

DWARF BUFO AMERICANUS AMERICANUS FROM CLEVELAND COUNTY, OKLAHOMA*

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The American toad, *Bufo americanus americanus* (Holbrook), is an eastern form, ranging from southeastern Canada southward along the coast to eastern Texas, and westward through the prairie states to eastern Kansas and central Oklahoma. It is the common toad in New England, New York, Wisconsin, and Missouri and is the commonest species of *Bufo* in eastern Oklahoma, especially in the southeastern counties. In the East, it shares the range of *Bufo woodhousii fowleri* (Hinckley) which is more abundant in sandy areas, and in Oklahoma its range overlaps that of *B. w. woodhousii* which replaces *B. w. fowleri* in sandy regions here. At the extreme western limits of its range in central Oklahoma, it also overlaps slightly *B. cognatus* Say, although the last-mentioned species occurs within the range of *B. a. americanus* in small numbers only and the two toads almost never occur together due to differences in their specific ecological requirements.

In Cleveland County, Oklahoma, the oak-hickory savannah meets the mixed-grass prairie abruptly (i.e., with little if any ecotone) owing to an abrupt change in type of soil. The line where the savannah meets the grassland about four miles directly east of Norman marks the western limits of the range of *B. a. americanus*.

During May and June of the present year (1939), something over one hundred American toads were seen or heard in the oak-hickory savannah in eastern Cleveland and western Pottawatomie Counties. More than fifty were collected and examined carefully. All of these were breeding adults and all except one were males. They were taken at muddy cattle-tanks and ditches where they had congregated to breed. Some of them were heard at a tank in sight of the mixed-grass prairie and they are known to have bred successfully here, for emerging young were taken from the edge of this pool some time later. Not a single American toad was seen in the prairie, however, even though thorough search was made while breeding activities were at their height in the adjacent savannah, and while the prairie species were also breeding.

The most interesting thing about these toads is their consistently small size. The lengths of twenty-five males ranged from 51 to 64 mm. with an average of 56.9 mm. The usual length of males of this species is given by Wright and Wright (1933) as 54-85 mm. Average length is not given but it certainly considerably exceeds 57 mm. in American toads which I have seen from the East as well as in those in the University of Oklahoma Museum of Zoology from southeastern Oklahoma, all of which I have examined.

Two other characteristics of these small toads need mention: (1) their color, although variable, tends to have a more reddish cast than is common in the species; and (2) the head tends to be narrower in proportion to body-size than is common. They are also less spiny than American toads from McCurtain County, Oklahoma.

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It is perhaps interesting to note that the larval period of these toads was much shorter in 1939 than is usual in the species. In two different pools and in a laboratory culture, young toads left the water at metamorphosis on the thirtieth day after the eggs were laid. This is in marked contrast to the larval period usually observed, 50—65 days (Wright and Wright, 1933). The rapidity of development may be correlated with the small size of the individuals, but it is more likely an effect of high temperatures in the pools, since, at Norman, in 1939, *Bufo cognatus* took but twenty-eight days instead of its usual forty-five from egg-laying to metamorphosis. (See Bragg, 1939, 1940, and 1940a for more detailed discussion.)

Further observations on these toads including detailed descriptions and proportional measurements will be published shortly (Bragg, 1940a).

LITERATURE CITED

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