

AMPHIBIA: ANURA: ELEUTHERODACTYLIDAE

Eleutherodactylus amplinympha

Catalogue of American Amphibians and Reptiles.

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***Eleutherodactylus amplinympha* Kaiser, Green, and Schmid**

Dominican Gounouj, Dominican Frog, Dominican Whistling Frog, Dominican Rain Frog, Dominican Piping Frog

Eleutherodactylus species A: Kaiser and Henderson 1994:45.

Eleutherodactylus amplinympha Kaiser, Green and Schmid 1994a: 2221. Type-locality, "near Freshwater Lake, Dominica (ca. 61°20' W, 15°20' N, elevation ca. 800 m)." Holotype, Natural History Museum, University of Kansas (KU) 221259, an adult female, one of a series collected by T.F. Sharbel and H. Kaiser on 26 August 1992 (examined by HK).

Eleutherodactylus sp.: Moravec and Kaiser 1995: 261.

• **CONTENT.** *Eleutherodactylus amplinympha* is monotypic.

• **DEFINITION.** *Eleutherodactylus amplinympha* is a moderately sized frog of the *E. martinicensis* species group of Caribbean *Eleutherodactylus* (*Eleutherodactylus*) (Hedges et al. 2008). Female SVL is frequently over 35 mm (Kaiser et al. 1994a) and to > 50 mm (Malhotra and Thorpe 1999); male SVL is to 26.4 mm (Kaiser et al. 1994a). This species is characterized by (Kaiser et al. 1994a): (1) Skin on dorsum with a narrow middorsal ridge extending from the back of the occiput to the groin, flanks areolate, ventral posterior surfaces of thighs coarsely areolate, anal opening unmodified, directed posteriorly at upper level of thighs; (2) eyes large and prominent, upper eyelid with tubercles; (3) tympanum round, medium-sized (25–50% of eye length in females and 17–52% of eye-length in males), separated from the eye by a distance about equal to or slightly less than the diameter of the tympanum; (4) choanae ovoid, widely separated, unobscured by palatal shelf of maxillary arch when viewed from above; (5) head wider than the body, but longer than wide, top of head flat, cranial crests absent, canthus rostralis straight and sharply angled, loreal region slightly concave in anterior half, with several tubercles; (6) snout marginally rounded, trapezoidal in shape in dorsal view, rounded in lateral profile; (7) internarial area not depressed, nares round, protruding slightly laterally; (8) mouth terminal, lips not flared, lower lip bearing a small but well-defined papilla; (9) dentigerous processes of vomers prominent, triangular, aligned in a posteriorly elevated transverse row with a slightly posteriorly angled aspect, and each bearing a single row of teeth, posteromedially inclined, but with lateral third of processes sometimes extending more laterally than medial margin of choanae, dentigerous processes separated by distance greater than the width of individual



FIGURE 1. Adult male *Eleutherodactylus amplinympha* from the trail to Boeri Lake, Commonwealth of Dominica (photograph by Robert Powell).

process; (10) tongue oval, longer than wide, shallowly notched posteriorly, free behind for about one-half of its length; (11) males with elongated vocal slits, extending from the midlateral base of the tongue toward the angle of jaw, vocal sacs bilobate, subgular, and external; (12) forearms moderately robust; fingers long, slender, bearing subtruncate disks with broadly elliptical pads, relative disk sizes I<II<(III=IV); relative lengths of fingers (I=II)<IV<III; fingers lacking lateral fringes; (13) several raised tubercles below supra-tympanic fold posterior to tympanum; several low tubercles on forearm; several small tubercles on each knee and heel but not on tarsus; number of subarticular tubercles 1–2–2–2 for fingers I–IV, respectively; subarticular tubercles round and raised; numerous supernumerary palmar tubercles; 2 palmar tubercles, medial one elliptical, lateral one conical; thenar tubercle elliptical, covering base of finger I laterally; (14) hind limbs moderately robust, long; heels broadly overlapping when hind limbs flexed at right angles to body axis; (15) toes long, slender, bearing oval disks about the size of disks on fingers III and IV, toes with narrow lateral fringes and without any webbing; relative toe lengths I<II<V<III<IV; (16) inner tarsal fold absent; 2 metatarsal tubercles, inner large and elliptical, outer one-third size of inner and conical; numerous supernumerary plantar tubercles; (17) number of subarticular tubercles 1–1–2–3–2 for toes I–V, respectively, subarticular tubercles round and conical; (18) nuptial pads absent; (19) 3-note call.

