

Fig. 101. *Adelophryne gutturosa* Hoogmoed & Lescure, 1984. A. Dorsolateral view of male. B. Ventral surface of a male in life. C. Palm (preserved male specimen). D. Sole (preserved male specimen). E. Call, oscillogram. F. Call, spectrogram. (Photos by P. J. R. Kok).

Stefania Rivero, 1968

“STEFANIAS”



Fig. 102. *Stefania roraimae*, a species that does not occur in Kaieteur National Park; here from Mt Maringma. (Photo by P. J. R. Kok).

- ⇒ Medium to large size
- ⇒ Maxillary teeth present
- ⇒ Pupil horizontally elliptical (Fig. 42A)
- ⇒ Skin on dorsum smooth, shagreened, granular or tuberculate (Fig. 44A-D)
- ⇒ Vocal sac absent (no vocal slits, Fig. 53)
- ⇒ Fingers unwebbed
- ⇒ Finger discs expanded (Fig. 51B)
- ⇒ Finger I > II when fingers adpressed
- ⇒ Toe V > III when toes adpressed
- ⇒ Tympanum present, distinct (Fig. 43A)
- ⇒ Frontoparietal and supratympanic crests absent or present (Fig. 41)

The genus currently contains 18 species assigned to two different species groups: the *Stefania evansi* group (“narrow-headed”) and the *S. goini* group (“broad-headed”).

Stefanias are nocturnal, terrestrial or arboreal. They inhabit tropical rainforest, high-tepui forest and tepui bog.

Sexual dimorphism

Males are distinctly smaller than females; there is no other evident sexual dimorphism or dichromatism.

Eggs

Eggs and neonates are carried on the back of the female, adhering to a mucus layer. A female of *Stefania evansi* with 30 near-term juveniles on the back has been reported (Kok & Benjamin, 2007) (see the frontispiece of the manual).

Tadpoles

Endotroph (paraviviparous).

Distribution

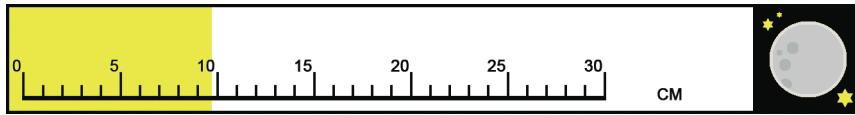
The genus *Stefania* is endemic to the Guiana Shield (Frost, 2008).

Field key to the *Stefania* species of Kaieteur National Park

1. Snout elongated, head noticeably longer than wide; tympanum separated from eye by a distance equal or slightly greater than tympanum diameter; toes extensively webbed; outer metatarsal tubercle indistinct (Fig. 50) ***S. evansi*** (p. 154)
- 1'. Snout not elongated, head as long as, or slightly longer than wide; tympanum separated from eye by a distance lower than tympanum diameter; toes basally webbed; outer metatarsal tubercle distinct (Fig. 50) ***S. woodleyi*** (p. 156)

Stefania evansi (Boulenger, 1904)

1904: 106, pl. 5.



ENGLISH NAME: Evan's Stefania.

LOCAL NAME (PATAMONA): Unknown.

TYPE LOCALITY: "Groete Creek, Essequibo, British Guiana".

SELECTED REFERENCES: Duellman & Hoogmoed, 1984 (description, habitat, distribution, B&W drawings, in English); MacCulloch & Lathrop, 2006a (description, distribution, colour photos); MacCulloch *et al.* 2006 (description, colour photo, in English).

Field identification - Males reach 53.0 mm SVL, females 97.5 mm.

- ➔ Dorsal ground colour very variable, ranging from pale greenish brown, medium brown or dark brown to greyish or reddish brown, with or without dark brown mottling, chevrons, and/or interorbital stripe and dorsolateral stripes; skin on dorsum shagreened.
- ➔ Ventral surface granular, dirty white to cream, usually with more or less extensive dark brown mottling, sometimes in an anastomotic pattern, throat dirty white, cream or pale reddish brown, with more or less extensive dark brown mottling, often with pale median ill-defined longitudinal stripe.
- ➔ Snout elongated, head noticeably longer than wide.
- ➔ Tympanum separated from eye by a distance equal or slightly greater than tympanum diameter.
- ➔ Prominent tubercles in temporal and post-tympanic region.
- ➔ When adpressed, Finger I longer than II, fingers unwebbed with large discs.
- ➔ Toes extensively webbed.
- ➔ Outer metatarsal tubercle indistinct.

Life history - Nocturnal, mainly arboreal, but sometimes observed on the ground (especially large females carrying eggs or juveniles). Found exclusively in primary forest, usually on rocks or low vegetation along streams and rivers. Reproductive biology poorly known, call and calling site undescribed (but see below), females carry eggs and neonates (up to 30) exposed on their back, adhering to a mucus layer; juveniles leave the mother's back at about 17-19 mm SVL.

Call - Unknown, but note that Sinsch & Juraske (2006: 159) described the call of a specimen from La Escalera, Venezuela. Since *Stefania evansi* does not occur in that area, the call described is probably that of *Stefani scalae*.

Tadpole - No tadpole stage, completely developed froglets hatched from egg capsule. Endotroph, paraviviparous.

Abundance and distribution in KNP - Very common. Collected around all main sampling localities (see Fig. 3).

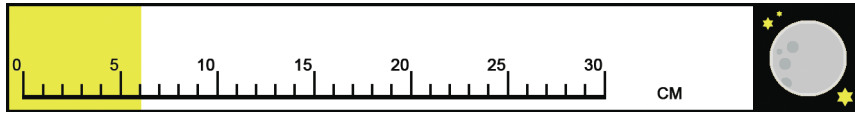
Geographic range - Known only from west-central Guyana.



