

Rediscovery of *Hyla melanopleura* BOULENGER, 1912 (Amphibia: Anura: Hylidae)

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Abstract

The description of *Hyla melanopleura* was based on five syntypes from Huancabamba, Peru, from 925 m above sea level. Information on colouration in life and life history were unknown until the authors rediscovered this species in Huancabamba, Peru, at 1780 m above sea level. Eight frogs were found at night in the vegetation next to small streams and in artificial ponds. Life colouration of *H. melanopleura* at day and night and osteology of the hand are described, and measurements of morphological characters are presented. The call and tadpole of *H. melanopleura* remain unknown.

Key words: Amphibia: Anura: Hylidae: *Hyla melanopleura*; Peru.

1 Introduction

Hyla melanopleura BOULENGER, 1912 was described based on five syntypes (1 male, 4 females from the collection of E. BOETTGER) from "Huancabamba, Peru, 3000 feet" (= 925 m above sea level). During their revision of the Andean hylid frogs of the genus *Hyla*, DUELLMAN et al. (1997) redescribed *H. melanopleura*, designated a lectotype, and added the species to *H. pulchella* group. Colouration in life as well as information about natural history of *H. melanopleura* have remained unknown.

In September 2003, the authors collected eight hylid frogs resembling *H. melanopleura* at Huancabamba. Comparisons of these frogs with specimens of the type material of *H. melanopleura* and the description of DUELLMAN et al. (1997) revealed that our material represents *H. melanopleura*. The purpose of this article is to describe coloration in life, variation, and morphological characters, and to present measurements and information about distribution and ecology of *H. melanopleura*.

2 Material and Methods

Field notes of the specimens were recorded by E. LEHR on 10 September 2003. The specimens were preserved by injecting 98 % ethanol and stored in 70 % ethanol. Sex was determined by the presence of a prepollex and a subgular vocal sac. Measurements were taken with vernier calipers and rounded to the nearest 0.1 mm: SVL (snout-vent length), TL (tibia length), FL (foot length, distance from posterior margin of inner metatarsal tubercle to tip of fourth toe), HL (head length, from rictus to tip of snout), HW (head width, at level of rictus), TY (tympanum diameter, horizontal), ED (eye diameter, horizontal), IOD (interorbital distance), EW (upper eyelid width), IND (internarial distance), E-N (eye-nostril distance, straight line distance between anterior corner of orbital opening and posterior margin of external nares). Colouration in life descriptions are based on field observations and photos taken by E. LEHR. Radiographs were made with a Faxitron X-ray-cabinet system on photo paper (Agfa RC5). Drawings were made using a stereo microscope with drawing tube attachment (Nikon SMZ-U). The following institutional abbreviations are used: BMNH = British Museum (Natural History), London; MHNSM = Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru; MTD = Museum für Tierkunde Dresden. Material examined is listed in Appendix I.

3 Results

Colouration

In preservative, dorsal colouration tan; transverse creamy-white stripe above cloacal opening; webbing dark grey with tan stripe between Toe IV and Toe V; head laterally dark grey with tan labial stripe contacting eye; body flanks dark grey with tan spots and blotches; ventral colouration tan and grey marmorated, tibia bone torques coloured, partly visible through skin of leg.

In life (mainly based on MTD 45678), dorsal colouration at night (see Fig. 1) dark brown with yellowish-brown spots; extremities with dark brown transverse flecks; transverse yellowish-brown stripe above cloacal opening; webbing blackish-grey with yellowish green stripe between Toe IV and Toe V; flanks dark brownish-olive with few, small yellowish-brown spots; lateral (anterior and posterior) surfaces of extremities



Fig. 1. Dorsolateral view of *Hyla melanopleura* (MTD 45678) as coloured at night. Photo: E. LEHR.

Dorsolaterale Ansicht von *Hyla melanopleura* (MTD 45678) wie nachts gefärbt.



Fig. 2. Ventral view of *Hyla melanopleura* (MTD 45678) as coloured at night. Photo: E. LEHR.

Ventrale Ansicht von *Hyla melanopleura* (MTD 45678) wie nachts gefärbt.