Color and pattern elements are highly variable, and none are specific to either males or females (Kaiser et al. 1994a), nor do any appear to be correlated with elevation or particular habitats. A dorsal pattern may or may not be present. Dorsal ground color is light or dark brown, olive, red, pink, cream, or orange. The snout usually is lighter than the dorsum. Plantar surfaces are dark brown and sometimes offset by a medial cream hairline. Dark canthal and supratympanic stripes are always present, with the lower edge of the latter dark brown. The following pattern elements may or may not be present: (1) a wide or narrow middorsal stripe, orange or cream in color, sometimes outlined in dark brown or black, (2) lighter narrow dorsolateral lines, (3) one ill-defined dark middorsal

chevron or a dark middorsal band in sharp contrast with lighter dorsolateral areas, (4) a narrow dark interorbital bar with a cream interocular bar offsetting the former, (5) white and dark mottling on jaw. The venter is cream to tan with some mottling caused by differential distribution of dark-brown stellate melanophores. Flanks are usually dark brown and rarely are lighter than the middorsal area. Dorsal surfaces of the limbs are dark brown, with or without 1 or 2 darker brown crossbars, and sometimes offset by lighter borders on the forearms, thighs, shanks, and tarsi. Anterior surfaces of the thighs are tan and mottled; posterior surfaces are tan. The ventral surface of the palms and finger disks are white, and disk covers are brown with the exception of a conspicuous darkly pigmented disk cover on finger IV. The toe disks are white ventrally and disk covers are darkly pigmented. The upper iris is bronze.

• **DIAGNOSIS.** In addition to allozyme and karyotypic differences (Kaiser 1996a, 1997b; Kaiser et al. 1994a), *Eleutherodactylus amplinympha* can be distinguished from its potentially sympatric congeners (*E. martinicensis* and possibly *E. johnstonei*) by larger size (SVL to > 50 mm; Malhotra and Thorpe 1999), 3-note call, relatively wide toepads, inner 2 toes of the same length, and its bi-lobed glandular vocal sac on mature (vocalizing) males (Kaiser et al. 1994a). Both *E. martinicensis* and *E. johnstonei* are smaller (maximum SVL 47 mm and 35 mm, respectively; Kaiser and Hardy 1994a,b), have 2-note calls, relatively narrow toepads, and the inner 2 toes of different lengths.

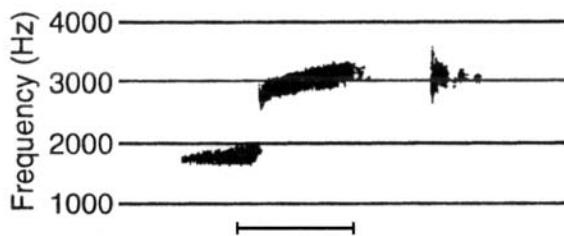
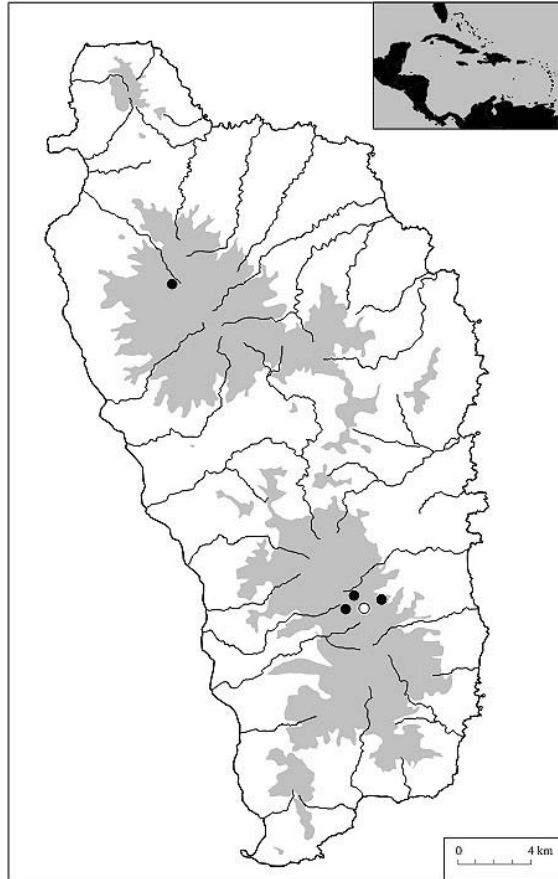


