Catalogue of American Amphibians and Reptiles.

HOFFMAN, RICHARD L. 1980. *Pseudacris brachyphona.*

Pseudacris brachyphona (Cope) Mountain chorus frog

C[*horophilus*]. *feriarum brachyphonus* Cope, 1889:341. Type-locality, "in west Pennsylvania, near the Kiskiminitas River." (This river forms the boundary between Armstrong and Westmoreland counties; it is not certain in which Cope obtained his material.) Type specimen not known to exist, evidently collected by E. D. Cope.

Pseudacris brachyphona: Walker (1932:379). First use of combination.

• CONTENT. No subspecies have been recognized.

• DEFINITION AND DIAGNOSIS. Adult length to 35 mm. A stocky, long-legged species (tibia 50–60% of body length), with prominent tarsal pads; coloration variable, light brown or tan, light gray, or olive-gray; venter lighter, upper lip with distinct white line to tympanum; a dark gray or brown triangular interorbital spot normally present; no median dorsal dark band, paramedian stripes convergent ("reverse parentheses"), often broadly in contact forming an X and H-shaped marking; paramedian and lateral dark stripes sharply defined, continued onto femora and tibiae when legs are flexed; undersides of hind legs with suffusion of bright yellow.

Tadpole to maximum length of 35 mm, tail fin ending posterior to spiracle; dorsal color generally brassy without distinct markings, throat and venter unpigmented, a white supralabial stripe present; median space of tooth row A-2 narrow, the gap ratio 2 or more; tooth rows P-1 and P-2 subequal, sometimes convergent at lateral ends.

Eggs laid in small masses of 10–50 (total complement to 300) attached to submerged detritus; vitelline sheath 1.2 to 1.4 mm, vitellus 1.6 mm, envelope 6.0 to 8.5 mm.

Pseudacris brachyphona differs from other members of the *triseriata* species-group in color pattern of the adult (absence of median dorsal stripe and convergence of paramedian stripes), and from *triseriata* and *nigrita* by the absence of the lateral humeral epicondyle (this character shared with *P. brimleyi*). The mating call is distinctive among *Pseudacris* in its extreme brevity (300–500 milliseconds in duration).

• DESCRIPTIONS. General descriptions are given by Wright and Wright (1949), Green (1938), Mount (1975), and Conant (1975); immature stages are described by Green (1938).

• ILLUSTRATIONS. Black and white photographs of adults are given by Wright and Wright (1949), Barbour (1971), and Mount (1975); colored illustration of the adult by Conant (1975); drawings of eggs and tadpoles by Green (1938).

• DISTRIBUTION. Central western Pennsylvania (Clearfield and Jefferson counties) southwestward chiefly in the Appalachian Plateau physiographic province to Alabama, southwestern Georgia, and northeastern Mississippi. Localities in Ohio and Pennsylvania lie south of the line of maximum glaciation. Isolated populations occur in the Iron Mountains, Virginia (at nearly 1,300 meters), in central northern Georgia and adjacent parts of North Carolina and Tennessee, the eastern panhandle of West Virginia, and western Florida (see Comment). The species appears not to occur in the Tennessee Valley between Bristol and Chattanooga nor in the Great Smoky Mountains, and details of its occurrence in central Tennessee are very inadequately documented. *Pseudacris brachyphona* is the only species of anuran endemic to the Appalachian region.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. Relationships and comparisons with other species are mentioned by Wright and Wright (1949) and the results of cross-breeding experiments with related species given by Mecham (1965). Hybridization between *brachyphona* and *triseriata* in Ohio has been reported by Crenshaw (1958). Geographic variation in number of vomerine teeth is suggested by data given by Goin (1958). Variation in several body dimensions is summarized for Kentucky specimens by Barbour (1958).

Distributional records are presented by Barbour (1958, 1971), Bayless (1971), Craddock and Minckley (1964), Ferguson (1961), Gentry (1955), Green (1949), Harris (1975), Hoffman (1955), Martof and Humphries (1955), Mount (1975), Neill (1954, 1957), Netting (1949), Schwartz (1955), Sinclair (1957), Viosca (1938), Walker (1946), and Yoder (1940). Essential allopatry of *P. triseriata* and *P. brachyphona* in the northern part of the latter's range has been noted by Smith and Smith (1952) and in north Georgia by Martof and Humphries (1955), and is known also for southwestern Virginia; the occurrence of both species at the same locality is mentioned by Wilson (1945) and implied by Crenshaw (1958).

Habitat preferences (and contrast with those of *triseriata*) are summarized for Kentucky by Barbour (1958), whose remarks apply precisely to southwest Virginia as well, and for West Virginia by Green (1938) and Bayless (1971). Information on breeding sites, mating behavior, oviposition, and breeding season (December to April in Alabama, March through July in the central Appalachians) is given by Green (1938) for West Virginia, Barbour (1958) for Kentucky, Walker (1946) for Ohio, and Mount (1975) for Alabama. Barbour (1958) accounts eight species of anurans found in breeding sites with *brachyphona*. Eggs are described by Green (1938) and keyed by Livezey and Wright (1947), tadpoles by Green (1938) and keyed by Altig (1970).

