



## REDISCOVERY OF *PSEUDOPHILAUTUS HYPOMELAS* (GÜNTHER, 1876) (AMPHIBIA: ANURA: RHACOPHORIDAE) FROM THE PEAK WILDERNESS, SRI LANKA, A SPECIES THOUGHT TO BE EXTINCT!

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ISSN

Online 0974–7907

Print 0974–7893

OPEN ACCESS

**Abstract:** *Pseudophilautus hypomelas* (Günther, 1876), was previously known from the type collection of 14 specimens deposited in the Natural History Museum, London. There has been no record of this species since the original description by Günther in 1876, and subsequently this species was considered extinct. In recent explorations however, the species has been rediscovered from the Peak Wilderness, Central Hills of Sri Lanka, with a redescription of the species from fresh collections.

**Keywords:** Amphibia, Peak Wilderness, *Pseudophilautus hypomelas*, rediscovery, Sri Lanka, Sripada.

**DOI:** <http://dx.doi.org/10.11609/JoTT.o3547.5181-93> | **ZooBank:** <urn:lsid:zoobank.org:pub:465BAFFC-87D5-41E3-94AF-CFE22D758AE2>

**Editor:** S.K. Dutta, Indian Institute of Science, Bengaluru, India.

**Date of publication:** 26 December 2013 (online & print)

**Manuscript details:** Ms # o3547 | Received 03 March 2013 | Final received 12 November 2013 | Finally accepted 11 December 2013

**Citation:** Wickramasinghe, L.J.M., D.R. Vidanapathirana, M.D.G. Rajeev & N. Wickramasinghe (2013). Rediscovery of *Pseudophilautus hypomelas* (Günther, 1876) (Amphibia: Anura: Rhacophoridae) from the Peak Wilderness, Sri Lanka, a species thought to be extinct!. *Journal of Threatened Taxa* 5(17): 5181–5193; <http://dx.doi.org/10.11609/JoTT.o3547.5181-93>

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**Funding:** The Biodiversity Secretariat of the Ministry of Environment for funding and collaboration, the Nagao Natural Environment Foundation for part funding, the Department of Wildlife Conservation for permission granted (Permit No. WL/3/3/354), and the Dilmah Conservation for funding project activities.

**Competing Interest:** The authors declare no competing interests. Funding sources had no role in study design, data collection, results interpretation and manuscript writing.

**Author Contribution:** LJMW was involved in designing the study, conducting the field survey, conducting museum reference work, gathering, and analyzing the data, and compiling the MS. DRVP was involved in conducting the field survey, conducting NMSL museum reference work, gathering, analyzing the data, and writing the MS. MDGR was involved in conducting the field survey, conducting NMSL museum reference work, gathering, analyzing the data, and writing the manuscript. NW was involved in field research work and writing of the manuscript.

**Acknowledgements:** The authors wish to acknowledge the Biodiversity Secretariat of the Ministry of Environment for funding and for collaborating on the project, Mr. R.H.S.S. Samarathunga (Secretary-Ministry of Environment), Mr. Gamini Gamage (Additional Secretary-Policy Planning), Ms. Padma Abayakoon (Director), Mr. N.K.G.K. Nannawaththa (Additional Secretary-Natural Resources), Mr. R. A. R. Roopasinghe (Additional Secretary- Administrations), Mr. Ajith de Silva (Former Director), Mrs. Dakshini Perera, and Mrs. Hasula Wickramasinghe for all the support rendered. To the Director General Mr. H. D. Rathnayake, and the Deputy Director Mr. S.R.B. Dissanayake (Research and Training) for all the support. Staff of the Nallathanniya beat specially to Mr. Anil Vithanage (Assistant Wildlife Ranger), and Palabaddala Wildlife beats. Mr. S. Chathuranga Ariyaratne, Mr. A.W. Amila Chanaka, Mr. L.L. Dharshana Priyantha, Mr. Gayan Chathuranga, Mr. Saman Gamage, Mr. Chaminda Pushpakumara, Mr. Dilshan Maduranga de Silva, Mr. E.A. Thusitha Jayanath, Mr. Lankaputhra Wimaladharm, Mr. L.P.D. Wasantha Kumara, Mr. Jagath Krishantha, Mr. Ruwan Chinthaka are thanked for their immense help in the field, and late Dr. Amith Munindradasa fondly remembered for his support and encouragement. The authors wish to acknowledge the contributions of Mr. Chamara Hettiarachchi, in preparing the location illustrations, to Mr. Charith Pubudu Lakmal and Mr. Lalith Senanayake for preparing images. The authors wish to thank the Directress National Museum of Sri Lanka, Mrs. Sanuja Kasthuriarachchi and staff members (Assistant Directress Mrs. Manori Nandasena, Mrs. Chandrika Munasinghe and Mrs. Manaram de Silva), are gratefully acknowledged for their assistance in museum reference work. Mr. Addison Wynn, Mr. Sameera Suranjan Karunarathna, Mr. Sanjiv de Silva provided valuable literature relevant for this work. We wish to thank Dr. Channa Bambaradeniya and Mr. Bhathiya Kekulandala for their valuable comments. The authors also like to thank their colleagues at Herpetological Foundation of Sri Lanka (HFS), for various courtesies. Thanks goes to Mr. Asanka Abayakoon for the encouragements, to Dr. Annemarie Ohler, and anonymous reviewers whose invaluable comments undoubtedly improved the quality of the paper. Finally, thanks are due to our principal sponsors Dilmah Conservation, for funding project activities.



## INTRODUCTION

Sri Lanka is home to 75 known species belonging to the genus *Pseudophilautus*. Currently, all the 75 species are endemic to the island (Manamendra-Arachchi & Pethiyagoda 2005; Meegaskumbura & Manamendra-Arachchi 2005, 2011; Meegaskumbura et al. 2007, 2009; Wickramasinghe et al. 2013a). Sri Lanka claims to have the highest number of extinct amphibians—19 species (Manamendra-Arachchi & Pethiyagoda 1998, 2005; Manamendra-Arachchi & de Silva 2004; Pethiyagoda 2005; IUCN & MENR 2007; Meegaskumbura et al. 2007; Stuart et al. 2008; Manamendra-Arachchi & Meegaskumbura 2012) and interestingly all belonging to the genus *Pseudophilautus* (Manamendra-Arachchi & Pethiyagoda 2005; Meegaskumbura et al. 2007). Recently two species of frogs *Adenomastax kandianus* Günther (1872) (Wickramasinghe et al. 2012) and, *Pseudophilautus stellatus* (Kelaart 1853) (Wickramasinghe et al. 2013b) were rediscovered from the Peak Wilderness.

*Pseudophilautus hypomelas* was only known from the syntype series deposited in the Natural History Museum, London (BMNH). Despite extensive field studies carried out over the past decade (Manamendra-Arachchi & Pethiyagoda 2005) in Sri Lanka this species was reported to be extinct in the scientific literature (Manamendra-Arachchi & Pethiyagoda 2005, IUCN & MENR 2007; Bain et al. 2008; Chanson et al. 2008; Stuart et al. 2008; Manamendra-Arachchi & Meegaskumbura 2012). The species was first described by Günther as *Ixalus hypomelas*, later Kirtisinghe (1957) synonymized the species with *P. leucorhinus*, but considering its well distinguishing characters Dutta & Manamendra-Arachchi (1996), resurrected the species as *Pseudophilautus hypomelas*. Manamendra-Arachchi & Pethiyagoda (2005) designated lectotype and para lectotypes from the syntypes of 14 specimens deposited at BMNH, most of which were in poor condition without having much information on external characters. Owing to the paucity of information, we conducted a survey in the Peak Wilderness Sanctuary of the Central Province, Sri Lanka and from our findings report the rediscovery of *Pseudophilautus hypomelas*, which was thought to be extinct.

The Peak Wilderness Sanctuary is one of the few remaining areas in Sri Lanka with a continuous natural forest with a cover of altitudinal graded forest types, ranging from lowland mixed dipterocarp forests to montane cloud forests and is an area of great biological diversity (Singhakumara 1995; ; Fernando & Ranasinghe

1997). The Peak Wilderness Sanctuary, in particular, harbors a majority of the endemic and threatened bird species of Sri Lanka (Ranawana & Bambaradeniya 1998; Wickramasinghe et al. 2007).