(especially legs) black; labial stripe yellowish-green contacting eye; throat brownish olive, vocal sac and extremities blackish-grey, belly and thighs dark grey and blackish-grey marmorated (see Fig. 2); dorsal colouration at day (see Fig. 3) yellowish-green (golden yellow in MTD 45680) with pale brown blotches on extremities; transverse yellow stripe above cloacal opening; webbing dark grey except yellowish-green stripe between Toe IV and Toe V; flanks pale greyish-brown with few, small yellow spots; lateral surfaces of extremities pale grayish-brown (lateral surfaces of extremities greyish blue in MTD 45680), head laterally from snout to tympanum golden brown, labial stripe golden yellow contacting eye; throat yellowish-green, vocal sac dark grey, chest, belly and thighs pale grey and dark grey marmorated, remaining ventral parts of extremities dark grey (see Fig. 4); iris reddish copper with fine black reticulations. Colouration of females is unknown.

Fig. 3. Dorsolateral view of *Hyla melanopleura* (MTD 45678) as coloured during day. Photo: E. LEHR.

Dorsolaterale Ansicht von *Hyla melanopleura* (MTD 45678) wie tags gefärbt.



Fig. 4. Ventral view of *Hyla melanopleura* (MTD 45678) as coloured during day. Photo: E. LEHR.

Ventale Ansicht von *Hyla melanopleura* (MTD 45678) wie tags gefärbt.



Morphology

For descriptions of morphological characters see DUELLMAN et al. (1997). For variation in size of selected characters see Table 1. For dorsal and lateral view of head of *H. melanopleura* see Figure 5, and for ventral view of hand and feet see Figure 6. For dorsal views of phalangeal bones of hands of male and female *H. melanopleura* see Figure 7. Males have large, curved prepolical spines. Both males and females have the ends of terminal phalangeal bones pointed, while the base is broad.

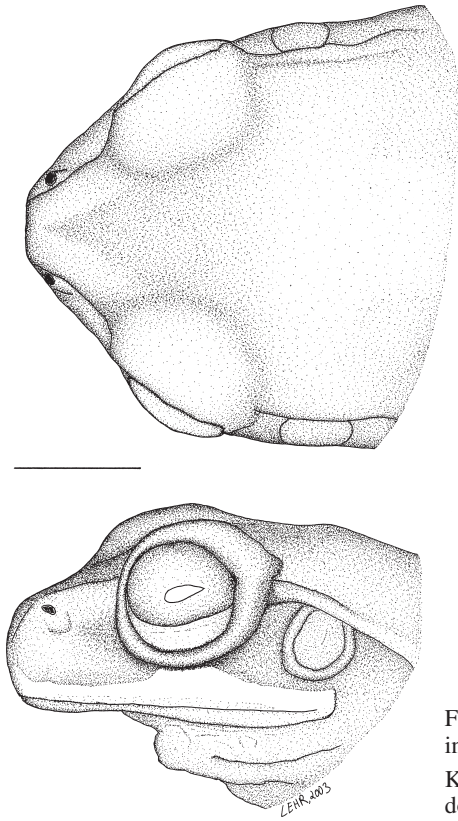


Fig. 5. Head of *Hyla melanopleura* (MTD 45680) in dorsal and lateral view. Scale = 5 mm.

Kopf von *Hyla melanopleura* (MTD 45680) in dorsaler und lateraler Ansicht. Balken = 5 mm.

Variation

All specimens have a similar colouration as described above. Semi-adult males (MHNSM 19819, MTD 45681) had a paler colouration and dorsal body surface with irregular pale brown markings and spots. Number and size of spots on body flanks are variable, from few small spots, nearly indistinct (MHNSM 19816-17, MTD 45678), to many distinct spots and blotches (MHNSM 19819, MTD 45679-81) or few large blotches (MHNSM 19818). Adult males (MHNSM 19816-18, MTD 45678-80) had greyish-blue cuts on skin of head, anterior dorsal body and anterior flanks, presumably caused by prepolical spines of combating males.

Distribution and ecological notes

Hyla melanopleura is only known from the type locality Huancabamba, which belongs to the Yungas or Selva Alta ecoregion as defined by BRACK (1986). The village of Huancabamba has an elevation of approximately 1800 m above sea level and is located 25 km north of Oxapampa following the road leading to Pozuzo.