Fig. 103. *Stefania evansi* (Boulenger, 1904). A. Dorsolateral view of a female carrying eggs. B. Ventral surface in life. C. Plain morph (colour morph A of Duellman & Hoogmoed, 1984). D. Striped morph (colour morph B of Duellman & Hoogmoed, 1984). E. Sole (preserved specimen). (Photos by P. J. R. Kok).

***Stefania woodleyi* Rivero, 1968**

1968: 146, pl. 2, fig. 2.



ENGLISH NAME: Woodley's *Stefania*

LOCAL NAME (PATAMONA): Unknown.

TYPE LOCALITY: "slope Mt. Kanaima, nr. Potaro R. Brit. Guiana".

SELECTED REFERENCES: Duellman & Hoogmoed, 1984 (description, habitat, distribution, B&W drawings and photo, in English); MacCulloch & Lathrop, 2006b (description, distribution, colour photos); MacCulloch *et al.* 2006 (description, colour photo, in English).

Field identification - Males reach 46.0 mm SVL, females 60.0 mm.

- ➔ Dorsal ground colour variable, ochre to dark brown with dark brown to black spots and irregular markings, yellowish interorbital bar often present, a pair of distinct or ill-defined dorsolateral yellowish stripes present in some specimens; skin on dorsum shagreened to granular.
- ➔ Ventral surface shagreened to granular, medium brown to cream with irregular dark brown or ochre mottling, throat medium brown with cream to ochre mottling, no trace of pale median longitudinal stripe on throat.
- ➔ Snout not elongated, head as long as, or slightly longer than wide.
- ➔ Tympanum separated from eye by a distance less than tympanum diameter.
- ➔ Rounded warts in temporal and post-tympanic region.
- ➔ When adpressed, Finger I longer than II, fingers unwebbed with large discs.
- ➔ Toes basally webbed.
- ➔ Outer metatarsal tubercle distinct.

Life history - Nocturnal, mostly terrestrial. Found exclusively in primary forest, often on the ground, on rocks or very low vegetation along streams and rivers, but several specimens were found far from water. Some individuals emit a distress call and attempt to bite when captured. Reproductive biology unknown, call and calling site undescribed, females expected to carry eggs and neonates exposed on their back, adhering to a mucus layer, like in other species of the genus.

Call - Unknown, see above.

Tadpole - Likely no tadpole stage, with completely developed froglets hatching from egg capsule on the back of the female like in other species of the genus. Expected to be endotroph, paraviviparous.

Abundance and distribution in KNP - Uncommon. Collected around main sampling localities # 5, 10, and 11 (see Fig. 3).

Geographic range - Known only from western Guyana, in the eastern portion of the Pakaraima Mountains.



Fig. 104. *Stefania woodleyi* Rivero, 1968. A. Dorsolateral view. B. Ventral surface in life. C. Specimen with ill-defined dorsolateral stripes. D. Specimen with distinct dorsolateral stripes. E. Sole (preserved specimen). (Photos by P. J. R. Kok).

Dendropsophus Fitzinger, 1843

“FITZINGER NEOTROPICAL TREEFROGS”



Fig. 105. *Dendropsophus minutus*, a species that could be present in Kaieteur National Park; here from the vicinity of Philipi village. (Photo by P. J. R. Kok).

- ⇒ Very small to medium size
- ⇒ Maxillary teeth present
- ⇒ Pupil horizontally elliptical (Fig. 42A)
- ⇒ Axillary membrane absent or extensive (Fig. 45)
- ⇒ No pigmented reticulation on palpebral membrane (Fig. 42D)
- ⇒ Vocal sac single, subgular (Fig. 56A)
- ⇒ Skin on dorsum smooth, shagreened, tuberculate, or finely spiculate (Fig. 44A-B, D-E)
- ⇒ Fingers webbed
- ⇒ Finger I < II when fingers adpressed
- ⇒ Finger discs expanded (Fig. 51B)
- ⇒ Tympanum present, distinct or indistinct (Fig. 43A-B)

The genus *Dendropsophus* currently contains 90 species.

Frogs of the genus *Dendropsophus* are nocturnal and mostly arboreal. They mainly inhabit tropical rainforest, but are also found in forest-edge situations, clearings, and other open areas like savannah; *Dendropsophus* species are often associated with water bodies and flooded areas.

The genus was resurrected by Faivovich *et al.* (2005) on the basis of unique DNA sequences, and contains all species formerly assigned to the genus *Hyla* believed to have 30 chromosomes. However, no strict morphological synapomorphies have currently been detected. Most *Dendropsophus* species are allocated to several different species groups, a few remain unassigned to any group.

Sexual dimorphism

Males often have different throat pigmentation than females, and are usually smaller. A few species exhibit sexually dichromatic dorsal colouration, with females having dorsolateral bands that are lacking in males (e.g. *Dendropsophus subocularis*). In some species males become yellow during the breeding season.

Eggs

Egg masses are usually deposited outside of water, on leaves, grasses, and other vegetation material overhanging or emerging from lentic water, although some species are reported to deposit eggs as a film on the water surface (e.g. *Dendropsophus koechlini*) or in clumps in the water (e.g. *D. melanargyreus*).

Tadpoles

Exotroph (benthic, nektonic, carnivorous, macrophagous).