## MATERIALS AND METHODS

The field survey was carried out in the Peak Wilderness, to assess the diversity of amphibians in an elevation gradient for over two years. The field survey commenced at the end of 2009, and phases I and II were completed in December 2011. The sampling sites were selected in a random manner considering accessibility and to cover representative habitats in the Nature Reserve, through an initial reconnaissance survey. Fifteen field visits were made with each sampling session spanning eight continuous days. Sampling was nocturnal, and photographs of most species were taken in the wild to avoid any confusion of change in colour during captivity. Specimens collected in the field were first fixed in 90% ethanol for two hours and stored in 70% ethanol.

Sex and maturity were determined by examining secondary sexual characters, or when absent, by examining the gonads through a small lateral incision in to the specimen. The material referred to is deposited in the Natural History Museum London (BMNH), and the National Museum, Sri Lanka (NMSL). Three specimens were collected for the current work and are deposited in the NMSL and the Girithale National Wildlife Research and Training Center (Department of Wildlife Conservation (DWC)).

The rediscovered species was compared with all types from Sri Lanka deposited in the NMSL, and type specimens deposited in the BMNH. The specimens formerly belonged to the Wildlife Heritage Trust (WHT) bearing WHT numbers and are currently deposited in the NMSL, catalogued under the same numbers.

Forty-four external measurements of specimens were taken with a Mitutoyo digital vernier calliper to the nearest 0.1mm. Terminology of external morphology abbreviated in the text and external measurements for the description section follows Wickramasinghe et al. (2013a).

Snout angle (Manamendra-Arachchi & Pethiyagoda 2005) is not considered here due to an influence of preservation artifacts. Geographical coordinates were determined from GPS readings (Gamin eTrex Gista) with WGS84 (World Geodetic System) datum at the locality.

## RESULTS AND DISCUSSION

There are 14 specimens of *P. hypomelas* deposited in the BMNH collection, of which one specimen had been designated as a lectotype, mature female 20.9mm SVL (BMNH 1947.2.27.8, collector-Beddome, locality-Ceylon) by Manamendra-Arachchi & Pethiyagoda (2005). From the remaining 13 paralectotypes 11 were critically examined while the two remaining paralectotypes BMNH 1947.2.27.9, female specimens (19.7 SVL) and BMNH 1947.2.27.10 (20.7mm SVL) collected by W. Ferguson, from Ceylon were separately listed as 'others' (data not provided) in the same publication. Since all the 11 paralectotypes considered by Manamendra-Arachchi & Pethiyagoda (2005) have been completely dried out, and the two specimens collected by W. Ferguson are in better condition, we have considered only the latter in the present study. The lectotype and the two paralectotypes we consider here were originally registered in 1876 as lot BMNH 1876.3.21.31-33 *Ixalus hypomela*. They were re-registered in 1947 as BMNH 1947.2.27.8-10.

During a nocturnal sampling on the 06 April 2010, about 40 frogs resembling *P. hypomelas* were noticed from the Peak Wilderness Sanctuary (06°48'28.02"N & 80°28'14.46"E, elevation 1300m). Initially these frogs were thought to be new to science, of which only three specimens were collected to ascertain their taxonomic identity.

Careful museum studies confirmed the identity of the above collected specimens as *Pseudophilautus hypomelas*. Since the original description by Günther (Appendix 2) is precise here we redescribe the species with a report of rediscovery after a span of 137 years for scientific clarity of the species.

### *Pseudophilautus hypomelas*

#### Voucher specimen

NMSL 2013.26.01 NH, adult female 22.4mm SVL (Images 1; 2A,D), DWC 2013.01.014, adult female, SVL 21.1mm (Image 2 B&E); DWC 2013.01.015, adult male, SVL 16.98mm (Images 2C,F; 3); Sripada (Peak Wilderness), Ratnapura District, Sabaragamuwa Province, Sri Lanka (06°48'28.02"N & 80°28'14.46"E), elevation 1300m (Fig. 1). coll. L.J.M.W, D.R.V., M.D.G.R., S.C.A., & A.W.A.C. 06.04.2010.

#### Diagnosis

The unique diagnostic character for the species is its markings on its dorsum; a pair of broad bronze longitudinal dorsal bands extends from the back of the

eye to the groin, a bronze band between the eyes forms a prominent 'T/∇' shaped patch centrally projecting towards the vent which are unique markings for this species. Apart from the above, *P. hypomelas* can be distinguished from known congeners by the following combination of characters: body small size (adult male, SVL 16.98mm, adult females SVL 21.1–22.4mm); head dorsally and interorbital space convex; snout lateral acuminate; canthus rostralis rounded; internarial space flat; lingual papilla, fringe on fingers, calcar and nuptial pad absent; vomerine teeth absent; snout, interorbital area, side of head, anterior and posterior dorsum, lower and upper flank, throat and chest smooth; supernumerary tubercles on palm absent; supernumerary tubercles on foot absent.

#### Description of NMSL 2013.26.01 NH

Small size (SVL 22.4), elongate (SVL/HW 2.7); head large (HL/SVL 0.4), as wide as long (HW/HL 0.9); snout acuminate in lateral aspect (Fig. 2A), mucronate in dorsal (Fig. 2B) and pointed in ventral aspects (Fig. 2C) (ES/DFE 0.9, SN/IN 0.8), larger than horizontal diameter of eye (ES/ED 1.2); internasal space flat; canthus rostralis rounded, loreal region concave; interorbital space convex, larger than upper eyelid (IO/UEW 1.7), and internasal distance (IN/UEW 1.2); distance between front of eyes 3/5<sup>th</sup> of the distance between back of eyes (DBE/DFE 1.6); nostrils oval, without flap of skin laterally, closer to tip of snout than to eye (SN/EN 0.6); pupil horizontally elliptical; tympanum distinct, vertically elliptical (TYH/TYW 1.6), smaller than the eye diameter (TYH/ED 0.4), tympanum-eye distance half of tympanum width (TAD/TYW 0.5); pineal ocellus absent; vomerine



Image 1. *Pseudophilautus hypomelas* in life NMSL 2013.26.01 NH.