FIGURE 2. Three-note advertisement call of *Eleutherodactylus amplinympha* (adapted from Kaiser et al. 1994a). Scale bar = 0.2 sec.

Eleutherodactylus johnstonei also has a single-lobed glandular vocal sac on mature (vocalizing) males.

• **DESCRIPTIONS.** In addition to the original description by Kaiser et al. (1994a), other descriptions are in Kaiser (1993, 2003), Kaiser and Henderson (1994), Kaiser et al. (1994b), and Malhotra and Thorpe (1999).

• **ILLUSTRATIONS.** A black-and-white photograph of the species graces the cover of *The New Forester* (Volume VIII), a publication available through the Forestry and Wildlife Department of the Commonwealth of Dominica. Kaiser (1993) and Kaiser et al. (1994a) included a line drawing of the hand and foot. Kaiser (1993, 1996b, 2003), Kaiser and Henderson (1994),



MAP. Distribution of *Eleutherodactylus amplinympha*; the circle marks the type-locality and dots indicate other records (modified from Kaiser et al. 1994a). The shaded areas are above 300 m and demarcate the approximate range of the species, although not all areas at higher elevations support populations. Dots represent multiple records with proximate localities.

Kaiser et al. (1994a), and Daniells et al. (2008) included black-and-white photographs. Malhotra and Thorpe (1999), Brawner (2007), Sánchez Muñoz (2008), and Stuart et al. (2008) provided color photographs. Audiospectrograms were illustrated in Kaiser et al. (1994a) and Vale (2002). An ideogram of the karyotype is pictured in Kaiser (1997b).

• **DISTRIBUTION.** *Eleutherodactylus amplinympha* is endemic to Dominica, where it is restricted to mesic forests at elevations above 300 m (Hedges 1999) or 400 m (Malhotra and Thorpe 1999). The range was previously illustrated in Kaiser et al. (1994a).

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** References to *Eleutherodactylus amplinympha* are arranged by topic: **comparative morphology** (Kaiser et al. 1994a), **competition with introduced species** (Kaiser 1997a; may not apply as colonization by *E. johnstonei* on Dominica appears to have failed; A. James in Daniells et al. 2008), **conservation status** (Hed-

ges and Powell 2004; Stuart et al. 2008), **evolution** (Kaiser 2002), **natural history** (Kaiser et al. 1994a), **parasitology** (Moravec and Kaiser 1995 [from "*Eleutherodactylus* sp."]; Goldberg et al. 1998), **systematics and biogeography** (Kaiser 1993, 1995, 1996a; Kaiser et al. 1994a,b), **taxonomy** (Hedges et al. 2008).

This species is included in guides, checklists, and short notes (some of which may include brief descriptions) by Allen and Lines (2001), Alexander (2007), Bayless (2005), Brawner (2007), Censky and Kaiser (1999), Daniells et al. (2008), Evans and James (1997), Frost (2008), Hedges (1999), Hedges et al. (2008), Malhotra and Thorpe (1999), Malhotra et al. (2007), Powell et al. (1996), Stuart et al. (2008), and Vale (2002).

• **ETYMOLOGY.** The specific epithet is from the combination of the Latin "amplus" (large) and "nympha" (female forest and mountain spirit), reflecting the large female size and the fact that males are often heard calling in the forest but are rarely ever seen due to frequent dense fog in their habitat (Kaiser et al. 1994a; Kaiser 2003).

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