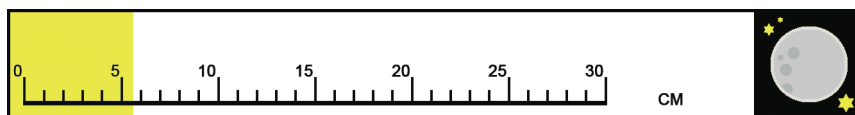
Distribution

Species belonging to the genus *Dendropsophus* are found from southern Mexico, through tropical Central and South America to northern Argentina and Uruguay, including Trinidad and Tobago (Frost, 2008).

Only *Dendropsophus marmoratus* (p. 160) is currently reported from Kaieteur National Park, but we suspect the presence of other species like *D. minutus*. Several tadpoles collected in small forested water bodies could belong to an undetermined *Dendropsophus* species.

Dendropsophus marmoratus (Laurenti, 1768)

1768: 29.



ENGLISH NAME: Marbled treefrog.

LOCAL NAME (PATAMONA): Ambak.

TYPE LOCALITY: "Surinami".

SELECTED REFERENCES: Bokermann, 1964 (description, B&W photos, in English); Duellman, 1978 (description, call description, tadpole description, natural history, in English); Lescure & Marty 2001 (description, distribution, colour photo, in French).

Identification - Males reach 44.0 mm SVL, females 56.0 mm.

➔ Dorsal ground colour variable, ranging from brown or brownish grey to grey, with a network of dark lines and markings that resemble lichens or bird droppings; colour varies significantly with light intensity; skin on dorsum weakly tuberculate.

➔ Ventral surface granular, usually white centrally, orange on the periphery, with black spots or mottling (may be completely white or pale yellow with black spots or mottling).

➔ Snout short and blunt.

➔ Axillary membrane extensive, orange or yellow with black spots.

➔ Scalloped white dermal folds on limbs.

➔ Small tubercles on lower lip.

➔ Fingers and toes extensively webbed.

➔ Discs on digits large and round, larger than adjacent phalange.

Life history - Nocturnal, highly arboreal. Mostly found in primary forest, but also occurs in disturbed forest. Males call during heavy rains, from the ground, grasses or bushes around temporary ponds, usually in clearings. Eggs are deposited as a surface film on the water; tadpoles probably feed on detritus.

Call - First described by Duellman (1978: 155). It consists of 1-3 low-pitched notes repeated at a rate of ca. 20 notes/min.

Tadpole - First described by Duellman (1978: 154). Exotroph, carnivorous; olive green with brown markings; LTRF = 0/0.

Abundance and distribution in KNP - Very rare. Collected only around main sampling locality # 1 (see Fig. 3), but the species is certainly more widespread in the park.

Geographic range - Widespread: occurs in the Guiana Shield and the Amazon Basin in Brazil, Colombia, Ecuador, Peru and Bolivia.