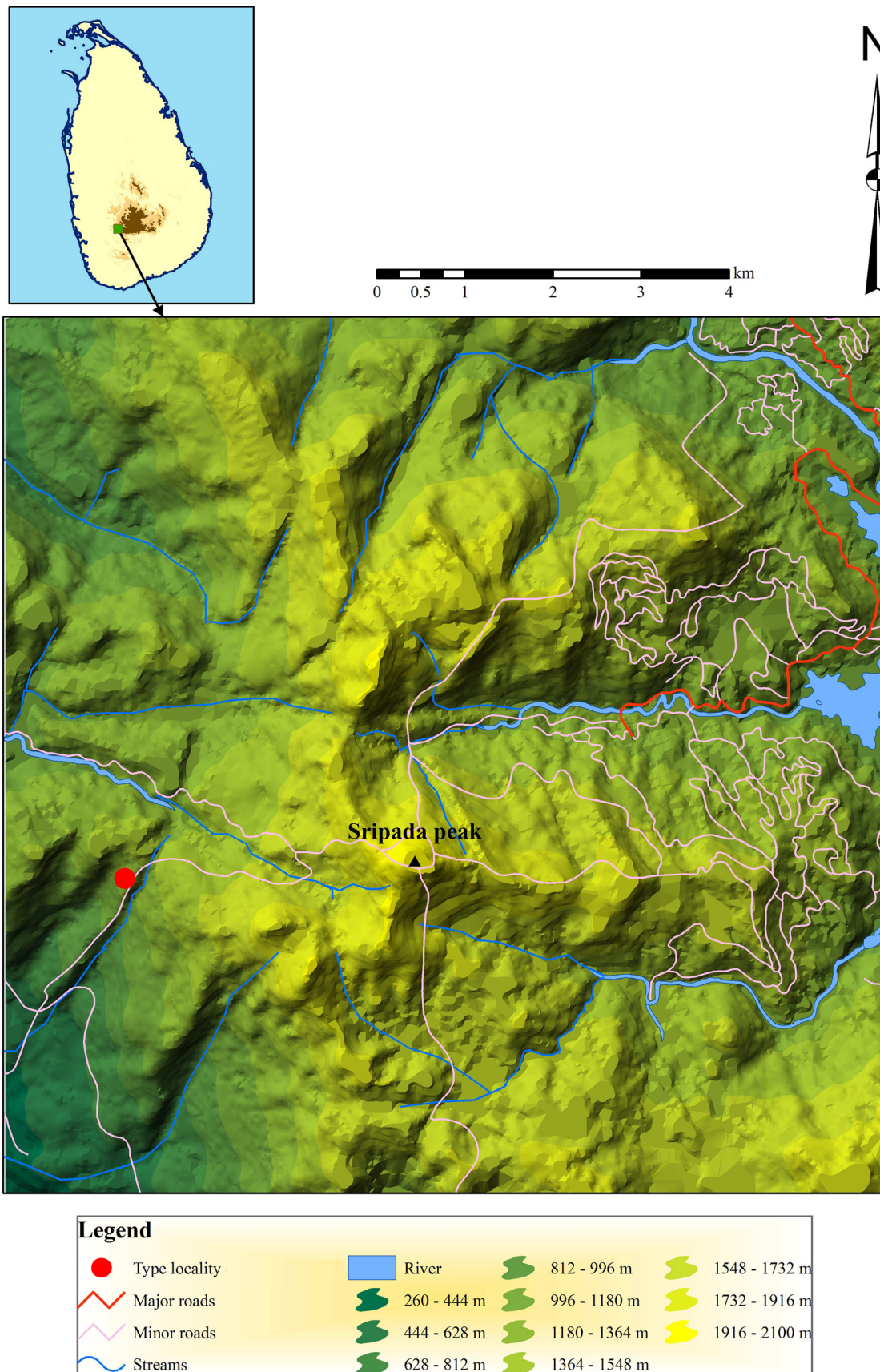
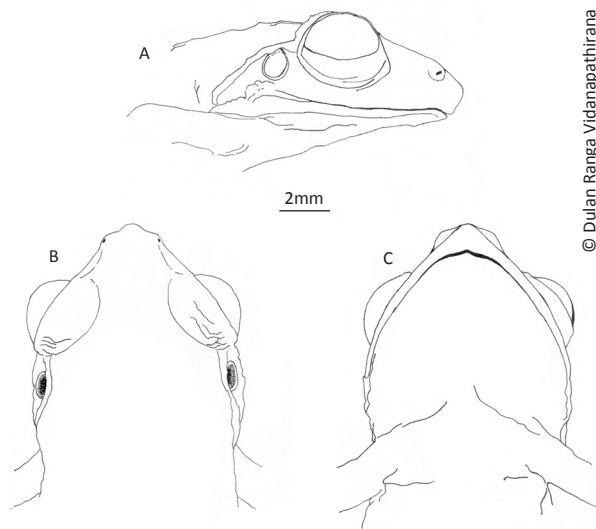


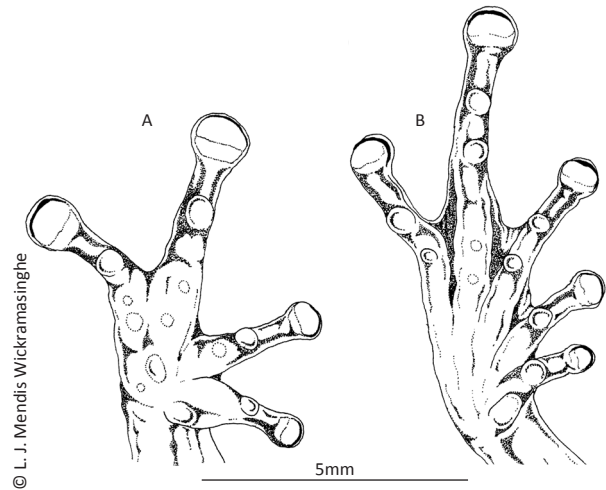
Figure 1. Type locality details for *Pseudophilautus hypomelas*



**Figure 2.** *Pseudophilautus hypomelas* head  
A - lateral aspect; B - dorsal aspect; C - ventral aspect.

teeth absent, small, few, odontophores oblique and widely separated, between choanae with an angle of  $65^\circ$  relative to body axis; tongue small, tip bifurcate, and lanceolate; lingual papilla absent, but a few conical tubercles present on tongue.

Arm short, thin (LAL/FEL 0.5, UAL/FEL 0.4); forearm shorter than hand length (LAL/HNL 0.8), longer than upper arm (LAL/UAL 1.3); fingers thin, relative length of fingers  $I < II < IV < III$  (FL-1/FL-3 0.4, FL-2/FL-3 0.6, FL-4/FL-3 0.8) (Table 1); tips of fingers rounded enlarged, discs present on all fingers, with distinct basal and circum marginal grooves; lateral dermal fringe absent on all fingers; webbing feeble, webbing formula  $I3-3II3-3\frac{1}{2}III2\frac{2}{3}-3IV$  (Fig. 3A); subarticular tubercles prominent, rounded, single, all present, III2, and IV2 relatively smaller; inner palmar tubercle distinct, single, oval, larger than outer palmar tubercle; outer palmar tubercle distinct, single, oval, smaller than the distal subarticular tubercles; supernumerary tubercles absent on finger I, a few present on II, III, IV, and palm; prepollex absent; femur 1.5 times longer than fourth toe length (FEL/TL-4 1.5); foot length longer than thigh (FOL/FEL 1.4); toes thin, (Figure 3B), relative length of toes  $I < II < III < V < IV$  (TL-1/TL-4 0.2, TL-2/TL-4 0.3, TL-3/TL-4 0.4, TL-5/TL-4 0.5); tips of toes rounded, enlarged, discs present on all toes with distinct basal and circum marginal grooves; webbing formula  $I2-2II2^+-3III2-3IV3^+-2V$  (Fig. 3B); dermal fringe absent; subarticular tubercles prominent, rounded or oval and single, all present IV3 and V2 relatively smaller; supernumerary tubercles present; inner metatarsal tubercle oval prominent and large, its length  $\frac{4}{5}$ th in length of toe I (IML/TL-1 0.9); outer



**Figure 3.** *Pseudophilautus hypomelas* NMSL 2013.26.01 NH  
A - ventral aspect of right hand; B - ventral aspect of right foot.

metatarsal tubercle present, small; tarsal fold, tarsal tubercles and calcar absent.

Skin on dorsal and lateral snout and between eyes smooth; upper eyelid smooth; head smooth laterally, shagreened near the gape of mouth; dorsum smooth; thin median dermal ridge on mid dorsum from tip of snout to back of head; upper and lower part of flank smooth; supratympanic fold prominent; upper arm smooth; forearm and hand smooth; inner, outer and dorsal thigh smooth; leg dorsally smooth; small tubercles present at heel; tarsus and foot smooth.

**Ventral side of body:** Throat and chest smooth; belly granular; forearm and upper arm smooth; thigh weakly granular; leg and tarsus smooth.

**Colour in life:** Dorsum cream colour, a pair of broad bronze longitudinal dorsal bands extends from the back of the eye to the groin, bronze band between the eyes forms a prominent 'T' shaped patch centrally projecting towards vent; laterally bronze band on canthal edge, bronze patch below eye, dark brown band below supratympanic fold; limbs dorsally cream, forelimb, hind limb, fingers and toes with bronze bands; ventrally off white with dark brown blotches, throat darker, belly off white, hands, feet, and webbing dark brown (Image 1).

**Colour in alcohol:** Colour pattern remains with a little fading, bronze changes to brown and off white to a yellowish tinge (Image 2A,D); ventral side blotching preserved with a little fading.

