

# On the Occurrence of Two Species of Hylid Frogs in Virginia

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In recent years data relevant to the distribution of various species of amphibians in Virginia have come to hand. Some of this information has already been published; other fragments, because of their brevity, are herewith presented collectively. These deal with range extensions, verification of previous nominal records, and local refinements of distributional patterns as currently understood.

## *Hyla squirella* Bose

The first and only record of the Squirrel Tree Frog as a member of the Virginia fauna is that of Dunn (1936, List of Virginia amphibians and reptiles, mimeographed, Haverford, Pa., pp. 1-5). The species was reported from Princess Anne County, without further comment, and this information is doubtless the basis for the inclusion of Virginia in the range of *squirella* in recent publications.

No Virginia material of *Hyla squirella* is cataloged in the collections of the U. S. National Museum, the Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, or the Museum of Comparative Zoology. However, one specimen was found in a series of *Hyla cinerea* (U.S.N.M. 75377-81) collected at Virginia Beach in Princess Anne County. This material was at the National Museum prior to 1936, and perhaps forms the basis of Dunn's record.

The mimeographed list cited above was not widely circulated, and was never intended to be considered a "publication," so Dr. Dunn informs me. It may be of interest, therefore, to provide several distributional records which substantiate and amplify the earlier report. These are from a collecting trip in the Dismal Swamp region of Virginia, made in early August of 1946, by Hubert I. Kleinpeter and me.

On August 1, we were collecting between Sigma and Sand Bridge, in Princess Anne County (about five miles south of Virginia Beach), when a local resident called our attention to a frog which resided in his mailbox. It proved to be a *squirella*, which species was known to our informant by the name "Spring Frog." He said it had occupied the mailbox all summer. The same night, as we made camp in the dunes at Sand Bridge, we found

//. *squirella* to be very abundant. No less than 17 specimens were picked up as they came to the bright light of our Coleman lantern. Doubtless a larger series could have been obtained by moving the light to another location. The dunes at Sand Bridge are about 1000 feet wide, and covered for the most part by thickets of *Myrica carolinensis* and other arenaceous plants. Inland is a large freshwater lagoon, its edges choked with emergent vegetation, supporting a large population of *Hyla cinerea*. That species, *H. squirella*, and *Gastrophryne carolinensis* were all in voice. The specimens of *squirella* taken have been deposited in the collection of the National Museum.

On the night of August 2, we heard many specimens of *squirella* calling in the outskirts of Southern Norfolk, in Norfolk County, but owing to difficult circumstances no collecting was attempted.

A single male was found on the night of August 4, at Driver, Nansemond County. This specimen was heard calling, and with the exception of a lone *Gastrophryne* was the only frog in voice at the time. It was traced down and discovered in a small alder at the edge of a pond in a flat swampy pinewoods.

All of the specimens we obtained were similar in pattern—light brown or fawn with dark brown dorsal spotting. No green-phase animals were seen.

Visits to the Dismal Swamp region in March, April, and May have not produced specimens of *squirella*. Presumably in Virginia it has the latest mating season of the Hylas, and is to be looked for in early summer. Further collecting will probably provide additional locality records for the species, but it may not be found to extend farther north than Cape Henry nor inland beyond the level of the Dismal Swamp terrace. In view of its abundance at Sand Bridge, it is remarkable that *squirella* was not among the species recorded from Princess Anne County in the recent and generally exhaustive paper of Werler and McCallion (1951, Amer. Midi. Nat., 45(1): 245-252).

#### *Pseudacris hrachyphona* (Cope)

In the two decades since its resurrection as a valid species (Walker, 1932) *Pseudacris brachyphona* has come to be considered more or less autochthonous to the Appalachian Plateau Physiographic Province (*cf.* Wright and Wright, 1949, Handbook of Frogs and Toads, map 16), there being no records, to the best of my knowledge, for the entire length of the Ridge and Valley Province. It is therefore of some interest to note that *brachyphona* is widespread and abundant over a considerable portion of that geomorphic entity in southwestern Virginia, and incidentally remarkable that this circumstance has for so long escaped detection.

On March 30, 1954, while driving along U. S. Hy. 52, about 7 miles west of Wytheville, Wythe County, Va., I was astonished to hear a vigorous chorus of *brachyphona* in a roadside drainage ditch. Immediate investigation indicated that about 12 males were calling; they were, however, most circumspect and fell silent on my approach. Wholesale dredging of the ditch brought up two specimens (deposited in the U. S. National Museum) as well as dozens of egg masses. Later during the same day, which was clear and hot, I heard *brachyphona* at Shawver's Mill in Tazewell County, and along Wilderness Creek east of South Gap, in Bland County. At the latter locality a specimen was seen but it escaped;

here again large numbers of egg masses, mostly very freshly deposited, were observed.

Finally, on April 6, 1954, following a hard thunderstorm, I revisited the vicinity of Wytheville, and heard a single specimen calling about five miles west of the town. This locality, then, is the easternmost known station for the species.

*P. brachyphona* has been recorded from Virginia only by Stejneger and Barbour (Checklist, Ed. 5, p. 45, 1943). Dr. C. F. Walker has informed me that a specimen from Buchanan County, Va., is in the collection of Ohio University, and this may be the basis of the Check List statement. On July 1, 1951, Walter B. Newman and I collected at Grundy, in Buchanan County, and heard numerous specimens calling. Fresh egg masses were found, but no adults could be collected due to their excessive shyness and our limited time.

Nearly a decade of field work in Montgomery County, Va., by Newman and me has failed to produce any *Pseudacris* except the widespread *P. n. feriarum*. A similar condition prevails farther north in Virginia, where I have collected in Alleghany County for many years without hearing *brachyphona* although it occurs a short distance to the west in adjoining Greenbrier County, W. Va. Furthermore, extensive work in Hardy County, W. Va., by L. Wayne Wilson indicates that the species does not occur in the upper Potomac drainage. It appears safe to suspect that in the northern part of its range (*i.e.*, north of the Kanawha River system), *brachyphona* is restricted to the Appalachian Plateau.

However, there is another, somewhat tentative, record to be noted at this time. On March 18, 1951, I heard several specimens of chorus frogs, which sounded exactly like *brachyphona*, in a roadside ditch at Glenvar, (Roanoke County)', Va. Because of circumstances at the time, collecting could not be attempted, and since later trips were unsuccessful, I came to question my identification. Now, with the capture of specimens near Wytheville, the matter is re-opened, and it seems possible after all that a colony of *brachyphona* might exist in the Roanoke Valley, far to the northeast of the presently known eastern limits of the species.

At the places in southwest Virginia where I have found *brachyphona*, it has occurred to the exclusion of *feriarum*, although the latter species could be heard calling on the same day farther northeast, in the vicinity of Blacksburg. A similar replacement has been observed elsewhere, and gives some cause to wonder if the relationship of these two frogs might be subspecific.—512 Clay St., Clifton Forge, Virginia.