

FOOD HABITS OF *RANA CYANOPHLYCTIS* SCHNEIDER

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As many as 81 specimens of *Rana cyanophlyctis* Schneider were collected from June, 1981 through May, 1982 from the Campus of University of Agriculture, Faisalabad and surrounding areas. An examination of their stomach contents revealed that this frog consumed animal matter, plant matter and small amount of non-living matter. Among the animal matter, arthropods constituted the main food item which were followed by snails. Among insects, beetles and ants were found as dominant item of the food of this frog. As a plant matter, grasses constituted the significant food item. Mud was also consumed in great amount while some unidentified food matter was also present.

INTRODUCTION

The frogs are the vertebrates belonging to class Amphibia (order-Anura). They are found near water bodies like the ponds, water channels, nullahs, stream and rivers. They may sometimes move far away in search of food but they must always remain, at least, near damp sites.

The frogs are generally considered useful animals for they devour several harmful insects which damage our crops. As such, a definite knowledge about their food habits would be necessary to assess their agricultural importance.

Extensive studies have been conducted on the food habits of frogs belonging to temperate regions of the world (Tyler, 1958; Menzies, 1962; Stewart and Sandison, 1972; Clark, 1975; Blackith and Speight, 1974) but comparatively less work is available on the frogs of tropical countries, though, in India, Prakash (1953), Benerji (1954) and Mohanty and Acharya (1982) have made good contributions to our knowledge about the food habits of frogs. In Pakistan relatively much less attention has been paid to the study of food habits of local frog species. Of the six frog species found in our country, the food habits of only *Rana tigerina* Daudin, have been studied by Khan (1973), based on frog collections from a small area near Rabwah (District Jhang). Since *Rana cyanophlyctis* Schneider is

an equally common frog in Pakistan, it was felt necessary to undertake research on this species, as well, to gain a comprehensive information about its food habits.

MATERIAL AND METHODS

A total of 81 specimens of *Rana cyanophlyctis* were collected from June, 1981 through May, 1982 from the campus of the University of Agriculture and the surrounding areas.

The collected specimens were anaesthetized with chloroform. The data regarding habitat, locality and date of collection in respect of each specimen were recorded in the data sheets. Each frog specimen was allotted a code number on a tag fastened to one of its limbs to tally it with the data sheet. The stomach of each specimen was dissected, tagged and stored in 10% formaline for later study of its food contents.

Small food items were examined and identified with the help of a binocular microscope and these and other identified food materials were then placed in separate vials.

For the identification of insects and other arthropods, isolated from the stomach contents, the following books were consulted: Ross (1948), Fernald and Harold (1955), Imms (1961), Went (1963) and Fitcher (1978).

RESULTS AND DISCUSSION

The present study on the food habits of *Rana cyanophlyctis* Schneider was based on a total sample of 81 stomachs of this frog species. The data pertaining monthwise frequency of occurrence of various food items which comprised of animal matter, plant matter, non-living matter and some unidentified material were presented in Table 1. A look on the Table showed that snails had the maximum frequency during August. The mosquitoes occurred in the majority of stomachs in September. Next in frequency of occurrence, in descending order were the beetles, bugs, cockroaches and grasses. In October, ants and then beetles featured in the majority of stomachs examined. In April, the mentionable food items were caterpillars, beetles and unidentified animal materials. In May, beetles, ants, snails, bugs and mud were the mentionable food items which had a good level of frequency of occurrence. An overall study of the Table

revealed that among the animal matter, arthropods occurred in, by far, the greater number than other food items. Since beetles and ants were present in the majority of the stomachs (each 33), it could be concluded that they were the dominant food items of this frog. Next in order of dominance were the flies (24) snails (23), mosquitoes (22), cockroaches(21), spiders(15), bugs(15), caterpillars (13), crickets (8), crustac ans (6), earthworms (4), wasps (3), diplurans (2), and centipedes (2). As for plant matter, grass was present in the maximum number of stomachs i.e. 24. Next in order of frequency was the mud (14) and then leaves while the seeds and gravels followed next with equal frequency of occurrence (2 each). Among non-living matter, mud occurred in much larger number of stomachs (14) than did the wood pieces (2), gravels (2) and pebbles (1).

From the fore-going lines it could be concluded that the beetles and ants occurred equally and most frequently in the stomachs of *Rana cyanophlyctis* which indicated that they were the dominant food items of this frog. The food items which followed next in order of frequency consisted of the flies and grasses. In the last analysis, it could be stated that arthropods, significantly comprising of beetles, ants and flies were the principal food of this frog though, of course, plant matter particularly the grasses were also consumed by this frog in large amount.

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