#### Variations

Dorsally yellowish, a prominent off white vertebral stripe from the tip of the snout to anus, and continuing down the hind limbs symmetrically (Image 3). In some

**Table 1.** The morphometric measurements (mm) of *Pseudophilautus hypomelas*. (\* denotes absence or discontinuation due to damage)

|      | <i>P. hypomelas</i> |                     |                      |                       |                     |                     | Mean | SD  | Range     |
|------|---------------------|---------------------|----------------------|-----------------------|---------------------|---------------------|------|-----|-----------|
|      | BMNH<br>1947.2.27.8 | BMNH<br>1947.2.27.9 | BMNH<br>1947.2.27.10 | NMSL<br>2013.26.01 NH | DWC<br>2013.01.014  | DWC<br>2013.01.015  |      |     |           |
|      | Lectotype           | Paralectotype       | Paralectotype        | Voucher<br>specimen   | Voucher<br>specimen | Voucher<br>specimen |      |     |           |
| DB   | 0.3                 | 0.2                 | 0.0*                 | 0.7                   | 0.7                 | 0.5                 | 0.5  | 0.2 | 0.2–0.7   |
| DBE  | 6.9                 | 6.3                 | 6.9                  | 7.5                   | 7.2                 | 5.8                 | 6.8  | 0.6 | 5.8–7.5   |
| DFE  | 4.2                 | 3.8                 | 4.3                  | 4.6                   | 4.4                 | 3.7                 | 4.2  | 0.3 | 3.7–4.6   |
| DL   | 0.5                 | 0.5                 | 0.0*                 | 1.1                   | 1.1                 | 0.8                 | 0.8  | 0.3 | 0.5–1.1   |
| DW   | 0.6                 | 0.6                 | 0.0*                 | 1.0                   | 1.0                 | 0.7                 | 0.8  | 0.2 | 0.6–1.0   |
| ED   | 3.1                 | 3.0                 | 3.0                  | 3.4                   | 3.2                 | 2.4                 | 3.0  | 0.3 | 2.4–3.4   |
| EN   | 2.5                 | 2.4                 | 1.6                  | 2.7                   | 2.0                 | 1.9                 | 2.2  | 0.4 | 1.6–2.7   |
| ES   | 3.4                 | 3.4                 | 3.3                  | 4.0                   | 3.4                 | 2.9                 | 3.4  | 0.3 | 2.9–4.0   |
| FEL  | 11.3                | 11.2                | 11.4                 | 9.8                   | 10.0                | 8.3                 | 10.3 | 1.1 | 8.3–11.4  |
| FL-1 | 1.3                 | 1.3                 | 0.0*                 | 1.5                   | 1.7                 | 1.3                 | 1.4  | 0.2 | 1.3–1.7   |
| FL-2 | 1.6                 | 1.6                 | 1.5                  | 2.2                   | 2.0                 | 2.0                 | 1.8  | 0.3 | 1.5–2.2   |
| FL-3 | 2.1*                | 2.6                 | 0.0*                 | 3.9                   | 3.3                 | 3.0                 | 3.0  | 0.7 | 2.1–3.9   |
| FL-4 | 1.9                 | 1.7                 | 0.0*                 | 3.0                   | 2.5                 | 2.4                 | 2.3  | 0.5 | 1.7–3.0   |
| FOL  | 10.9*               | 4.8*                | 11.8                 | 14.2                  | 14.6                | 12.0                | 12.7 | 1.6 | 10.9–14.6 |
| GK   | 10.2                | 8.7                 | 9.2                  | 9.2                   | 8.2                 | 7.2                 | 8.8  | 0.9 | 7.2–10.2  |
| HD   | 3.9                 | 3.9                 | 4.2                  | 4.6                   | 4.2                 | 3.5                 | 4.0  | 0.3 | 3.5–4.6   |
| HL   | 8.8                 | 8.5                 | 8.9                  | 9.4                   | 9.0                 | 7.3                 | 8.7  | 0.7 | 7.3–9.4   |
| HW   | 7.1                 | 6.8                 | 7.4                  | 8.3                   | 7.7                 | 6.0                 | 7.2  | 0.7 | 6.0–8.3   |
| IML  | 0.8                 | 0.8                 | 0.5                  | 1.3                   | 1.1                 | 1.1                 | 0.9  | 0.3 | 0.5–1.3   |
| IN   | 2.4                 | 2.1                 | 2.5                  | 2.1                   | 2.1                 | 1.8                 | 2.2  | 0.2 | 1.8–2.5   |
| IO   | 3.7                 | 3.3                 | 3.1                  | 3.0                   | 2.8                 | 2.4                 | 3.0  | 0.4 | 2.4–3.7   |
| KT   | 10.6                | 9.7                 | 9.7                  | 10.0                  | 9.1                 | 7.7                 | 9.5  | 0.9 | 7.7–10.6  |
| HNL  | 4.0*                | 4.8                 | 0.0*                 | 5.8                   | 5.2                 | 4.2                 | 4.8  | 0.7 | 4.0–5.8   |
| LAL  | 4.7                 | 3.7                 | 3.7                  | 4.7                   | 4.9                 | 4.1                 | 4.3  | 0.5 | 3.7–4.9   |
| MBE  | 1.6*                | 2.4                 | 2.8                  | 3.7                   | 3.8                 | 2.9                 | 3.1  | 0.6 | 2.4–3.8   |
| MFE  | 2.6*                | 4.8                 | 5.5                  | 6.8                   | 6.7                 | 5.4                 | 5.8  | 0.9 | 4.8–6.8   |
| MN   | 7.0                 | 6.5                 | 6.8                  | 8.8                   | 8.2                 | 7.0                 | 7.4  | 0.8 | 6.5–8.8   |
| SN   | 1.3                 | 1.5                 | 1.5                  | 1.6                   | 1.6                 | 1.2                 | 1.4  | 0.2 | 1.3–1.6   |
| SVL  | 20.5                | 20.2                | 21.0                 | 22.4                  | 21.1                | 17.0                | 20.4 | 1.7 | 17.0–22.4 |
| TAD  | 0.6                 | 0.5                 | 0.6                  | 0.6                   | 0.6                 | 0.5                 | 0.5  | 0.0 | 0.5–0.6   |
| TAS  | 7.7                 | 7.6                 | 7.8                  | 7.0                   | 6.7                 | 5.9                 | 7.1  | 0.7 | 5.9–7.8   |
| TBL  | 11.9                | 11.5                | 11.5                 | 11.2                  | 10.7                | 9.0                 | 11.0 | 0.9 | 9.0–11.9  |
| TL-1 | 0.0*                | 0.0*                | 0.0*                 | 1.5                   | 1.7                 | 1.2                 | 1.5  | 0.2 | 1.2–1.7   |
| TL-2 | 0.0*                | 0.0*                | 0.0*                 | 1.9                   | 1.7                 | 1.5                 | 1.7  | 0.2 | 1.5–1.9   |
| TL-3 | 0.0*                | 0.0*                | 0.0*                 | 2.6                   | 2.6                 | 2.3                 | 2.5  | 0.2 | 2.3–2.6   |
| TL-4 | 0.0*                | 0.0*                | 0.0*                 | 6.7                   | 4.7                 | 3.5                 | 5.0  | 1.6 | 3.5–6.7   |
| TL-5 | 0.0*                | 0.0*                | 0.0*                 | 3.2                   | 2.9                 | 2.3                 | 2.8  | 0.4 | 2.3–3.2   |
| TND  | 5.5                 | 5.2                 | 5.3                  | 5.9                   | 5.6                 | 4.8                 | 5.4  | 0.4 | 4.8–6.0   |
| TPD  | 3.8                 | 3.5                 | 3.9                  | 3.9                   | 3.9                 | 3.1                 | 3.7  | 0.3 | 3.1–3.9   |
| TYH  | 0.9                 | 0.8                 | 0.7                  | 1.2                   | 1.4                 | 1.1                 | 1.0  | 0.2 | 0.7–1.4   |
| TYW  | 0.7                 | 0.6                 | 0.8                  | 1.1                   | 1.2                 | 0.9                 | 0.9  | 0.2 | 0.6–1.2   |
| UAL  | 3.8                 | 3.8                 | 3.4                  | 3.6                   | 3.6                 | 3.0                 | 3.5  | 0.3 | 3.0–3.8   |
| UEW  | 1.3                 | 1.1                 | 1.4                  | 1.7                   | 1.8                 | 1.3                 | 1.4  | 0.2 | 1.1–1.8   |
| VKA  | 9.1                 | 9.9                 | 10.5                 | 8.5                   | 8.8                 | 6.9                 | 8.9  | 1.2 | 6.9–10.5  |





Image 2. Rediscovered specimen series of *Pseudophilautus hypomelas* Left to right, NMSL 2013.26.01 NH, DWC 2013.01.014, DWC 2013.01.015. A-C - dorsal aspect and D-F - ventral aspect. Scale: 5mm.

a mid ventral longitudinal white line from the tip of the chin to anus and another one perpendicular to it runs across the chest leading towards the forelimbs making a prominent cross marking.