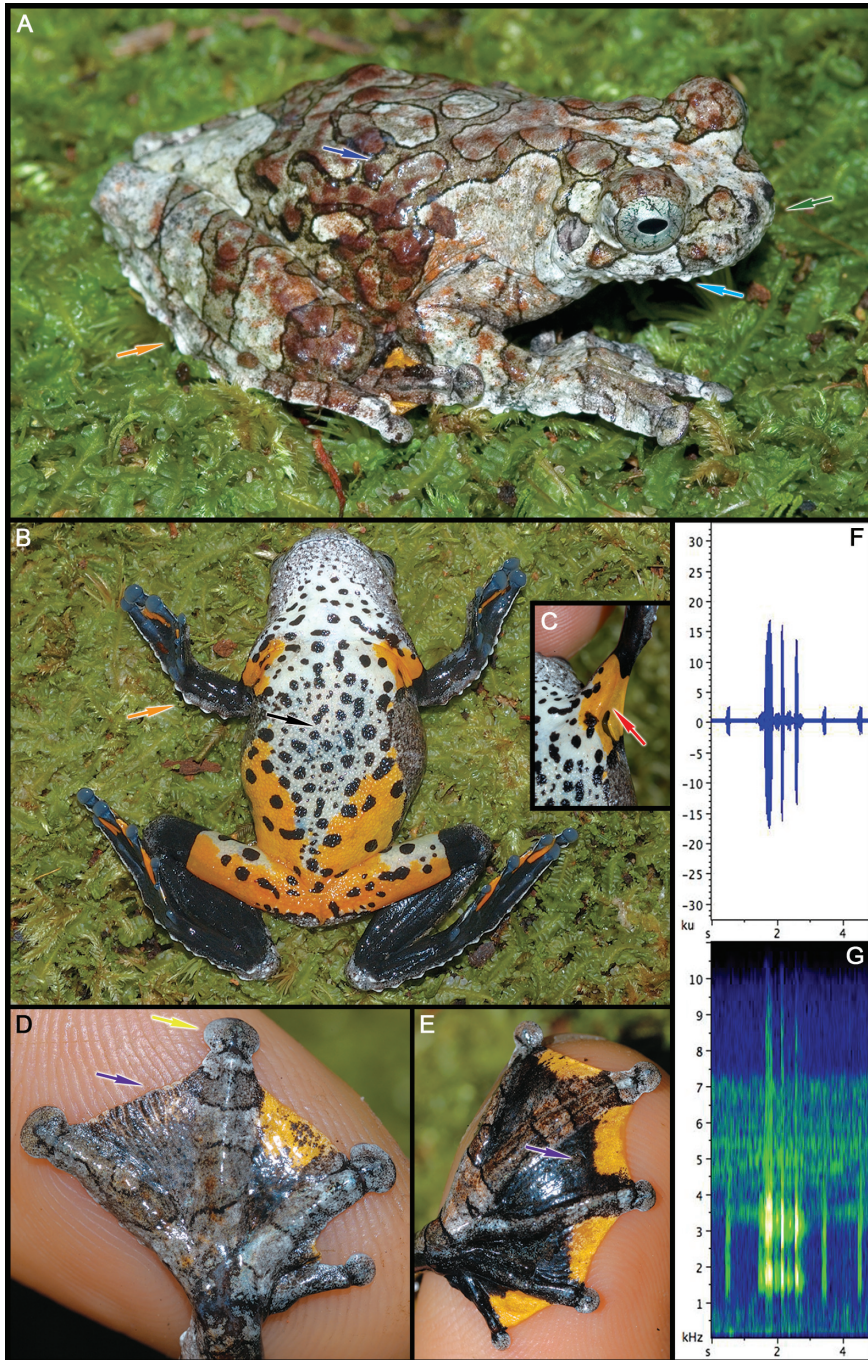


Fig. 106. *Dendropsophus marmoratus* (Laurenti, 1768). A. Dorsolateral view of a male. B. Ventral surface of a male in life. C. Detail of extensive axillary membrane. D. Top of hand of a living specimen. E. Top of foot of a living specimen. F. Call, oscillogram. G. Call, spectrogram. (Photos by P. J. R. Kok).

Hypsiboas Wagler, 1830

“WAGLER NEOTROPICAL TREEFROGS”



Fig. 107. *Hypsiboas ornatissimus*, a species currently not reported from Kaieteur National Park; here from the vicinity of Wayalayeng village. (Photo by P. J. R. Kok).

- ⇒ Medium to large size
- ⇒ Maxillary teeth present
- ⇒ Pupil horizontally elliptical (Fig. 42A)
- ⇒ Pigmented reticulation on palpebral membrane absent or present (Fig. 42D)
- ⇒ Vocal sac single, subgular (Fig. 56A)
- ⇒ Skin on dorsum smooth or shagreened to granular (Fig. 44A-C)
- ⇒ Fingers unwebbed to extensively webbed
- ⇒ Finger I < II when fingers adpressed
- ⇒ Finger discs expanded (Fig. 51B)
- ⇒ Tympanum present, distinct or indistinct (Fig. 43A-B)

The genus *Hypsiboas* currently contains 79 species, which are nocturnal and mostly arboreal. They mainly inhabit tropical rainforest.

The genus was resurrected by Faivovich *et al.* (2005) on the basis of unique DNA sequences, and contains species formerly assigned to the genus *Hyla*. However, no strict morphological synapomorphies have currently been detected.

Sexual dimorphism

Males often have an enlarged prepollex and/or nuptial excrescences on the first finger. In most species males are smaller than females and in some species they have different throat pigmentation.

Eggs

Eggs are deposited in lentic or lotic water, in natural or constructed basins in some species. Some *Hypsiboas* species lay eggs as gelatinous masses, while others deposit eggs as a gelatinous film on the water surface.

Tadpoles

Exotroph (benthic).

Distribution

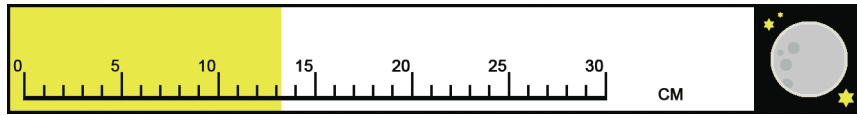
Species belonging to the genus *Hypsiboas* are found in tropical Central and South America, from Nicaragua to Argentina, including Trinidad and Tobago (Frost, 2008).

Field key to the *Hypsiboas* species of Kaieteur National Park

1. Dorsal colouration mostly brown **2**
- 1'. Dorsal colouration mostly green **3**
2. Palpebral membrane not reticulated. *H. calcaratus* (p. 166)
- 2'. Palpebral membrane reticulated (Fig. 42D). **4**
3. Dorsal skin smooth (Fig. 44A) *H. sibleszi* (p. 174)
- 3'. Dorsal skin granular (Fig. 44C). **5**
4. Fingers fully webbed *H. boans* (p. 164)
- 4'. Fingers not fully webbed *H. geographicus* (p. 170)
5. Snout truncate in profile (Fig. 40B); webbing not reaching subarticular tubercle on Finger IV; no prepollical spine in males *H. liliae* (p. 172)
- 5'. Snout rounded in profile (Fig. 40B); webbing reaching subarticular tubercle on Finger IV; prepollical spine in males (Fig. 48) **6**
6. Iris reddish orange, all fingers green *H. cinerascens* (p. 168)
- 6'. Iris silver, Fingers I-II whitish *H. sp.* (p. 176)

***Hypsiboas boans* (Linnaeus, 1758)**

1758: 213.



ENGLISH NAME: Giant gladiator treefrog.

LOCAL NAME (PATAMONA): Wàl-oma.

TYPE LOCALITY: "America".

SELECTED REFERENCES: Duellman, 1970 (description, tadpole description, call description, natural history, B&W drawings, colour drawings, in English); Duellman, 1978 (description, call description, natural history, B&W photo, in English); Hoogmoed, 1990 (comparison with *Hypsiboas wavrini*, B&W photos and drawings, in English).

Field identification - Males reach 132.0 mm SVL, females 118.0 mm.

- ➔ Dorsal ground colour variable, ranging from tan to greyish or dark brown, often with darker markings (spots or blotches), occasionally with scattered white spots and/or a middorsal line; skin on dorsum smooth.
- ➔ Ventral surface granular, white to greenish white, throat white to greenish white in females, greyish in males.
- ➔ Flanks whitish or greyish tan with diffuse dark brown vertical marks.
- ➔ Small triangular calcar on heel.
- ➔ Iris bronze, lower eyelid reticulated with silvery gold.
- ➔ Fingers with extensive brown webbing.
- ➔ Curved projecting prepollical spine in males.
- ➔ Toes with extensive brown webbing.

