

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A NEW TREEFROG FROM THE DISTRICT OF
COLUMBIA.*

BY GERRIT S. MILLER, JR.

In June, 1893, Mr. W. P. Hay added to the known fauna of the District of Columbia † a treefrog which he found in considerable numbers in a marsh at Mount Vernon, Virginia. He presented eighteen specimens of the animal, identified as *Hyla cinerea* (Daudin) (= *H. 'carolinensis'*), to the United States National Museum. Two years later Mr. Hay collected specimens at Little Hunting Creek, Va. Four of these are now in the National Museum. This frog was first brought to my notice early in June, 1898, when, in company with Mr. A. H. Howell, I heard its notes, strikingly different from those of the other batrachians of the region, at Four Mile Run, Va. A week later seven were captured here by Mr. Howell and Mr. E. A. Preble. Since then we have taken, in the marshes at Four Mile Run and Dyke, a locality between Alexandria and Mount Vernon, Virginia, about thirty individuals, some of which I have had in captivity for over a year. Comparison of these with living examples of *Hyla cinerea* from Bay St. Louis, Miss., shows that the northern and southern forms are readily distinguishable from each other by characters of both form and color. Most conspicuous among these is the normal absence in the northern animal of the stripes on sides

* Published by permission of the Secretary of the Smithsonian Institution.

† The 'fauna of the District of Columbia' is generally understood to include that of the region within a radius of twenty miles from the Capitol.

and legs so conspicuous in *Hyla cinerea*. It may therefore be called:

***Hyla evittata* sp. nov.**

Type adult ♂ (in alcohol) No. 26,291, United States National Museum, collected at Four Mile Run, Alexandria County, Virginia, July 15, 1898, by Gerrit S. Miller, Jr., and Edward A. Preble.

Zonal position.—This frog is probably confined to the Upper Austral zone.

Geographic distribution.—While the animal is at present known from the marshes of the Potomac River near Washington only, it is to be looked for near the coast from Chesapeake Bay to Long Island Sound.

General characters.—Like *Hyla cinerea* (Daudin) but with broader, deeper muzzle and normally unstriped body and legs.

Color.—Entire dorsal surface varying from olivaceous brown through deep myrtle-green to pale yellowish grass-green; ventral surface white, irregularly tinged with yellow, especially on chin and throat; colors of back and belly fading rather abruptly into each other on lower part of sides; skin of under surface of limbs unpigmented, transparent; legs and jaws slightly paler on sides than above; eye very bright and iridescent, the pupil black, the iris golden greenish yellow, thickly dotted with black; back with a few—usually less than half a dozen—inconspicuous, minute, yellowish dots.

Measurements.—Type: * head and body, 48; hind leg, 69; femur, 20; tibia, 21; tarsus, 11; hind foot, 17; humerus, 8; forearm, 8; front foot, 10; greatest width of head, 14; eye to nostril, 3.5; distance between nostrils, 3.5. An adult ♂ from the type locality: head and body, 50; hind leg, 70; femur, 21; tibia, 21; tarsus, 11; hind foot, 17; humerus, 8; forearm, 8; front foot, 10; greatest width of head, 14; eye to nostril, 4; distance between nostrils, 3.

Remarks.—*Hyla evittata* is at once distinguishable from *H. cinerea*, its only near ally, by the absence of the stripes on sides and legs, so conspicuous in the latter. Except for the differences in the shape of the head, the two animals agree perfectly in form and dimensions. *Hyla evittata*, however, probably averages slightly larger than *H. cinerea*. The peculiarities in the form of the head are more readily seen than described. In *Hyla evittata* the outline of the muzzle when viewed from above is distinctly more bluntly rounded than in *H. cinerea*, and as a result the nostrils are wider apart and less distant both from eyes and tip of muzzle. Viewed from the side, the depth from nostril to mouth is perceptibly greater in *H. evittata* than in *H. cinerea*. The granulation of the skin of belly and hind legs is identical in the two animals. These comparisons are entirely based on living individuals.