#### Natural history

The species was found in elevations of 750–1400m in lower montane rain forests (Fig. 1). Commonly observed in bushes of less than 1m high, and preferred grassy habitats with a less canopy cover such as those in disturbed areas.

*P. hypomelas* was identified by its identical resemblance to the material found in the BMNH with its comparable sizes, smooth skin, similar ratios of morphometric measurements, above all by the marking on head (Image 4 A–C), and the blotching on ventral side (Image 4 D–F) which are still preserved in the type material confirming its identity. Apart from which, in



Image 3. A prominent off white vertebral stripe from the tip of the snout to anus, and continuing down the hind limbs symmetrically of *Pseudophilautus hypomelas* in life DWC 2013.01.015.

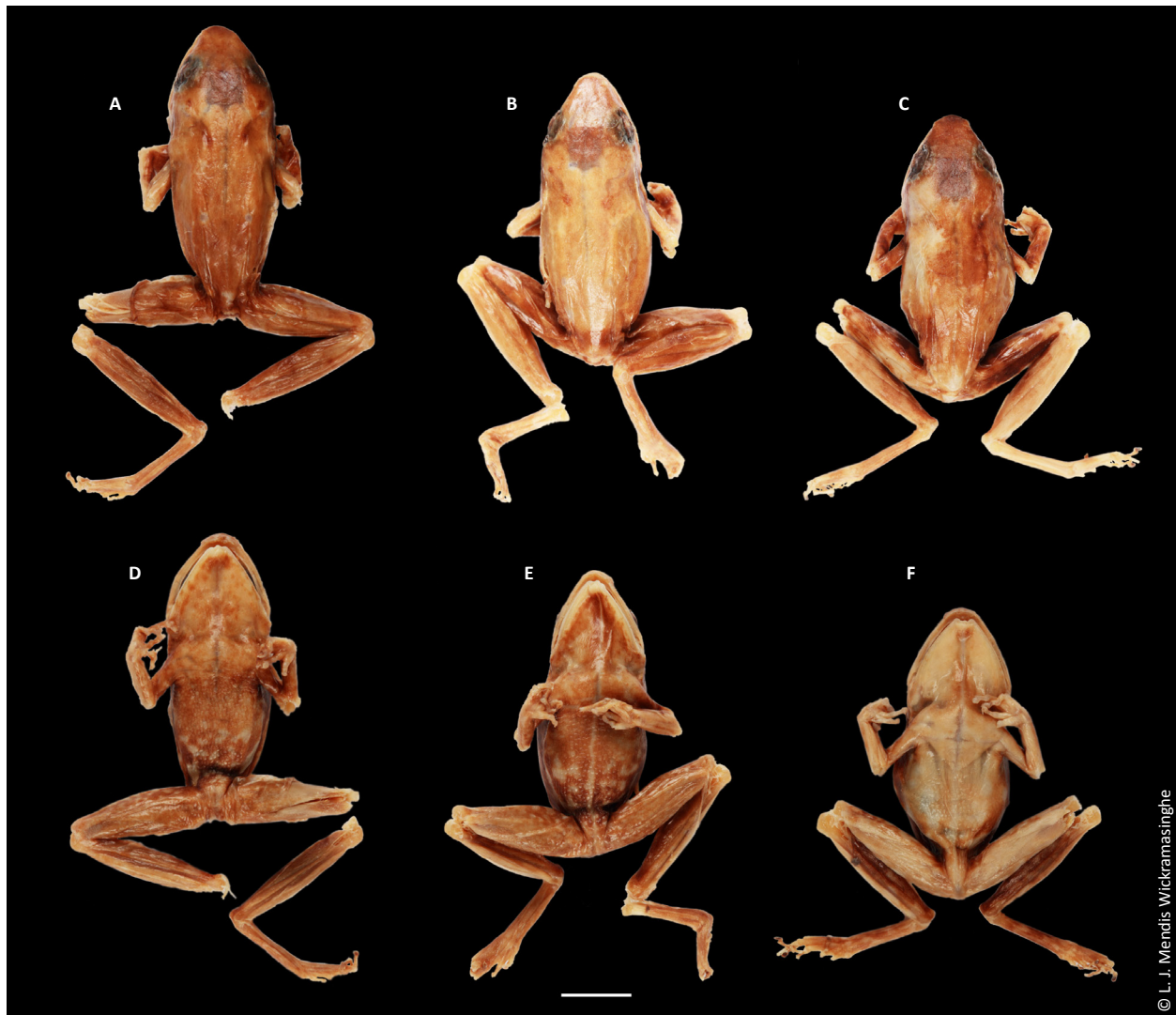


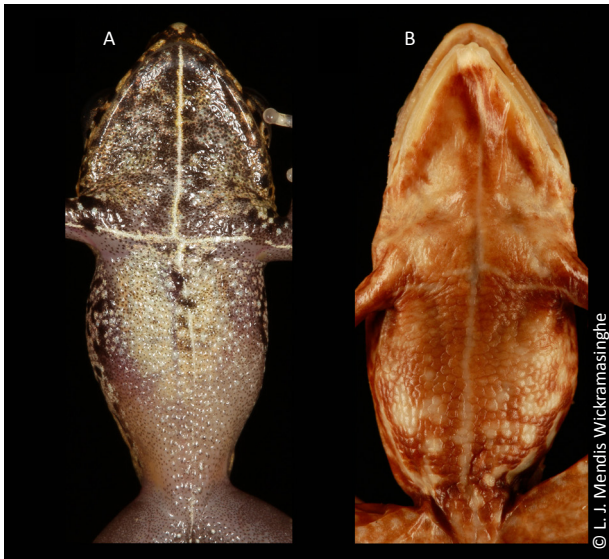
Image 4. Type series of *Pseudophilautus hypomelas*, from left to right, lectotype BMNH 1947.2.27.8, paralectotype BMNH 1947.2.27.9, and paralectotype BMNH 1947.2.27.10; A–C dorsal aspect and D–F ventral aspect.

some collected material a prominent cross marking was noticed on the ventral side (Image 5A) as mentioned in variations section; interestingly this marking was also seen in some type material specimens (Image 5B). Also the type description mentions “a fine white line runs along the middle of the back and of the abdomen, beginning from the snout....” (Image 3), and Günther also states that all or some of these lines may be absent, which is true for some specimens (mentioned under variations) which did not possess these lines. In the original type description Günther erroneously states that its “tympanum hidden”, “Fingers not webbed; web of the hind foot rudimentary”, but a distinct tympanum can be seen (Image 6) in all the specimens found in the BMNH, and in our specimens, also the webbing

formula of fingers are I3–3II3–3 ½ III2 2/3–3IV (Fig. 3A); toes I2–2'II2\*–3III2–3'IV3'–2V (Fig. 3B). Dutta & Manamendra-Arachchi (1996), states that the species possesses rudimentary webbing on toes but again in 2005, Manamendra-Arachchi & Pethiyagoda states that *P. hypomelas*, “Toes free (webbing absent)”. Although the toes of the lectotype specimen is in poor condition on close observation the rudimentary webbing can still be determined (Image 7).

A description of the species along with a distribution was last provided by Manamendra-Arachchi & Dutta in 1996, which states; “apart from the syntype specimens, the species has been recorded from 1800m Kandy”, however the photograph of a live frog provided, ‘Figure 165’, was erroneous and not a specimen of *P. hypomelas*,





**Image 5. Comparison of the prominent off white, symmetrical cross on the ventral side of *Pseudophilautus hypomelas*. A - in life DWC 2013.01.015; B - paralectotype of BMNH 1947.2.27.9**

but the 'Figure 164' of a syntype specimen clearly shows its dried out condition. Interestingly, one of the above authors in 2005 stated that *P. hypomelas* was extinct for the reason that they had never encountered the species from their 10 years of Island-wide survey.