Life history - Nocturnal, arboreal. Found in primary and secondary forest, also occurs in open areas. Males call mainly on low vegetation along slow-moving rivers or streams, sometimes from the margin of small shallow natural basins or basin-like nests that they construct in sand or mud near water. Males usually defend egg-laying sites. Eggs are deposited as a film on the water surface of the nest basin from where the tadpoles will be washed into the stream; tadpoles feed on detritus.

Call - First described by Duellman (1970: 260), who provided a spectrogram. It consists of a series of 3-10 loud notes produced at a rate of 21-82 notes/min.

Tadpole - First described by Kenny (1969: 4, under *Hyla maxima*); see also Hero (1990: 228). Exotroph, benthic; transparent olive brown; LTRF = 2(1-2)/3-4(1).

Abundance and distribution in KNP - Common, observed around main sampling localities # 1, 2 and 5 (see Fig. 3), probably widespread in the Park

Geographic range - Widespread in lowland and upland tropical forests of South America, found also in eastern Panama, northern Colombia, and Trinidad.

Taxonomic comment - Duellman (1997) stated that the "*Hyla boans*" from Gran Sabana, Venezuela, could be specifically distinct from the widespread *H. boans* in the lowlands. Apparently specimens from Gran Sabana do not construct basin-like nests, but breed in small permanent streams. Interestingly, we never found constructed basin-like nests in KNP, but found eggs and tadpoles of *H. boans* in rocky streams.

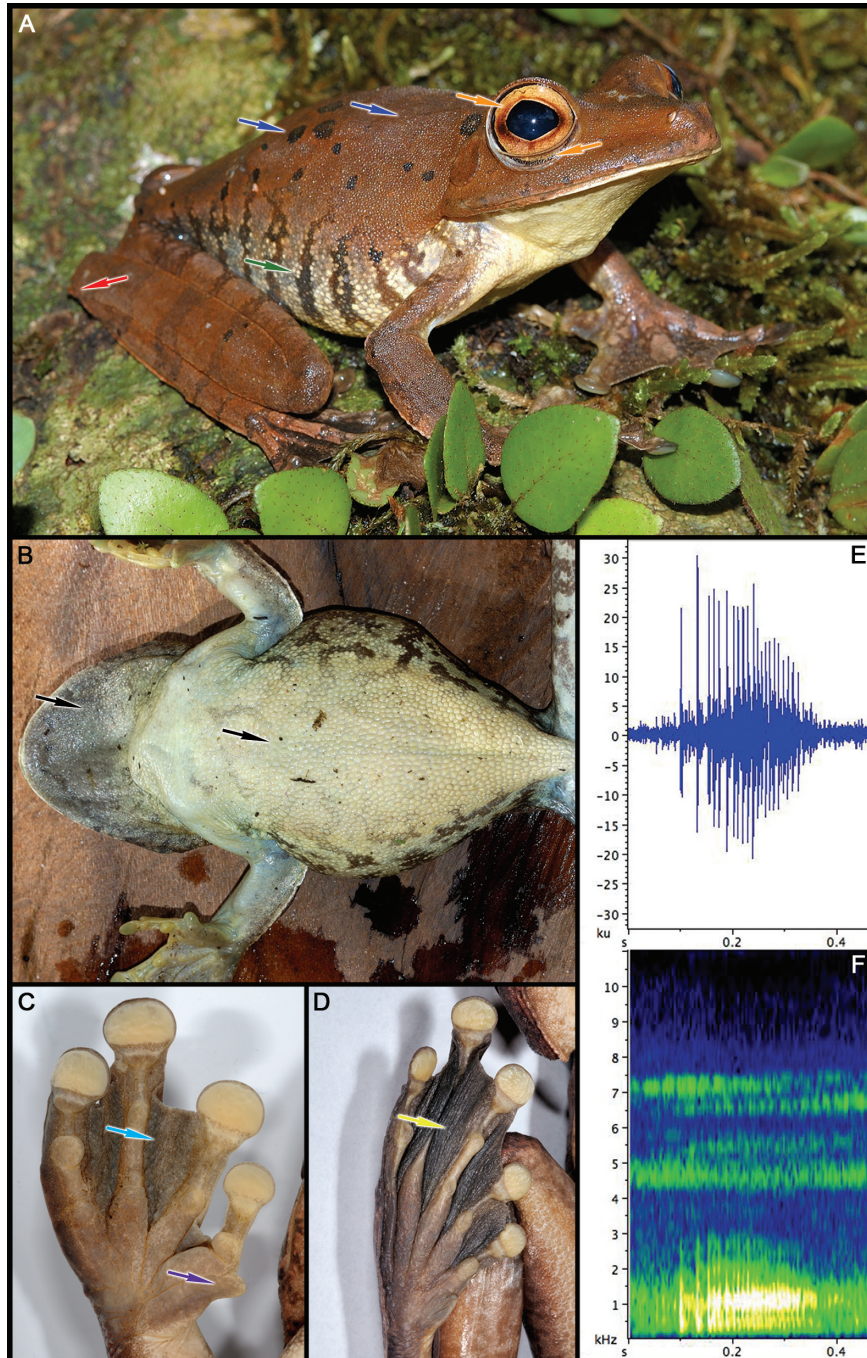
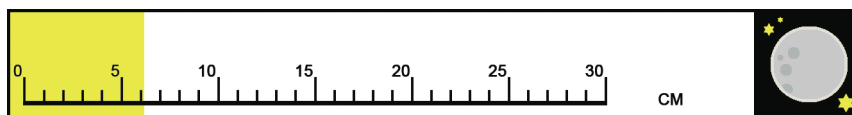


Fig. 108. *Hypsiboas boans* (Linnaeus, 1758). A. Dorsolateral view of a female. B. Ventral surface of a male in life. C. Palm (preserved male specimen). D. Sole (preserved male specimen). E. Call, oscillogram. F. Call, spectrogram. (Photos by P. J. R. Kok).

