Acta Herpetologica 7(2): 325-329, 2012

Rediscovery and redescription of the holotype of *Lygosoma vittigerum* (= *Lipinia vittigera*) Boulenger, 1894

Yannick Bucklitsch[1], Peter Geissler[1], Timo Hartmann[1], Giuliano Doria[2] , André Koch[1,*]

[1] *Zoologisches Forschungsmuseum Alexander Koenig, Section of Herpetology & Leibniz Institute of terrestrial Biodiversity Research, Adenauerallee 160, D-53113 Bonn, Germany. *Corresponding author.* E-mail: andrepascalkoch@web.de

[2] *Museo Civico di Storia Naturale "Giacomo Doria", Via Brigata Liguria 9, I-16121 Genova, Italy*

Submitted on: 2012, 4th June, revised on 2012, 2nd October; accepted on 2012, 8th October.

Abstract. We report about the rediscovery of the holotype of the Southeast Asian striped skink *Lipinia vittigera* and provide a detailed redescription together with photographs and drawings. The species was first described by George Albert Boulenger in 1894 as *Lygosoma vittigerum* based on a specimen collected by Elio Modigliani on the island of Sereinu (= Sipura), west of Sumatra. The original type specimen was considered to be lost for more than a century and was recently rediscovered in the Museo Civico di Storia Naturale "Giacomo Doria" (MSNG) in Genova, Italy.

Keywords. Holotype, rediscovery, re-description, *Lipinia*, Scincidae, Squamata, Indonesia.

In 1894, the little striped skink *Lipinia vittigera* was described as *Lygosoma vittigerum* by George Albert Boulenger (1858-1937) of the British Museum of Natural History based on a voucher specimen collected by Elio Modigliani (1860-1932), an Italian anthropologist-zoologist, on the island of Sereinu (= Sipura), west of Sumatra (Boulenger, 1894; see also Fig. 2). This conspicuous but rather rare *Lipinia* is a widespread Southeast Asian species that ranges from southern Myanmar through Thailand and Cambodia to Vietnam and the Malaysian peninsula, finally reaching Sumatra, Borneo, and the Mentawai Archipelago (Das and Austin, 2007; Grossmann, 2010; Grismer, 2011). Currently, two subspecies of this mainly arboreal skink are recognized. These are the nominotypic *L. vittigera vittigera* inhabiting most of the species range and *L. vittigera microcercum* (Boettger, 1901), which is restricted to southern Vietnam, Laos and Thailand (Smith, 1935; Nguyen et al., 2009; Teynié and David, 2010). The subspecific status of *L. vittigera* in Cambodia is not yet documented (Stuart, 2006; Grismer et al., 2008). In addition, Smith (1922) described the subspecies *L. vittigera kronfanum* from Langbian Plateau, "South Annam", today South-

ISSN 1827-9635 (print)
ISSN 1827-9643 (online)

ern Vietnam, which turned out to be a synonym of *L. vittigera microcercum* (Smith, 1935). However, Das (2010) erroneously treated *L. v. kronfanum* as a valid subspecies.

In a recent attempt to determine some *Lipinia* skinks, one of us (AK) was looking for the original type specimen of *L. vittigera*. As most of Modigliani's collections are housed in the Museo Civico di Storia Naturale "Giacomo Doria" (MSNG) in Genova, Italy (van Steenis-Kruseman, 1950), AK consulted the type catalogue about reptiles published by Capocaccia (1961). Therein, however, no type specimen of *L. vittigera* was mentioned. Likewise, an inquiry to the Natural History Museum (London) returned without success (C. McCarthy pers. comm.), but with the advice to contact the Genova Museum directly. Finally, the missing holotype (MSNG 55855) of Boulenger's (1894) taxon could be located in the MSNG collection by GD after more than a century (see also Das and Greer, 2002). An earlier identification of the original type specimen was hampered, because when *L. vittigera* was described the holotype was not labelled and a catalogue number was not assigned to it. During a flood in 1970, that damaged many collections of the natural history museum in Genova, the jar with the type specimen was broken. So only recently it was possible to associate some original labels (Fig. 1B) with the type material (Fig. 1A). Beside the information of the original labels the rediscovered specimen itself (MSNG 55855) agrees with the original specimen designated as type by Boulenger (1894) in the following morphological details: snout-vent length (SVL) 37 mm (Boulenger, 1894) vs. 36.9 mm (our measurements); head length - from tip of snout to posterior margin of parietal (HL) 10 mm (Boulenger, 1894) vs. 10.1 mm (our measurements); head width - at the widest point of temporal region (HW) 5 mm (Boulenger, 1894) vs. 4.8 mm (our measurements); largest part of tail absent. Although no illustration of the original type specimen was provided by Boulenger (1894), this individual combination of characters allowed us to assign the re-discovered specimen to the type description. In order to support future taxonomic investigations in the genus *Lipinia*, we provide an extended redescription, photographs and drawings of the rediscovered holotype specimen.