Although the type locality for the species at the BMNH is mentioned as "Ceylon" (Sri Lanka), the locality of the two specimens provided by W. Ferguson in his "Reptile Fauna of Ceylon, Letter on a collection sent to the Colombo Museum", on page 29 states under point 164, that they were collected from Le Vallon Estate, Nilambe District. Presently, this area comes under the Nuwara Eliya District. Also in this same reference (Appendix 3) Ferguson mentions that the description of *Ixalus hypomelas* by Dr. Günther was based on specimens sent by Col. Beddome and himself. Above all, the statements clearly have the mention about specific identity of the 'type locality', in spite of this and without making an effort to searching this species from 'type locality' the scientific community had concluded the species to be extinct.

The conservation status of this species redescribed here, should be considered as Critically Endangered under the IUCN Red List Categories and Criteria because of the extent of occurrence (EOO) is less than 100km<sup>2</sup>, the area of occupancy (AOO) is less than 10km<sup>2</sup>, and is recorded from a single location. The habitat is under severe anthropogenic activities such as over exploitation of natural resources for tea cultivation, forest fragmentation, use of agrochemicals, soil



**Image 6. The tympanum of lectotype of *Pseudophilautus hypomelas* BMNH 1947.2.27.9**



**Image 7. The webbing of lectotype of *Pseudophilautus hypomelas* BMNH 1947.2.27.9**

erosion, inadequately planned constructions and illegal constructions, mini-hydro power plants, forest die back, and discharge of pollutants to the environment. There seems to be an ambiguity with the type locality from the literature for *P. hypomelas* and our collections from a different locality could be considered as an undescribed species owing to the fact of high levels of point endemism within Sri Lanka, but we take the most parsimonious solution of fixing our collections as *P. hypomelas* due to its overall resemblance in morphology to stabilize the taxonomy for this species.

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## Appendix 1. Material examined.

*Pseudophilautus abundus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3006; Labugama Forest Reserve, Labugama, elevation 78m (06°51'N & 080°10'E); Paratypes: WHT 2302; 2303; 3457; 3459; 3494; 3496, Dediagalala Forest Reserve, Akuressa, elevation 150m (06°10'N & 080°26'E); WHT 1711; 3455; 3456; 3495, Kanneliya (Galle), elevation 150m (06°15'N & 080°20'E).

*Pseudophilautus adspersus* (Günther, 1872). Holotype: BMNH 1947.2.6.23, Ceylon (Sri Lanka).

*Pseudophilautus alto* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2721; Paratypes: WHT 2723; 2718; 2719; 2720; 2722; 2724; Horton Plains National Park, elevation 2135m (06°46'N, 080°47'E).

*Pseudophilautus asankai* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3507; Paratypes: WHT 3504; 3505; 3506; 5425, Agra Arboretum, Torrington Estate, near Agarapatana, elevation 1665m (06°50'36" N, 80°40'40" E); WHT 2100, Moray Estate, Rajamally, elevation 1370 m (06°48'N & 80°31'E); WHT 5472, Dayagama Estate, 3rd division, Dayagama, elevation 1830m (06°50'N & 80°40'E).

*Pseudophilautus auratus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2356; Paratypes: WHT 2357; 2375; 2433; 2782, Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E); WHT 3282, Handapan Ella Plains (near Rakwana), elevation 1270m (06°26'N & 080°36'E); WHT 3298, Sinharaja World Heritage Site (near Kudawa), elevation 513m (06°25'N & 080°25'E).

*Pseudophilautus bambaradeniyai* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.01.01 NH; Paratypes: DWC 2013.01.001; DWC 2013.01.002, Sripada, (Peak Wilderness), Ratnapura District, elevation 1334m (06°48'31.38"N, 080°28'14.46"E).

*Pseudophilautus caeruleus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2514; Paratypes: WHT 2511; 2512; 2513, Bogawanthalawa-Balangoda road (near Udugama), elevation 810 m (06°44'N & 80°41'E); WHT 2101A; 2101B, Moray Estate, Rajamally, elevation 1370m (06°48'N & 80°31'E).

*Pseudophilautus cavirostris* (Günther, 1869). Holotype: BMNH 1947.2.7.83, southern Ceylon (southern Sri Lanka); WHT 1294, Haycock (Hiniduma, Galle), elevation 660m (06°20'N & 80°18'E); WHT 3299; 3300, Sinharaja World Heritage Site, Weddagala, elevation 513m (06°25'N & 80°25'E); WHT 3389, Kitulgala, elevation 200m (07°00'N & 80°24'E); WHT 2318; Kosmulla near Neluwa, elevation 450m (06°23'N & 80°23'E); WHT 2046; 2425, Pathanegala (Knuckles), elevation 1,000m (07°33'N & 80°44'E); WHT 2045; Kadugannawa, elevation 450m (07°15'N & 80°30'E); WHT 3483; Pussellawe, elevation 986m (07°00'N & 08°54'E).

*Pseudophilautus cuspis* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 1177(e); Paratypes: WHT 1177(a); 1177(b); 1177(c); 1177(d); 1177(f); 1177(g); 1177(h); 1177(i); 1177(j), Koskulana (near Panapola), elevation 460m (06°25'N & 080°27'E).

*Pseudophilautus dayawansai* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.02.01 NH; Paratypes: DWC 2013.01.003; DWC 2013.01.004, Sripada (Peak Wilderness), Ratnapura District, elevation 1680m (06°48'N 080°29'E).

*Pseudophilautus decoris* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: mature female, 23.9mm SVL, WHT 2358; Paratypes: WHT 3194; 3257; 3258; 3265; 3266; 3267; 3268; 3269; 3271; 3270; 3272; Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E).

*Pseudophilautus femoralis* (Günther, 1864). Holotype: 1947.2.26.89, Ceylon (Sri Lanka); WHT2701; 2702; 2703; 2704; 2705; 2706; 2707; 3540; 3537; 3538; 3539; 2478; 2479, 7.vi.1999, Horton Plains National Park, elevation 2135 m (06°46'N & 80°47'E).

*Pseudophilautus fergusonianus* (Ahl, 1927). Holotype: BMNH 1947.2.27.61, Ceylon (Sri Lanka); WHT 731; 2233, Kumaradola, Monaragala, elevation 305m (06°53'N & 081°22'E); WHT 1012, Kitulhela (near Moragahapitiya), Monaragala, elevation 520m (07°20'N & 81°28'E); WHT 2400; 2401; Sera Ella (near Pottotawela), Knuckles, elevation 460m (07°35'N & 80°45'E); WHT 2038; 2039; 2040, Puwakpitiya (near Laggala), Knuckles, elevation 450m (07°34'N & 80°45'E); WHT 3360, Deniyaya, elevation 460m (06°21'N & 080°34'E); WHT 3361; 3362; 3363; 3364; 3365, Pitadeniya (near Watugala), elevation 320m (06°22'N & 080°28'E) WHT 3168; 3177; 3195, Gannoruwa Forest reserve, Kandy, elevation 684m (07°17'N & 080°35'E); WHT 3178; 3179; 27; 3180; 3181; 3182, Puwakpitiya, Knuckles, elevation 414m (07°34'N & 080°44'E); WHT 3229, Hantana, Kandy, elevation 600m (07°15'N & 080°37'E); WHT 3380; WHT 3381; NMSL 2006.64.1, Medapitiya, Wasgamuwa.

*Pseudophilautus folicola* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: mature female, 29.4mm SVL, WHT 2645; Paratypes: WHT 2646; 2647; 2649; 2650; 2651; 2652, Kottawa (Galle), elevation 60m (06°06'N & 080°20'E).

*Pseudophilautus frankenbergi* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 2554; Paratypes: WHT 2551; 2552; 2555; 2556, Namunukula Peak, elevation 1980m (06°56'N & 081°07'E); WHT 2726; 2727; 2728; Horton Plains National Park, elevation 2135m (06°46'N & 081°07'E).