Hypsiboas calcaratus (Troschel, 1848)

1848: 660.



ENGLISH NAME: Troschel's treefrog, Blue flanked treefrog.

LOCAL NAME (PATAMONA): Kon kon yun.

TYPE LOCALITY: "Britisch-Guiana".

SELECTED REFERENCES: Duellman, 1973 (description, call description, variation, natural history, B&W photos, in English), Lutz, 1973 (description, variation, in English), Duellman, 1978 (description, call description, tadpole description, natural history, B&W photo, in English).

Field identification - Males reach 41.0 mm SVL, females 61.0 mm.

➔ Dorsal ground colour variable, ranging from pale yellowish tan to brown, greyish brown or reddish brown, sometimes with darker markings (e.g. broad transverse marks, narrow transverse lines), often with a dark brown middorsal line.

➔ Ventral surface granular, white.

➔ Flanks and hidden surfaces of thighs bluish white to blue, with bold black markings (usually in the form of vertical bars).

➔ Large, elongate triangular calcar on heel.

➔ Eyelid without reticulations.

➔ Fingers with basal webbing.

➔ No prepollical spine in males.

➔ Supernumerary palmar and plantar tubercles present.

Life history - Nocturnal, arboreal. Found in primary and secondary forests. Males call from low vegetation along, or over, slow-moving streams and ponds. Eggs are deposited as a film on the water surface of slow-moving streams, swamps, or small ponds; tadpoles feed on detritus.

Call - First described by Duellman (1973: 518), it consists of one to three low-pitched rattling notes produced at a rate of ca. 8 notes/min.

Tadpole - First described by Duellman (1978: 138). Exotroph, benthic; dark brown with tan mottling and a tan interorbital bar; LTRF = 2(2)/3.

Abundance and distribution in KNP - Locally common, observed only around main sampling localities # 4 and 5 (see Fig. 3), but probably widespread in the Park.

Geographic range - Widespread in tropical South America, east of the Andes.

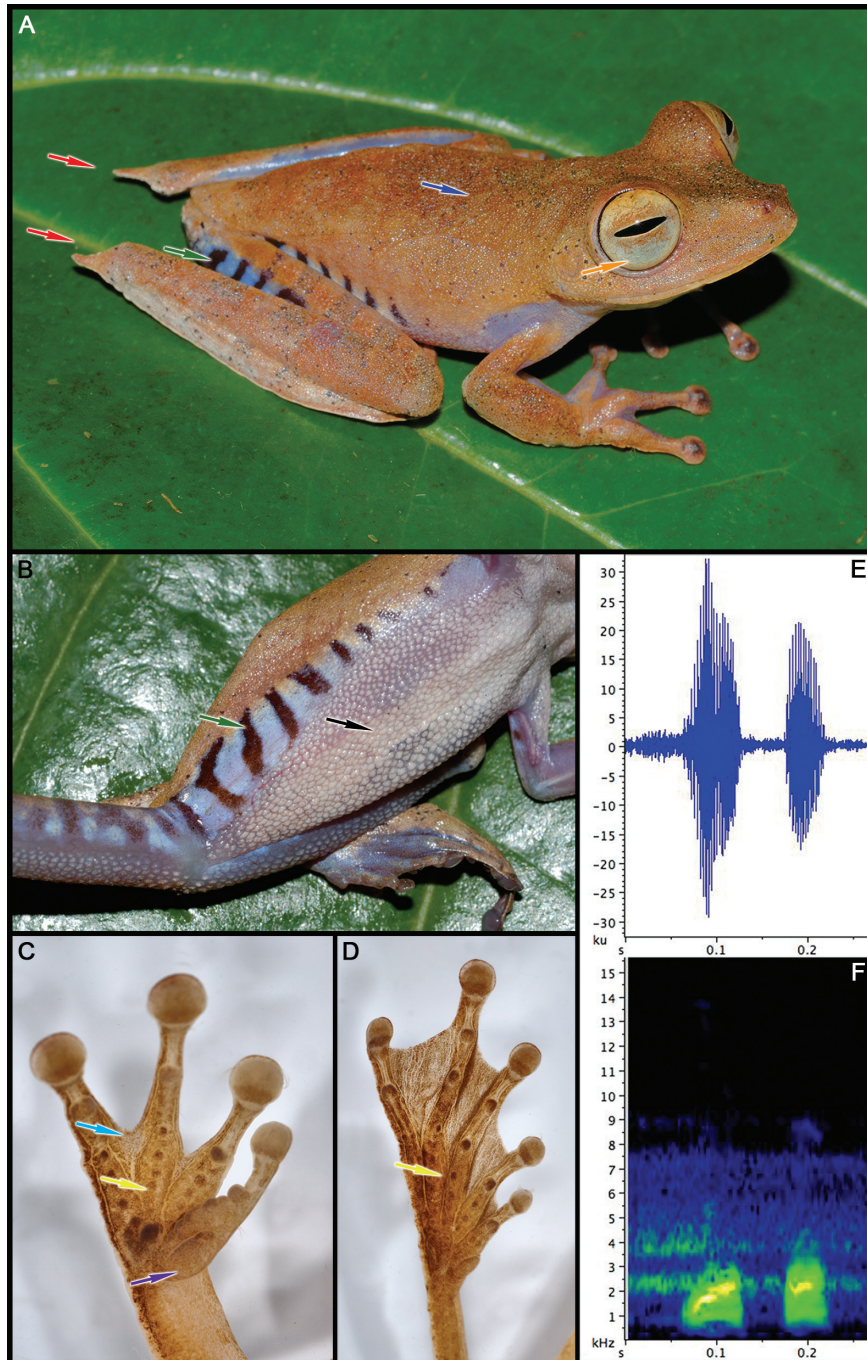
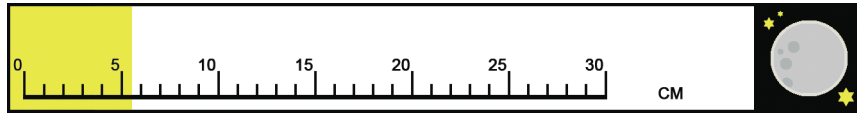


