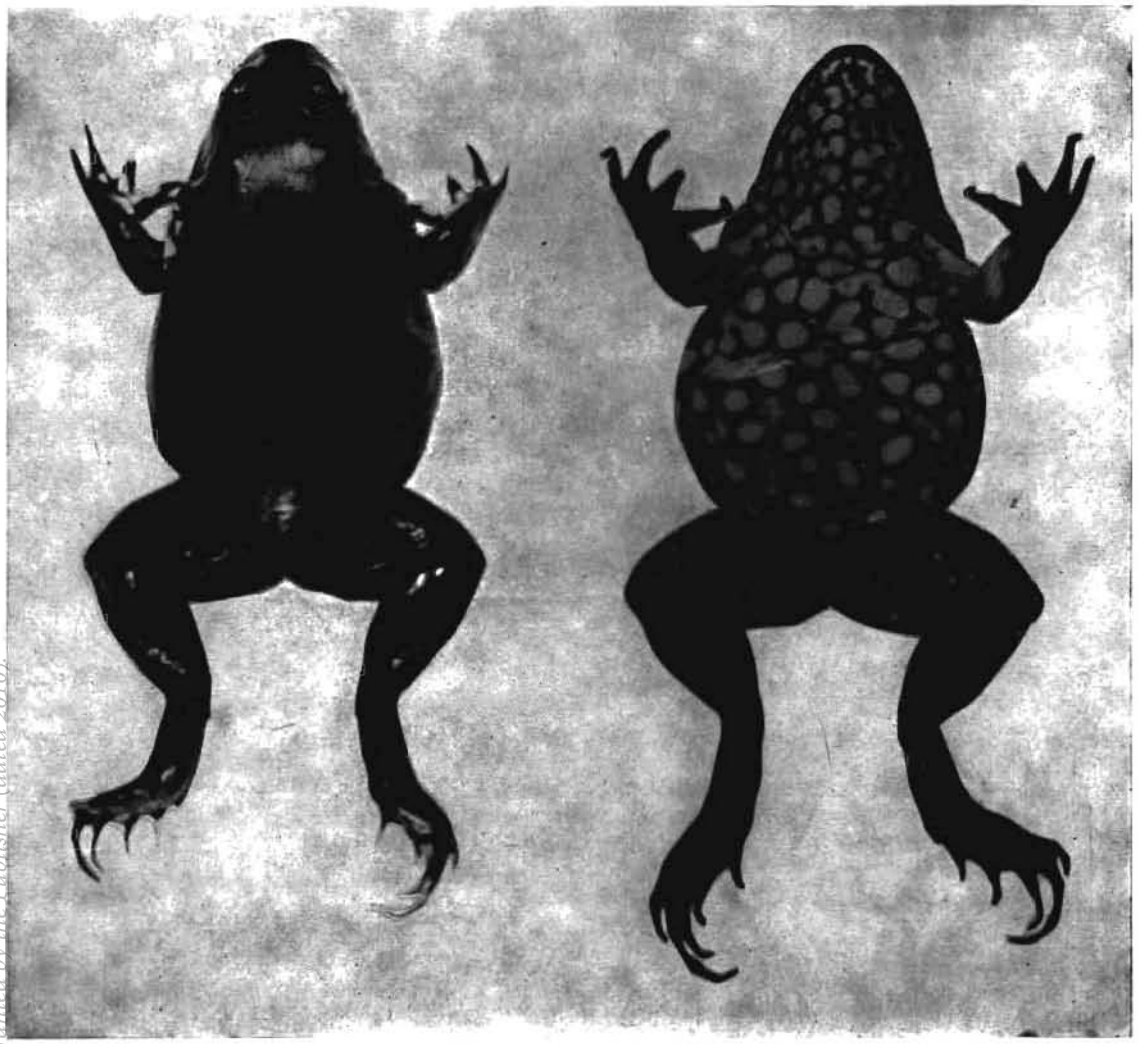

FIGURE 1
Aubria subsigillata, female, from Makokou, Gabon; dorsal view on left, ventral view on right. X ¾.