*Pseudophilautus fulvus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2949; Paratypes: WHT 2948, Laggala (Knuckles), elevation 1220m (07°33'N & 080°44'E); WHT 3112; 3114; 3463, Moussakanda, Gammaduwa, Knuckles, elevation 915m (07°34'N & 080°42'E); WHT 3121; Puwakpitiya (near Laggala), Knuckles, elevation 450m (07°34'N & 080°45'E).

*Pseudophilautus hallidayi* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 3575; Paratypes: WHT 3573; 3576; 3577, Hanthana range, Kandy, elevation 510–800 m (07°15'N & 080°34'E); WHT 6072, Tonacombe Estate, Namunukula, elevation 1320m (06°52'N & 081°07'E).

*Pseudophilautus halyi* (Boulenger, 1904). Holotype: BMNH 1947.2.6.16, Pattipola, elevation 1890m (6°51'N & 80°50'E), Ceylon (Sri Lanka).

*Pseudophilautus hoffmanni* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 6120; Paratypes: WHT 3222; 3223; 3542, Corbett's Gap (Knuckles Hills), elevation 1245m (07°22'N & 80°51'E).

*Pseudophilautus hoipolloi* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2673; Paratypes: WHT 2674; 2675, Haycock (Hiniduma), elevation 660m (06°20'N & 080°18'E); WHT 2405; 2406; 2407; 2408; 2409, Kahaduwa (Galle), elevation 15 m (06°04'N & 080°12'E); WHT 3196; 3197; 3199; 3200, Udugama (Galle), elevation 30m (06°14'N & 080°20'E); WHT 3201, Kodagoda (Galle), elevation 45m (06°02'N & 080°23'E).

*Pseudophilautus hypomelas* (Günther, 1876). Lectotype BMNH 1947.2.27.8, Ceylon (Sri Lanka); Paralectotypes: BMNH 1947.2.7.47; BMNH 1947.2.7.48; BMNH 1947.2.7.49; BMNH 1947.2.7.50; BMNH 1947.2.7.51; BMNH 1947.2.7.52; BMNH 1947.2.7.53; BMNH 1947.2.7.54; BMNH 1947.2.7.55; BMNH 1947.2.7.56; BMNH 1947.2.7.57, Ceylon (Sri Lanka). BMNH 1947.2.27.9; BMNH 1947.2.27.10, Le Vallon Estate in Nilambe District, Ceylon (Sri Lanka).

*Pseudophilautus jagathgunawardanai* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.03.01 NH; Paratypes: DWC 2013.01.005; DWC 2013.01.006, Sripada (Peak Wilderness), Ratnapura District, elevation 1640m (06°48'N & 080°29'E).

*Pseudophilautus karunarathnai* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.04.01 NH; Paratypes: DWC 2013.01.007; DWC 2013.01.008, Sripada (Peak Wilderness), Ratnapura District, elevation



1335m (06°48'N & 080°28'E).

*Pseudophilautus limbatus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2700; Haycock, elevation 560m (06°20'N & 080°18'E).

*Pseudophilautus lunatus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3283; Handapan Ella Plains, elevation 1270m (06°26'N & 080°36'E).

*Pseudophilautus macropus* (Günther, 1869). Holotype: BMNH 1947.2.8.78, southern Ceylon (southern Sri Lanka); WHT 3390; 3391; 3392; 3393; 3394; 3395; 3396; 3397; 3398; 3399; 3400; 3401; 3402; 3403; 3404; 3405; 3406, Mousakanda (Gammaduwa), Knuckles, elevation 760m (07°34'N & 80°42'E); WHT 3183, Divulgahapathana, Knuckles, elevation 603m (07°33'N & 80°43'E); WHT 5900, Bambaraella, Knuckles, elevation 1260m (07°24'N & 80°47'E).

*Pseudophilautus maia* (Meegaskumbura, Manamendra-Arachchi, Schneider & Pethiyagoda, 2007). Holotype: BMNH 76.3.21.18; Paratype: BMNH 76.3.21.19. Both Holotype and Paratype collected at "Poojagodde" (Poojagoda) Estate, Ramboda, Sri Lanka.

*Pseudophilautus microtypanum* (Günther, 1859). Lectotype: BMNH 1947.2.8.48, Ceylon (Sri Lanka), WHT 2710; 2708; 2712; 2713; 3436; 3437; 3438; 3439; 3440; 3441; 3442; 3443; 3444; 3446, Horton Plains National Park, elevation 2135m (06°46'N & 80°47'E); WHT 3260, Agra Arboretum, near Agarapatana, elevation 1555m (06°51'N & 80°41'E).

*Pseudophilautus mittermeieri* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 3522; Paratypes: WHT 3523; 3524; 3525; 3526, Kottawa, Galle, elevation 60m (06°06'N & 080°20'E); WHT 2668, Beraliya forest, Elpitiya, elevation 150m (06°16'N & 080°11'E).

*Pseudophilautus mooreorum* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 5862; Paratypes: WHT 5868; 5869, Hunnasgiriya (Knuckles), elevation 1100m (07°23'N & 080°41'E); WHT 2477; 3209; 6124, Corbett's Gap (Knuckles), 1245m (07°22'N & 080°51'E).

*Pseudophilautus nanus* (Günther, 1869). Lectotype: BMNH 1947.2.7.78; BMNH 1947.2.7.79, BMNH 1947.2.7.82, BMNH 1947.2.7.86, southern Ceylon (southern Sri Lanka)

*Pseudophilautus nasutus* (Günther, 1869). Holotype: BMNH 1947.2.6.21, Ceylon (Sri Lanka).

*Pseudophilautus nemus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 1319; Haycock (Hiniduma), elevation 660m (06°20'N & 080°18'E).

*Pseudophilautus newtonjayawardanei* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.05.01 NH, Sripada (Peak Wilderness), Ratnapura District, 1560m (06°48'N 080°28'E).

*Pseudophilautus ocularis* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2360; Paratypes: WHT 3273; 2376; 2377; 2378, Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E); WHT 3288; 3289; 3290; 3291; 3292; 3293, Handapan Ella Plains (near Suriyakanda), elevation 1270m (06°26'N & 080°36'E).

*Pseudophilautus oxyrhynchus* (Günther, 1872). Lectotype of *Ixalus oxyrhynchus* (here designated), mature female, 18.6mm SVL, BMNH 1947.2.6.40, 'Ceylon', coll. K.G.H.K. Thwaites.

*Pseudophilautus papillosus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3284; Handapan Ella Plains (near Rakwana), elevation 1270m (06°26'N & 080°36'E).

*Pseudophilautus pardus* (Meegaskumbura, Manamendra-Arachchi, Schneider & Pethiyagoda, 2007). Holotype: BMNH 1947.2.7.96.

*Pseudophilautus pleurotaenia* (Boulenger, 1904). BMNH 1947.2.7.64, Kandy, Sri Lanka; WHT 3176; 5824; Gannoruwa Forest reserve, Kandy, elevation 684m (07°17'N & 080°35'E); WHT 5860; 5861; Nawalapitiya, elevation 700m (07°03'N & 080°32'E).

*Pseudophilautus poppiae* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 3285; Handapan Ella Plains (near Suriyakanda), elevation 1270m (06°26'N & 080°36'E); Paratypes: WHT 2030; 2029; 2475; 2778; 2781; 3533; 3534; 3535; 3536, Morningside (near Rakwana), elevation 1060m (06°24'N & 080°E).

*Pseudophilautus procox* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3279; Paratypes: WHT 2786; 2787; 3277; 3278; 3280; 3281, Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E).

*Pseudophilautus regius* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3122; Paratypes: WHT 5827; 5828; 5829, Angammadilla, Polonnaruwa, elevation 90m (07°51'N & 080°55'E).