Fig. 109. *Hypsiboas calcaratus* (Troschel, 1848). A. Dorsolateral view of a female. B. Ventral surface of a female in life. C. Palm (preserved male specimen). D. Sole (preserved male specimen). E. Call, oscillogram. F. Call, spectrogram. (Photos by P. J. R. Kok).

Hypsiboas cinerascens (Spix, 1824)

1824: 35, pl. 8, fig. 4.



ENGLISH NAME: Demerara Falls treefrog.

LOCAL NAME (PATAMONA): Unknown, but green treefrogs are generally called "Pakoko" (pron. Pa-go-go).

TYPE LOCALITY: "*Ecgá prope flumen Tefé*" [= Ega, Rio Tefé, Brazil].

SELECTED REFERENCES: Duellman, 1978 (description, B&W photo, tadpole description, call description, in English [in part, under *Hyla granosa*]); Hoogmoed, 1979 (extensive description, distribution, B&W photos, call spectrogram, in English [in part, under *Hyla granosa*]); Schlüter 2005 (brief description, colour photos, call spectrogram, in German [in part, under *Hyla granosa*]). See taxonomic comments.

Field identification - Males reach 54.0 mm SVL, females 44.0 mm.

- ➔ Dorsal colour yellowish green to grass green with yellow dots, sometimes with reddish flecks/dots, and/or reddish interorbital bar; skin on dorsum finely granular.
- ➔ Ventral surface coarsely granular, pale green to bluish green, translucent in the central portion of abdomen (internal organs visible).
- ➔ Outer edge of upper eyelid yellow.
- ➔ All fingers yellowish green to green.
- ➔ Iris light orange to reddish orange.
- ➔ Outer fingers about 1/3 webbed, other fingers basally webbed.
- ➔ Prepollex enlarged, with small prepollical spine in breeding males.
- ➔ Toes about 2/3 webbed.

Life history - Nocturnal, arboreal. Found in primary forest along slow-moving streams and rivers. Males call from low vegetation, usually not far from the water surface. Eggs are deposited in slow flowing rivers and streams, as a film on the water surface; tadpoles feed on detritus.

Call - Apparently first described by Duellman (1978: 150), but see also Schlüter (1979: 216), who provided a spectrogram. It consists of a series of two to three loud, unpulsed, notes ("hoot-hoot-hoot"), which are produced at a rate of about 30-60 notes/min.

Tadpole - First described by Duellman (1978: 149); see also Hero (1990: 230). Exotroph, benthic; pale green to olive brown; LTRF = 2(1, 2)/3-4(1)[2].

Abundance and distribution in KNP - Rare, observed only around main sampling locality # 5, but probably more widespread in the Park.

Geographic range - Exact distribution is unclear due to the confusion between at least two species (see *Hypsiboas* sp., p. 176). Probably widespread in the Amazon Basin from eastern Ecuador, Peru, northern Bolivia to northeastern Brazil and the Guiana Shield.

Taxonomic comments - A complex of at least two sympatric species (see Kok, 2006). Descriptions of tadpoles and calls in the literature did not discriminate between the similar but distinct taxa, and might thus involve more than one species. Re-evaluation of the taxonomic status of these very similar species is in progress by Kok and colleagues.

