

## Catalogue of American Amphibians and Reptiles.

Kaiser, H. 1994. *Leptodactylus fallax*.

***Leptodactylus fallax* Müller**  
**Mountain Chicken, Crapaud**

*Rana grunniens*: Daudin, 1803:66 (part).

*Rana gruniens*: Moreau de Jonnès, 1818:195. Incorrect subsequent spelling.

*Cystignathus ocellatus*: Duméril and Bibron, 1841:400 (part).

*Rana delicatissima*: fide Guiling (in Günther, 1858:27). *Nomen nudum*. See Nomenclatural History.

*Leptodactylus pentadactylus*: Boulenger, 1882:242 (part).

*Cystignathus pentadactylus*: Günther, 1888:366 (part).

*Leptodactylus dominicensis*: Müller, 1923:49. See Nomenclatural History.

*Leptodactylus fallax* Müller, 1926:200. Type-locality: "Dominica", West Indies. Syntypes, Zoologische Sammlung des Bayerischen Staates (ZSM), Munich, Germany 258/1909 and 259/1909, two adult females, collected in 1903 (exact date unknown) by "Garteninspektor Othmer" (not examined by author).

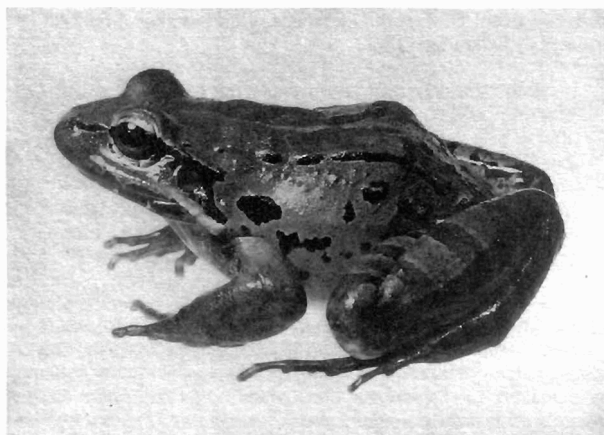
*Leptodactylus fallax*: Howes, 1930:96. Incorrect subsequent spelling.

• **Content.** The species is monotypic.

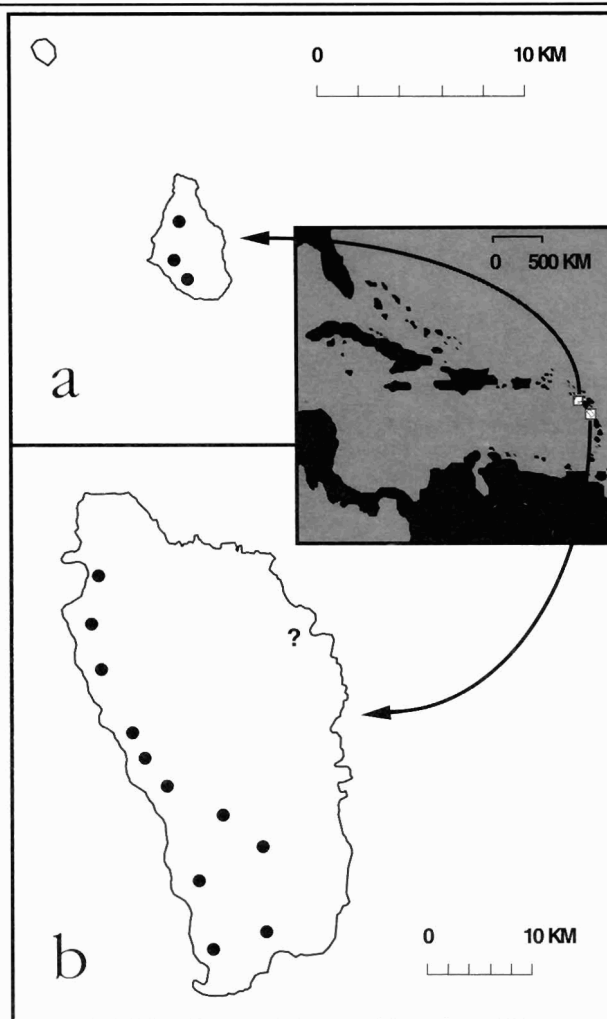
• **Definition.** Adults are large *Leptodactylus* (males and females to 159 and 167 mm SVL, respectively), placed by Heyer (1979) into the *L. pentadactylus* species group. Dorsal coloration chestnut-brown, spotted or barred, but sometimes uniform. Laterally, the color becomes more orange-yellow, reaching a pale yellow on the ventral side. Broad banding usually occurs on upper tibia. Males have a distal (metacarpal) cornified spine on each hand, but lack chest spines. Iris color is a deep golden bronze.