*An adult ♂ *H. cinerea* from Bay St. Louis, Miss., measures: head and body, 48; hind leg, 68; femur, 20; tibia, 21; tarsus, 11; hind foot, 15; humerus, 9; forearm, 9; front foot, 10; greatest width of head, 13; eye to nostril, 4; distance between nostrils, 2.5.

Color variation in *Hyla evittata* is very great, and as in other treefrogs chiefly dependent on the character of the surface on which the animal is resting. When searching for food among the leaves and stems of pickerel weed and pond-lilies, *Hyla evittata* assumes a yellowish grass-green tint, closely harmonizing with the color of the plants. In captivity the color is usually darker and duller, this tendency culminating in rich myrtle-green and dark olivaceous brown in individuals that have rested on brown bark or have remained long hidden in a dark corner. The color during hibernation under moss and sod is much paler than that assumed by the same individuals when hiding in similar places during the summer. However great the changes in color may be, at no time is there developed any trace of stripes. If rudiments of these are present they are always visible. Similarly in *Hyla cinerea*, which undergoes an exactly parallel series of color changes, the stripes are never affected in distinctness, though they are most conspicuous when the general color of the animal offers the greatest contrast. The stripes of *Hyla cinerea* vary in living individuals from silvery white to metallic reddish gold. The body stripes are almost invariably bordered by a narrow black line. When the animal is in repose the body stripes are about 1.5 mm. in width, but when it is uttering its note the body becomes greatly swollen and the stripes broaden to three times their normal width, and at the same time assume their brightest colors. The leg stripes are narrower and less sharply defined than the body stripes, and their dark margins are less constant in development.

As to the constancy of the color differences between the two forms: I have handled about two dozen living and freshly killed specimens of *Hyla evittata*, and have probably seen nearly as many more at a distance of only a few feet. Among these one had a faintly developed stripe at the angle of the jaw. Of the twenty-two alcoholic specimens collected by Mr. Hay and now in the National Museum, eight have traces of the body stripe, which, however, in no instance is margined with black, or as sharply defined as in those southern specimens in which the stripe is shortened and narrowed. Of sixty-one specimens of *Hyla cinerea* (seven received alive from H. H. & C. S. Brimley,* the others preserved in alcohol in the U. S. National Museum†) there is considerable variation in the leg stripes, but with only two exceptions the body stripe, though varying in length and breadth, is conspicuously developed, definite in outline, and usually margined with black. In the two abnormal individuals (one from Bay St. Louis, Miss., the other from New Orleans, La.) the leg stripes are absent, and the body stripes reduced to mere traces near the angle of the jaw. When forwarding the unstriped specimen from Mississippi, the Messrs. Brimley wrote that it was the only one of the kind observed among the large number that have passed through

* Taken at Bay St. Louis, Miss.

† From the following localities: Texas, New Braunfels; Louisiana, New Orleans; Florida, Clear Water, Georgiana, Indian River, Lemon City, Marco Island, Pensacola; North Carolina, Beaufort.

their hands. Such individuals as these are readily distinguishable from the faintly striped specimens of *Hyla evittata* by the form of the muzzle.

Habits.—Very little is known about the habits of *Hyla evittata*. In June and July the animals are to be found in the rank vegetation of the tide marshes. Here they remain quiet during the day, but as evening approaches they become active and noisy. Their food at this time consists chiefly of a small beetle that is found on the leaves of the pond-lilies. The note is like that of *Hyla pickeringii* in form, but in quality it is comparatively harsh and reedy, with a suggestion of distant Guinea-fowl chatter, and scarcely a trace of the peculiar freshness so characteristic of the song of the smaller species. The song period continues through June and July. Later in the season the frogs leave the low marsh vegetation. As they are then perfectly silent they are difficult to find, though occasionally one may be seen in a bush or small tree, but never far from water.