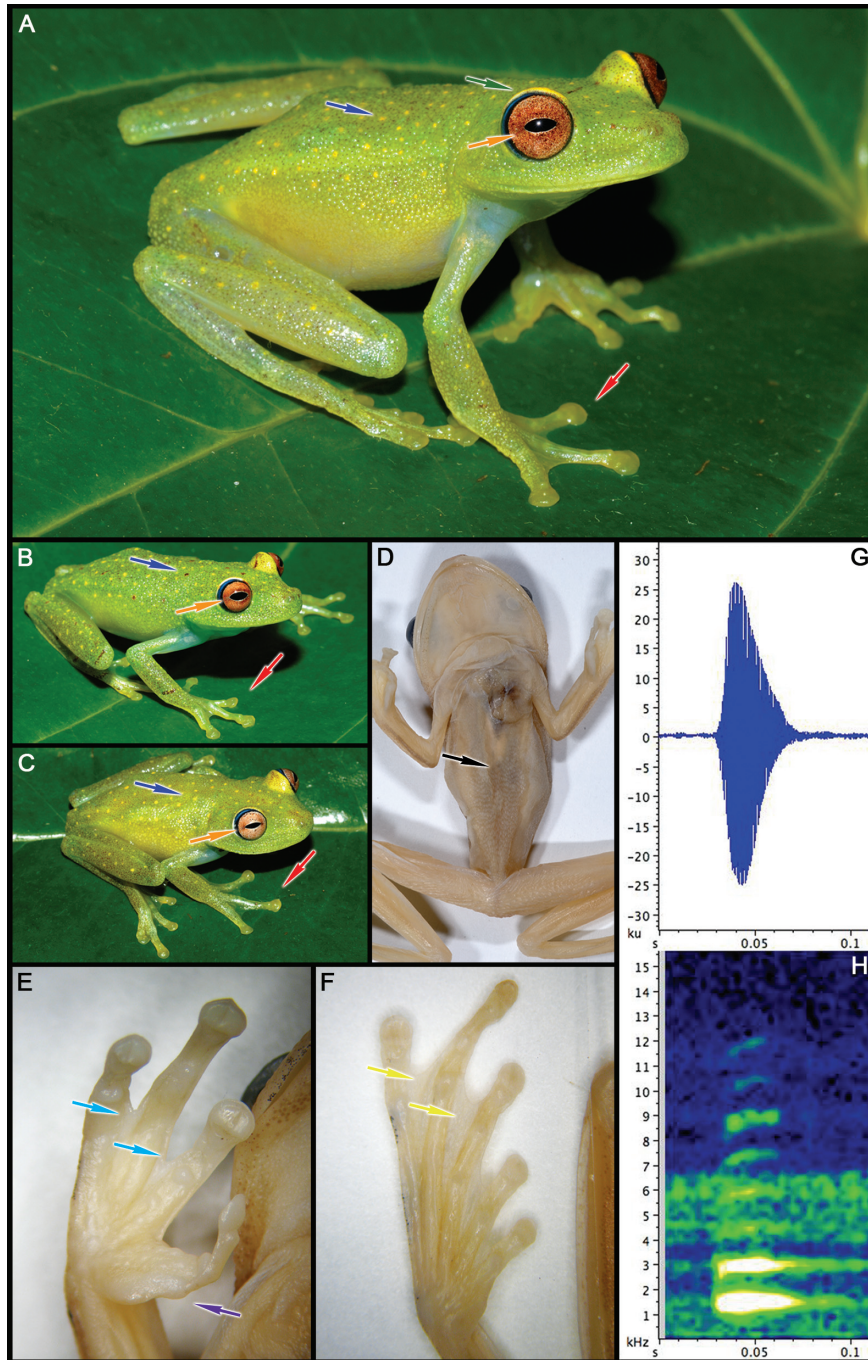
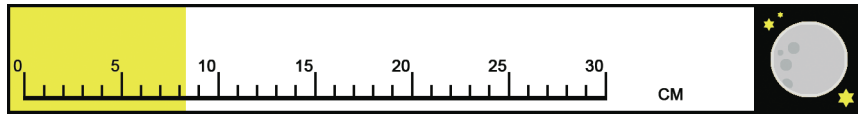


Fig. 110. *Hypsiboas cinerascens* (Spix, 1824). A-B. Dorsolateral views of males. C. Dorsolateral view of a female. D. Ventral surface of a preserved male. E. Palm (preserved male specimen). F. Sole (preserved male specimen). G. Call, oscillogram. H. Call, spectrogram. (Photos by P. J. R. Kok).

***Hypsiboas geographicus* (Spix, 1824)**

1824: 39, pl. 11, figs 1-2.



ENGLISH NAME: Map treefrog.

LOCAL NAME (PATAMONA): Unknown.

TYPE LOCALITY: “*flumen Tefé*” [Rio Tefé, Brazil].

SELECTED REFERENCES: Duellman, 1973 (description, call description, ontogenetic change in colour pattern, variation, natural history, B&W photos and drawings, in English); Lutz, 1973 (description, variation, in English); Duellman, 1978 (description, call description, tadpole description, natural history, B&W photo, in English).

Field identification - Males reach 62.0 mm SVL, females 83.0 mm.

➔ Dorsal ground colour very variable and depending on light intensity, ranging from brown or greyish brown to yellowish tan or orangish brown, often with darker markings (e.g. X-shaped mark on scapular region, irregular transverse bars, black flecks) and/or middorsal line extending to varying lengths on body, but usually more conspicuous on head, occasionally with few irregular white spots; in juveniles dorsum cream with many small black dots, flanks black (not illustrated); skin on dorsum smooth.

➔ Ventral surface granular, orangish yellow to orange, excepted on throat and chest, which are white to creamy yellow (females), or whitish, with some creamy yellow laterally and posteriorly (males).

➔ Flanks bluish with white flecks.

➔ Small triangular calcar on heel.

➔ Iris orangish bronze, lower eyelid reticulated with gold.

➔ Fingers with moderate, orange webbing (finely pigmented in preservative).

➔ No prepollical spine in males.

➔ Toes with moderate, orange webbing (finely pigmented in preservative).

Life history - Nocturnal, arboreal. Found mainly in secondary forest and disturbed vegetation, also occurs in primary forest and in open areas. Males call from low vegetation along, or over, slow-moving streams and ponds. Eggs are deposited as a film on the water surface of slow-moving streams or ponds; tadpoles feed on detritus.

Call - First described by Duellman (1973: 518), who provided a spectrogram; see also Duellman (1978: 148). Complex and highly variable, consisting of a series of short chuckles and/or a long groan, notes are produced at a rate of 2-60 notes/min.

Tadpole - First described by Kenny (1969: 36); see also Hero (1990: 229). Exotroph, benthic; black; LTRF = 2-3[1] (3)/3-5[1].

Abundance and distribution in KNP - Locally common, observed around main sampling localities # 5, 9, 10 and 11 (see Fig. 3).

Geographic range - Widespread in tropical South America, east of the Andes.