Tadpoles of *L. fallax* appear to be the longest of any species in the genus (110 mm at Gosner stage 42), with the tail amounting to 79–84% of their total length (Lescure and Letellier, 1983). Denticle row formula is 1/0. The vent is medial, the spiracle sinistral. Lescure and Letellier (1983) described this form as an Orton-type IV tadpole (see Wassersug, 1976).

• **Diagnosis.** A species of *Leptodactylus* distinguished from all other members of the genus by the following characteristics: distinct, continuous dorsolateral folds from eye to groin; absence of breast spines; absence of light stripes on upper lip; long hind limbs (tibia 50% SVL, foot 52% SVL); very few small dorsal and lateral tubercles; tympanic fold weak, sharply curved towards angle of jaw; venter pale; foam nest for egg deposition created in a burrow distant from water; larvae non-feeding and restricted to burrow (Lescure and Letellier, 1983; Hourdry and Beaumont, 1985; Hero and Galatti, 1990).



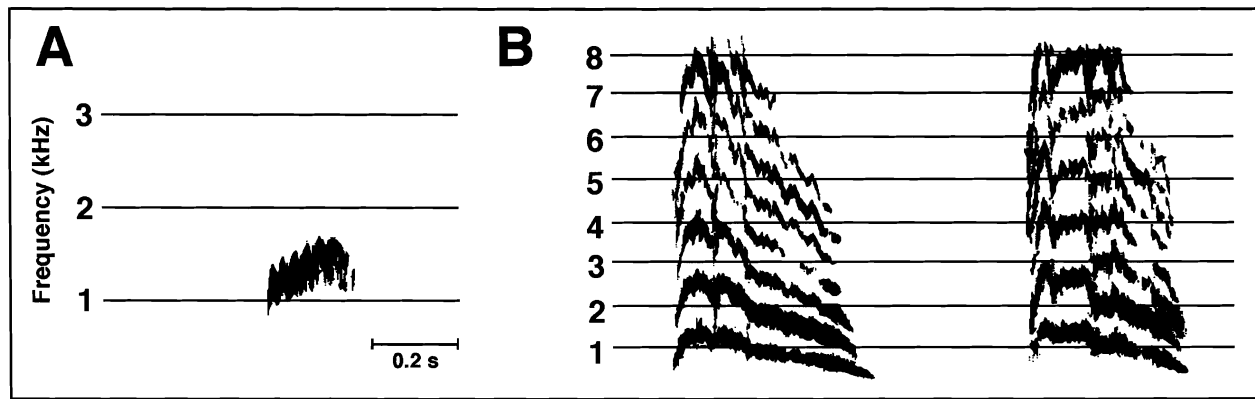
**Figure 1.** *Leptodactylus fallax* female from Trafalgar Valley, Dominica (unnumbered specimen in the teaching collection, Redpath Museum, Montréal, Québec, Canada).



**Map.** Range of *Leptodactylus fallax* (modified from Lescure and Letellier, 1983, and Bovey, 1986): (a) Montserrat; (b) Dominica. Smaller valleys along the northeastern leeward coast of Dominica indicated by (?) may have frog populations, but these have not been verified recently. The type-locality is too imprecise to plot.