The frogs were found in the pond of the old Hacienda Yanachaga which today is called PROSOYA and is involved in a social and ecological development aid project. The frogs were found in the early evening near small streams or ponds in pasture,

Fig. 6. Hand (right) and foot (left) of *Hyla melanopleura* (MTD 45680) in ventral view. Scale = 5 mm.

Hand (rechts) und Fuß (links) von *Hyla melanopleura* (MTD 45680) in ventraler Ansicht. Balken = 5 mm.

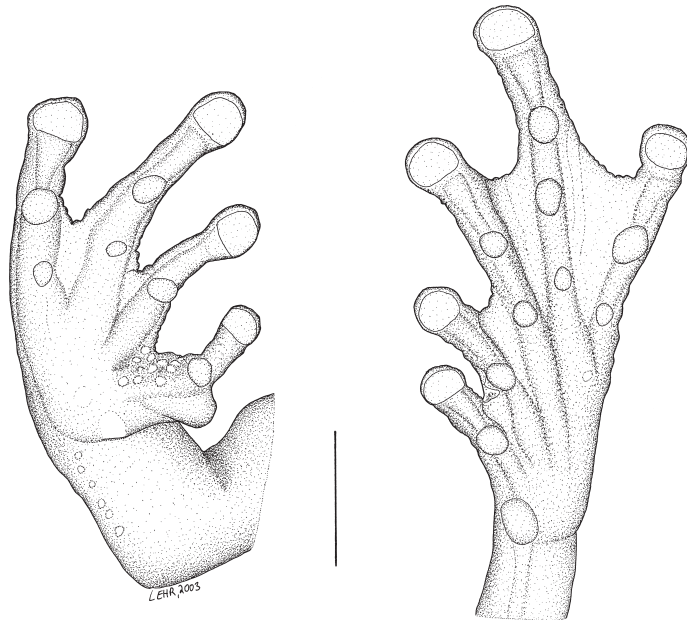
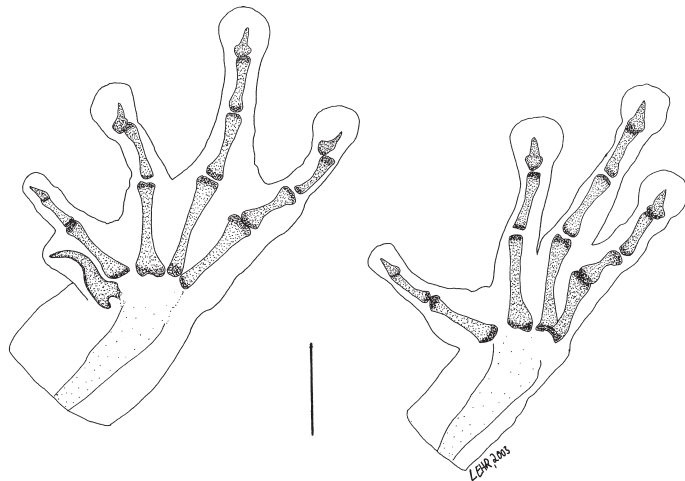


Fig. 7. Dorsal views of phalangeal bones of right hand of male (MTD 45678) and of female (BMNH 194721356) *Hyla melanopleura*. Scale = 5 mm.

Dorsale Ansichten der Phalangenknochen der rechten Hand des Männchens (MTD 45678) und des Weibchens (BMNH 194721356) *Hyla melanopleura*. Balken = 5 mm.



Males/Männchen (n = 8)	
SVL	33.84-44.20 (40.07 ±3.79)
TL	19.79-23.23 (21.82 ±1.37)
FL	15.16-19.94 (17.76 ±1.69)
HL	12.0-14.78 (13.90 ±1.21)
HW	12.10-14.52 (13.93 ±1.04)
TY	2.19-3.06 (2.61 ±0.30)
ED	3.41-4.48 (4.19 ±0.41)
IOD	4.35-4.99 (4.55 ±0.20)
EW	3.07-4.14 (3.49 ±0.39)
IND	2.09-3.14 (2.69 ±0.37)
E-N	3.53-4.95 (4.09 ±0.49)

Tab. 1. Range of measured characters (in mm) of adult *Hyla melanopleura*, followed by mean value and standard deviation in parentheses. For abbreviations, see Materials and Methods.