*Pseudophilautus reticulatus* (Günther, 1864). Holotype: BMNH 1947.2.8.60, Ceylon, (Sri Lanka); WHT 2286; 2287; 2290; 2291, Kosmulla (near Nellsuwa), elevation 320m (06°24'N & 80°23'E); WHT 2288; 2289, Dediyaigala Forest Reserve, Akuressa, elevation 150m (06°10'N & 80°26'E); WHT 2344, Yagirala, elevation 30m (06°22'N & 80°10'E); WHT 3230, Induruwa, (Ratnapura), elevation 150m (06°45'N & 80°26'E); NMSL 2006.66.1; Gilemale forest, elevation 150 m (06°45'N & 080°26'E); WHT 2520; 2521, Check Poleat Gap (near Norton Bridge), elevation 800m (06°56'N & 80°30'E); WHT 3366, Haycock (Hiniduma), elevation 660m (06°20'N & 80°18'E)

*Pseudophilautus rus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3474; Paratypes: WHT 3475; 3476; WHT 3477, Kiribatkumbura (near Peradeniya), elevation 450m (07°16'N & 080°34'E); WHT 5437; 5439; 5436; WHT 5440; 5438; 5432; 5435; 5434, Pilimalalawa (near Peradeniya), elevation 658m (07°15'N & 080°34'E).

*Pseudophilautus samarakoon* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.07.01 NH; Paratypes: DWC 2013.01.011; DWC 2013.01.012, Sripada (Peak Wilderness), Ratnapura District, elevation 1335m (06°48' N 080°28'E).

*Pseudophilautus sarasinorum* (Müller, 1887). WHT 2480; 2481; 2482; 2483, Bogawanthalawa-Balangoda road, elevation 1300m (06°45'N & 080°42'E); WHT 2426; 2427; 2428; 2429, Corbett's Gap, elevation 1000m (07°22'N & 080°50'E).

*Pseudophilautus schmarda* (Kelaart, 1854). Neotype: WHT 3353; Horton Plains National Park, elevation 2135m (06°46'N & 80°47'E).

*Pseudophilautus silus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3453; Paratypes: WHT 3451; WHT 3452; WHT 3454; WHT 3460, Agra Arboretum, near Agarapatana, elevation 1555m (06°51'N & 080°41'E); WHT 3412, Tangamalai Sanctuary, near Haputale, elevation 1600 m (06°46'N & 080°55'E);

*Pseudophilautus silvaticus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3295; Paratypes: WHT 3296, 3378; 3379; 3461; 3462, Handapan Ella Plains (near Suriyakanda), elevation 1270m (06°26'N & 080°36'E); WHT 3275; WHT 3276, Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E); WHT 3310; 3316, Sinharaja World Heritage Site (near Kudawa), elevation 513m (06°25'N & 080°25'E).

*Pseudophilautus simba* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3464; Paratypes: WHT 3465; WHT 3466; WHT 3467, Morningside Forest Reserve (near Rakwana), elevation 1060m (06°24'N & 080°38'E).

*Pseudophilautus sirilwijesundarai* Wickramasinghe, Vidanapathirana, Rajeev, Ariyaratne, Chanaka, Priyantha, Bandara & Wickramasinghe, 2013. Holotype: NMSL 2013.08.01 NH; Paratypes: DWC 2013.01.013, Sripada (Peak Wilderness), Ratnapura District, 1680m (06°48' N 080°29'E).

*Pseudophilautus sordidus* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 2379; Paratypes: WHT 2383; 2384; 2385; 2386; 2389; 2390; 2391; 2393; 2395; 2397; 2398, Kanneliya Forest Reserve (Galle), elevation 150m (06°15'N & 080°20'E); WHT 2380; WHT 2381, Haycock (Hiniduma), elevation 660 m (06°20'N & 080°18'E); WHT 2382, Haycock (Hiniduma), elevation 150m (06°18'N & 080°19'E); 2387; WHT

2396, Millawa Forest Reserve (near Morawaka), elevation 150m (06°17'N & 080°28'E); WHT 2988, Welikanna, Waga (near Labugama), elevation 78m (06°51'N & 080°09'E); WHT 2998, Labugama Forest Reserve, elevation 78m (06°51'N & 080°10'E); WHT 3303; 3304; 3306, Sinharaja Forest Reserve (Halmandiya), elevation 513m (06°25'N & 080°25'E); NMSL 2006.65.1. Denenakanda, Peak Wilderness.

*Pseudophilautus steineri* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 3210; Paratypes: WHT 3519; 3521; 3520, 6116; 3518, Corbett's Gap (Knuckles Hills), elevation 1245m (07°22'N & 080°51'E).

*Pseudophilautus stictomerus* (Günther, 1876). WHT 1173; 2402, Kottawa (Galle), elevation 60m (06°06'N & 080°20'E); WHT 2403; 2404, Kanneliya (Galle), elevation 150m (06°15'N & 080°20'E); WHT 3301, Sinharaja Forest (near Kudawa), elevation 513m (06°25'N & 080°25'E); WHT 3355; 3356; 3357; 3358; 3359, Kosmulla (near Nelliwa), elevation 320m (06°24'N & 080°23'E).

*Pseudophilautus stuarti* (Meegaskumbura & Manamendra-Arachchi, 2005). Holotype: WHT 3208; Paratypes: WHT 3207; 3206; 3218, 3527, 357 Corbett's Gap (Knuckles Hills), elevation 1245m (07°22'N & 080° 51'E).

*Pseudophilautus temporalis* (Günther, 1864). Lectotype: BMNH 1947.2.6.9; Paralectotypes: BMNH 1947.2.6.8, BMNH 1947.2.6.10. Ceylon, (Sri Lanka).

*Pseudophilautus variabilis* (Günther, 1859). Lectotype: BMNH 1947.2.7.87, Ceylon (Sri Lanka).

*Pseudophilautus viridis* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 5127; Paratypes: WHT 3488; 3489; 5104; 5105; 5106; 5099; 5100; 5103; 5126, Agra Arboretum, near Agarapatana, elevation 1555m (06°51'N & 080°41'E); WHT 2763; 2764; 2765; 2766; 2767; 2768, 4999, Ambewela (near radio station), elevation 1830m (06°53'N & 080°48'E).

*Pseudophilautus zal* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: BMNH 1947.2.8.45.

*Pseudophilautus zorro* (Manamendra-Arachchi & Pethiyagoda, 2005). Holotype: WHT 3169; Paratypes: WHT 3175; 3204; 3205, Gannoruwa Forest Reserve, Kandy, elevation 684m (07°17'N & 080°35'E); WHT 3508, Tiverton Estate (near Peradeniya), elevation 450m (07°16'N & 080°34'E).

**Appendix 2.** The description of "*Ixalus hypomelas*," on page 380 of Albert Günther, 1876, Notes on the mode of propagation of some Ceylonese tree-frogs, with description of two new species, Ann. & Mag. Nat. Hist. (ser. 4) 17(101): 377-380:

#### *Ixalus hypomelas*.

"Snout not flattened, of moderate length, somewhat rounded in front, with distinct canthus rostralis, and with the loreal region subvertical. Eye of moderate size; tympanum hidden. Skin smooth. Metatarsus without fringe or fold, and with a single tubercle. Fingers not webbed; web of the hind foot rudimentary. Disks rather small. The length of the body is scarcely equal to the distance of the vent from the heel. Coloration varies: the most characteristic form is chocolate-brown above, with the sides and lower parts black, spotted with white; a fine white line runs along the middle of the back and of the abdomen, beginning from the snout, the abdominal line being frequently crossed by another white line, running from one fore leg to the other; metatarsus with a white line along its outer margin. All or some of these lines may be absent. Sometimes the upper parts are dark purplish (the snout being of a lighter colour) or purplish grey mottled with brown. In one variety, in which all the white lines are absent, the upper part of the snout as well as of the forearm is of a uniform greyish-white colour.

"The largest of several specimens is 22 millims. long, the hind limb being 35 millims. We have received specimens of this species in Col. Beddome's and Mr. Ferguson's collections."

**Appendix 3.** Important short note of "*IXALUS HYPOMELAS*," on page 29 of W. Ferguson, 1877, Letter on a collection sent to the Colombo Museum, Reptile Fauna of Ceylon.

"164-IXALUS HYPOMELAS, *Gthr.* Two specimens. This is a remarkable and beautiful little frog; described lately by Dr. Günther, from specimens sent to him by Col. Beddome and myself. My specimens were caught in the forest at Le Vallon Estate in Nilambe District".

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