• **Descriptions.** Müller (1923) enumerated morphological characteristics, especially those important in distinguishing *L. fallax* from *L. pentadactylus*. Heyer (1979) provided a comparative synopsis of the *L. pentadactylus* group and included detailed character descriptions of morphological attributes, including dorsal, lip, thigh, and tibia color patterns; he also provided a morphometric analysis. A detailed redescription of the holotype, accompanied by information on within-species morphological variation, color in life, distinction from *L. pentadactylus*, and life history data, was given by Lescure (1979a). Brief accounts are in Brooks (1968), Lescure (1979b), Lescure and Letellier (1983), and Schwartz and Henderson (1991). The call of *L. fallax*, described in detail by Lescure (1979a), is of 0.18 to 0.20 s duration and given at a frequency of up to 42 per minute, with a dominant frequency between 500 and 1500 Hz. Males and females of *L. fallax* issue distress "screams" spanning a frequency spectrum of 8 kHz with multiple harmonics, each scream lasting 0.2 to 0.3 s with intervals of 0.3 to 0.4 s.

• **Illustrations.** Color photographs of an adult are in Lescure and Letellier (1983) and Obst et al. (1988). Other photographs are in Lamotte and Lescure (1977), Lescure (1979a), Krintler and Dommaschk (1980), and Krintler (1986). Drawings of the tadpoles can be found in Lescure (1979a) and Lescure and Letellier (1983). Audiospectrograms of the mating call and the distress call were published by Lescure (1979a). On Dominica, color postcards depicting *L. fallax* are commonly available, and a postage stamp illustrating the species has been issued.



**Figure 2.** Audiospectrogram of the call of *Leptodactylus fallax*: (a) advertisement call; (b) release call. Both recordings were made by H. Kaiser and T.F. Sharbel in the Trafalgar Valley, Dominica, on 27 August 1992, temperature 24°C (live voucher specimen in the Metro Toronto Zoo, Toronto, Canada).

• **Distribution.** *Leptodactylus fallax* is extant only on the leeward coasts of Dominica and Montserrat in the Lesser Antilles, from sea level to an altitude of approximately 320 m (Schwartz and Henderson, 1991). Preserved specimens from St. Kitts are housed in the collection at the Museum of Comparative Zoology at Harvard University, but the species has not been seen on that island since the 1881 expedition led by Garman (Lescure, 1979b). Beyond these records, the historical distribution of the species is somewhat confused. St. Lucia was added to the distribution by Barbour (1914), and Guadeloupe by Barbour (1930a). Long (1974) stated that *L. fallax* was at some point present on St. Lucia, and Faaborg and Arendt (1985) even considered *L. fallax* endangered on St. Lucia; however, neither presentation referred to specimens. Both Guadeloupe and St. Lucia were already considered only historical records (Schwartz and Henderson, 1991; Schwartz and Thomas, 1975), and the theory that *L. fallax* ever existed on St. Lucia was laid to rest convincingly by Corke (1987). Dunn (1934) *vide* Günther (1858) added Antigua to the distribution, a record doubted by Lynn (1957). Seventeenth century records presented by Barbour (1914) and Lescure (1979a, b), suggested that *L. fallax* was abundant during that time on both Guadeloupe and Martinique. No reason exists to doubt Lescure's (1979a, b) historical information about Martinique, where the species was last recorded in 1796. However, none of the records for Antigua, Guadeloupe, Martinique, or St. Lucia are actually based on voucher specimens. Mongoose predation (Barbour, 1930b, 1937; Groome, 1968) or the introduction of *Bufo marinus* (Groome, 1968; Lescure, 1983) may have been responsible for the extinction of *L. fallax* elsewhere in the Lesser Antilles. However, the species disappeared from Martinique well before the mongoose was introduced in the 1890s (Lescure, 1979b), and it coexists with *B. marinus* in some areas of Montserrat (Lescure, 1983). Several attempts to introduce *L. fallax* on Grenada (Groome, 1968), Martinique (Lescure, 1983), and Puerto Rico (Barbour, 1937) have failed.

• **Fossil Record.** None.