Postembryonic growth in West Virginia populations is discussed by Green (1964) and the phenotypic ratio of pattern variants by the same author (1969). Skeletal characteristics are described by Chantell (1968) and maxillary dentition by Goin (1958).

Response of adult specimens to light intensity is noted by Jaeger and Hailman (1973). Physical characteristics of the mating call are summarized (for Georgia material) by Thompson and Martof (1957), and *brachyphona* is included by Martof (1961) in a discussion of calls as isolating mechanisms in frogs.

Predation on *brachyphona* by *Rana catesbeiana* is recorded by Barbour (1958).

• ETYMOLOGY. The name is derived from the Greek *brachys* (short) and *phōnē* (voice), in allusion to the abbreviated trill characteristic of this species.

COMMENT

Geographic replacement of *P. brachyphona* and *P. triseriata* is evident from distributional maps (Conant, 1975; Wright and Wright, 1949) and occasional comment in the literature. The two species overlap broadly in Kentucky and Alabama but may be ecologically separated there. Along the eastern periphery of its range (e.g., north Georgia, western Virginia, West Virginia) *P. brachyphona* is sharply set off from *triseriata feriarum* although the two have been found together at one site in West Virginia (Wilson, 1945) and several in southwestern Virginia (unpublished data).

Wright and Wright (1949) noted similarities of *brachyphona* with species of the *triseriata*-group but placed it near *P. ornata* in their key. On the basis of skeletal characters, Chantell (1968) placed *triseriata, nigrita, brimleyi,* and *brachyphona* together, an allocation substantiated by mating experiments performed by Mecham (1965) who considered a crossing of *brachyphona* and *brimleyi* to be highly successful.

Neill (1954, 1957) reported the presence in west Florida (Liberty and Okaloosa counties) of populations of frogs implied to be

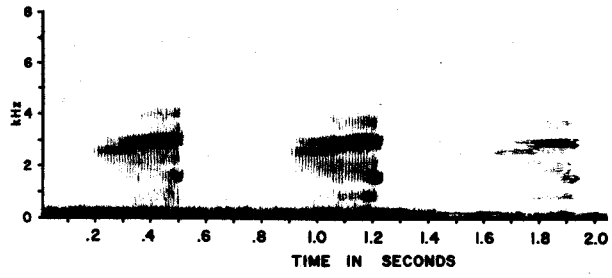
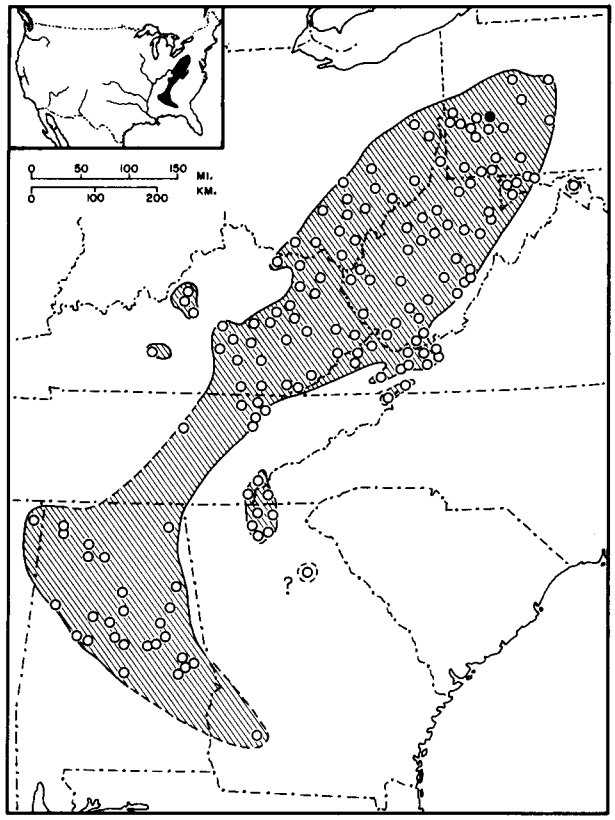


FIGURE. Audiospectrogram of call of *Pseudacris brachyphona*: Little Walker Creek, Pulaski County, Virginia, 29 March 1975; no temperature or voucher specimen.



MAP. Solid circle marks the type-locality, open circles indicate other records.

a subspecies of *brachyphona*, or a closely allied sibling species, said to have a distinctive call somewhat like that of *Hyla squirella*. Crenshaw and Blair (1959) expressed the view that the calls in question were not greatly different from those of *P. t. feriarum*, to which name they proposed to refer the Floridian populations in question. The record for Clark County, Georgia, published by Neill (1954) invites confirmation. Dr. R. W. Barbour (in litt.) believes that the populations of central Kentucky, here mapped as disjunct, are in fact continuous with the main part of the range to the east along river valleys.

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