Bereich gemessener Merkmale (in mm) adulter *Hyla melanopleura*, gefolgt von dem Mittelwert und Standardabweichung in Klammern. Abkürzungen siehe Material und Methoden.

sitting in the water or on vegetation up to 40 cm above ground. Frogs found in sympatry include *Scinax* sp. The surroundings of Huancabamba are deforested due to extensive agriculture and cattle breeding. There are reforested areas near PROSOYA, and primary forests within the Yanachaga-Chemillén National Park, parts of which are approximately 10 km east of Huancabamba.

4 Discussion

The taxonomy of several members of the *Hyla pulchella* group is complicated because of morphological similarity and intra-specific variation with respect to colouration, and therefore resulting in several synonyms (DUELLMAN et al. 1997), while the taxonomic status of other species remains unclear (KÖHLER 2000). *Hyla melanopleura* can be distinguished from the other members of the *H. pulchella* group by dorsal and lateral colouration and pattern of body, colouration of iris and by the presence of “nuptial excrescence brown on inner side of base of thumb in breeding males” as recorded for the only male of the type series by DUELLMAN et al. (1997). Nuptial excrescences could not be observed in the eight males, but this character could depend on breeding season only. The tadpole and the call of *H. melanopleura* are still unknown, but the authors hope to present this information in the near future.

Hyla melanopleura seems to be restricted to Huancabamba, where it is only known from two different elevations. The elevation of 915 m (= 3000 ft) above sea level at Huancabamba as given by BOULENGER (1912) seems to be doubtful, as the village is located at 1780 m above sea level, with the surrounding hills even being higher. The montane forests of Peru are known for their high species diversity and high number of endemics, which unfortunately are threatened by deforestation and agriculture. Forest areas in central Peru, such as Yanachaga-Chemillén, Oxapampa, Huancabamba, Pozuzo, are type localities of several amphibian and reptile species which have been described a long time ago (PETERS 1871, BOULENGER 1911, 1912) or recently (HEDGES 1990, MORALES & VELAZCO 1998, JUNGFER & LEHR 2001). Knowledge of the composition

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of the herpetofauna is still limited, and taxonomic research needs to be intensified, before adequate habitats are destroyed.

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Resumen

Redescubrimiento de Hyla melanopleura BOULENGER, 1912 (Amphibia, Anura, Hylidae).

Hyla melanopleura BOULENGER, 1912 fue descrita en base a cinco sintipos de Huancabamba, Perú, a 925 m sobre el nivel del mar. No se conocía información sobre la coloración en vida ni sobre la historia natural de esta especie. Los autores redescubrieron *Hyla melanopleura* en Huancabamba, Perú, a 1780 m sobre el nivel del mar. Ocho individuos de esta especie fueron encontrados durante la noche en vegetación cercana a pequeños arroyos y alrededor de charcas artificiales. Se describe la coloración durante el día y la noche, la osteología de las manos y se presentan medidas de caracteres morfológicos. El canto y los renacuajos de *H. melanopleura* son desconocidos.

Palabras claves: Amphibia: Anura: Hylidae: *Hyla melanopleura*; Perú.

Wiederentdeckung von *Hyla melanopleura* BOULENGER, 1912 (Amphibia, Anura, Hylidae)

Hyla melanopleura BOULENGER, 1912 wurde anhand von fünf Syntypen von Huancabamba, Peru, aus 925 m Höhe ü.NN beschrieben. Informationen zur Lebendfärbung und Lebensweise blieben unbekannt. Die Autoren entdeckten in Huancabamba, Peru, in 1780 m Höhe ü.NN acht Männchen von *Hyla melanopleura*, die sie nachts in der Ufervegetation von kleinen, durch Sekundärhabitats fließenden Bächen und in künstlichen Teichen fanden. Tag- und Nachtfärbung von *Hyla melanopleura* und die Osteologie der Hände werden beschrieben sowie Messungen von morphologischen Merkmalen präsentiert. Ruf und Kaulquappe von *Hyla melanopleura* sind unbekannt.

Schlagwörter: Amphibia: Anura: Hylidae: *Hyla melanopleura*; Peru.

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Appendix I

Hyla melanopleura: Peru: Departamento Pasco: Huancabamba (10°25'19.5"S, 75°31'27.6"W 1780 m elevation): MHNSM 19816-19, MTD 45678-81; Huancabamba (924 m elevation): BMNH 1947.2.13.56 (lectotype), 1947.2.13.54 (type).

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