• **Pertinent Literature.** The most comprehensive work is by Lescure (1979a). Heyer (1979) integrated the species into the *L. pentadactylus* group and provided comparative morphological information. Lamotte and Lescure (1977), Lescure and Letellier (1983), and Hourdry and Beaumont (1985) discussed reproduction. Brief accounts were given by Brooks (1968), Lescure (1979b), and Schwartz and Henderson (1991). Brooks (1982) provided information on prey choice and consumption. For an account of the species on Montserrat, see Bovey (1986).

• **Nomenclatural History.** Aside from the seventeenth century anecdotal information about a large edible frog in the French Antilles quoted by Lescure (1979a), the first formal mention of the species was as *Rana grunniens* by Daudin (1803). The name *Rana grunniens* was used by Moreau de Jonnés (1818), but this use constitutes an unjustified emendation. Subsequently, large Lesser Antillean frog specimens were regarded as *Cystignathus ocellatus* (Duméril and Bibron, 1841), *Leptodactylus pentadactylus* (Boulenger, 1882), and *C. pentadactylus* (Günther, 1888). In his initial description of the species, Müller (1923) proposed the name *L. dominicensis*,

but this name was already taken by *L. dominicensis* Cochran, 1923. Müller (1926) then introduced *L. fallax* as a *nomen novum* for *L. dominicensis* Müller. The original description lists ZSM 258/1909 as the holotype and ZSM 259/1909 as a cotype. The name *Rana delicatissima*, applied by Guilding in the unpublished list of purchases of the British Museum (1837.3.15.1 to 1845.3.15.10), constitutes a *nomen nudum* (see Lescure, 1979). The use of the name *L. fallax* by Howes (1930) is an unjustified emendation, most likely attributable to misspelling.

• **Remarks.** Lescure and Letellier (1983) reported on captive breeding and commented on the reproduction of the species. Foam nests are constructed in 30–40 cm deep burrows and are guarded by the female parent. Up to 30 eggs per clutch have been observed. Tadpoles do not feed until metamorphosis but use the yolk for nutrition. In an investigation of the feeding ecology of the species, Brooks (1982) showed that prey items consisted of a great variety of taxa of widely differing sizes, including small anurans and lizards. Krintler (1986) gave a maximum size of 210 mm for a specimen sold at a market on Dominica in 1976. The local vernacular name “mountain chicken” is in reference to what is perceived as a chicken-like vocalization that commonly resounds from the steep sides of valleys. The vernacular “crapaud” is the Creole word for toad or large frog.

• **Etymology.** The Latin *fallax* means deceitful or false, in reference to the fact that museum specimens of this species were frequently confused with *L. pentadactylus* (Müller, 1926).

• **Comment.** *Leptodactylus fallax* is abundant on the leeward side of Dominica and it inhabits pristine forested areas as well as areas disturbed by agricultural activity. During several visits, I found an abundance of calling males in most valleys, and when walking in the vicinity of calling males I always encountered females. These cursory explorations therefore seem to indicate that the population is reproductively sound, despite the fact that *L. fallax* is a local delicacy, as reported by Coleridge (1832):

“... [A]nd the crapauds, enormous frogs of the color and size of about ten fat toads, are eaten by those who like them. It is the most unbearable beast I ever saw. I can hardly think of it now without being qualmish. I can eat monkey, snake, or lizard; there is not much in that, but verily to munch and crush and squeeze ... gah! [I]t is downright cannibalism and popery. Dear brethren, have ye not yams, plantains, eddoes? [Y]e are called Christians!”

The government of Dominica is sensitive to the management needs of the species and has created hunting seasons to ensure its continued welfare. However, with the recent surge of eco-tourism on Dominica, the demand for mountain chicken as a culinary curiosity has increased. On Montserrat, the species seems headed for extinction, especially considering the sudden habitat loss created by Hurricane Hugo in 1989. The Fauna and Flora Preservation Society has planned a biodiversity conservation project on Montserrat for 1995 that includes a *L. fallax* component (Mark Day, pers. comm.).

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