

# FEEDING HABITS OF SOME BRAZILIAN AMPHIBIANS

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Some observations have been made on feeding habits of *Bufo ictericus* SPIX, 1824 and *Leptodactylus pentadactylus* LAUR., 1768, the most common Amphibians in the outskirts of São Paulo.

*Leptodactylus pentadactylus*, the big frog known as the "smoky jungle frog" and "pepper frog", lives near the rivers and creeks spending the greater part of its time in water. Some adult specimens 20 cm long have been caught and maintained in the terrarium.

In its natural habitat *Leptodactylus* feeds on different animals such as beetles, ants, caterpillars, crickets, grasshoppers, roaches and other insects. Analysis of the content of the stomach of animals recently caught indicated fragments of Diptera and many Neuroptera, but specimens kept in captivity for longer than one month showed cannibalism. In the frog ponds of the laboratory some *Leptodactylus pentadactylus* were maintained for a few months. The dissection of an adult male, 17 cm long (from the tip of the snout to the extremity of the sacrum), let see a much enlarged stomach. When opened, a female *Leptodactylus* was found in it. This female was 10 cm long and partially digested: the skin on the back and on the posterior legs was completely destroyed. The muscles of those parts looked like a jelly and in some parts the bones (os illiacus and the sacrum) appeared naked. The ventral skin of the female was only partially attacked by the gastric juice. The mucous membrane of the stomach was wrinkled, probably to enlarge the surface of this organ. Both Amphibians were preserved in 4% formol. The swalled female weighed 95 gr. and the male 485 gr.

According to LUTZ (1926, p. 143), *L.* having a big mouth can easily swallow a chicken or a frog of considerable size.

*Bufo ictericus* is the species most frequently used in the practical exercises on physiology in our University. There is to day a great demand of males for the GALLI-MAININI test for the diagnosis of human pregnancy. SANTOS (1941, p. 39) saw one *Bufo* eating caterpillars, however Toads usually refused a specimen of *Papillio thoas* which has a desagreable odour and an ugly look. AMARAL (1934, p. 2) states that Toads prefer little animals and snakes.

During the practical exercises on physiology the stomachs of the Toads were always opened. One male *Bufo ictericus* 13 cm long was dissected

and its stomach appeared unusually enlarged. An incision was made from the cardiac to the pilloric region and a young venomous snake (*Bothrops jararaca* (WIED, 1824) 25 cm long was seen within. On swallowing, the Toad broke up the snake into three portions. It seems that the snake was recently devoured because only the skin of the gular region was slightly digested. JOÃO PAIVA CARVALHO (unpublished observations) collected a small quantity of *Bufo's* stomachs in which he detected: a *Terebrantous* hemipteran, an *Ichneumonid* easily recognized by its long ovopositor, with two trochanters between the basal article and the coxae of the posterior legs; and mixed with the yellow-greenish mass that contained sand, there was also a larva of a fly; a cricket without cephalothorax; some femora from different insects and the prothorax of a cockroach with two well marked yellow strips; an ovipositor of a *Tectogonidae* to which also belonged, probably, the other remains already referred to; fragments of wood cockroaches and a dense mass containing legs and wings of the same; a plastron of the spider *Gasterocantha* that lives on plantations of green peas; 4 or 5 *Terebrantia*, all incomplete; legs and wings of a cockroach.

*B. ictericus* feeds frequently at night and scarcely during the day. To provide them with food a lamp had been hanged on the Toad ponds to attract insects. In these case the stomach of the animals is mostly filled with parts of insect bodies and vegetable particles. The same occur with those animals caught in the outskirts of the city. These observations agree with those of KIRKLAND (1897) who analysed 149 toad's stomachs and found that 98% of food is of animal origin, from which 77% are Insects.

Cannibalism among Toads has never been observed in captivity. Toads are commonly eaten by snakes, as AMARAL (l. c.) pointed out, but the contrary is not frequently observed.

## RESUMO

As observações feitas sobre a alimentação do sapo, *Bufo ictericus* e da rã pimenta, *Leptodactylus pentadactylus* indicam hábitos singulares destes Anfíbios. Em seu ambiente natural a rã pimenta alimenta-se de diferentes animais tais como abelhas, formigas, lagartas, grilos, gafanhotos, baratas e outros insetos. A análise do conteúdo estomacal mostra muitos fragmentos de Neuropteros e alguns Dipteros. Foi encontrado, dentro do estômago de um *Leptodactylus* macho de 17 cm de comprimento e com 485 gr., mantido alguns meses em cativeiro, uma fêmea da mesma espécie de 10 cm e 95 grs. de peso. Esta última estava parcialmente atacada pelo suco gástrico mostrando a pele do dorso e das pernas posteriores completamente digeridas. Os músculos dessas partes tinham aspecto de geléia e deixavam à mostra os ossos ilíacos e o sacro nús. [E' um caso típico de canibalismo (interespecífico) de que não encontramos referência na bibliografia compulsada. Outro caso foi objeto de nossa observação e se refere ao encontro de uma jararaca jovem (*Bothrops jararaca*) de 25 cm de compri-

mento dentro do estômago de um Sapo (*Bufo ictericus*). A análise do conteúdo de vários estômagos revela que o sapo mais comum nos arredores de São Paulo se alimenta principalmente de *Hemiptera*, *Ichneumonida*, moscas, baratas, *Tectogonidae*, aranhas (*Gasterocantha*) e algumas folhas vegetais.

#### REFERENCES

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