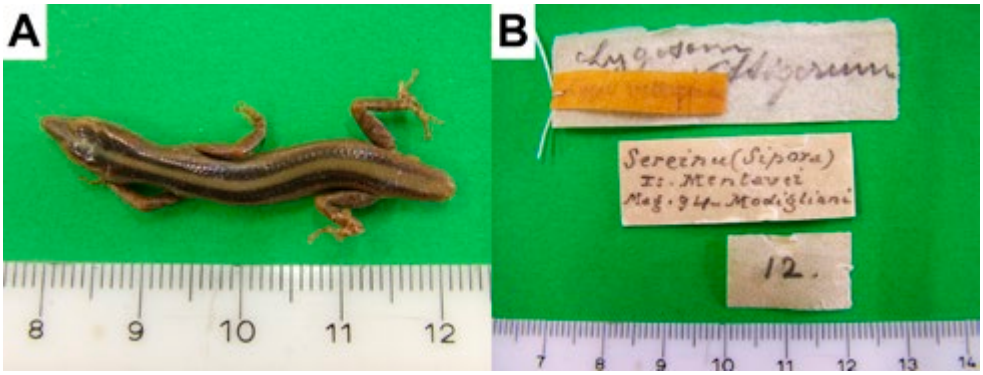

Fig. 1. Holotype of *Lipinia vittigera* (Boulenger, 1894), dorsal view (A) and original labels (B). Photos by G. Doria.

For the redescription the original holotype specimen of *Lygosoma vittigerum* (MSNG 55855, Figs. 1-2) was borrowed from the MSNG. The morphological investigations were performed using a detailed morphological protocol as used by Nguyen et al. (2011). Measurements were taken with a digital caliper to the nearest 0.1 mm. The following abbreviations are used: END = distance from anterior corner of eye to posterior border of nostril; EL = eye length (distance between anterior and posterior corners of eyelid); FlL = forelimb length (from anterior junction of forelimb and body wall to the tip of fourth finger, with the limb held at right angles to the body); HlL = hind-limb length (anterior junction of hind limb and body wall to the tip of fourth toe, with the limb held at right angles to the body); HH = head height (at the point of maximum head height); SL = snout length (from anterior corner of eye to tip of snout); STL = distance from snout to anterior border of tympanum; SFlL = snout–forelimb length (from tip of snout to anterior junction of forelimb and body wall, with the limb held at right angles to the body); TaL = tail length; TrunkL = trunk length (from posterior end of the forelimb to the anterior part of the hind-limb); TYD = maximum diameter of tympanum.

Scalation. Paravertebral scales: number of scales in a line from posterior edge of parietals to dorsal point opposite posterior margin of the medial precloacals; ventral scale rows: number of scales from first gular to anterior margin of precloacals. Bilateral scale counts are given as left/right.

Generic allocation of Lipinia vittigera *(Boulenger, 1894)*

Lygosoma vittigerum Boulenger, 1894 was allocated to the genus *Lipinia* by Greer (1974). The genus *Lipinia* belongs to the *Sphenomorphus* group of lygosomine skinks

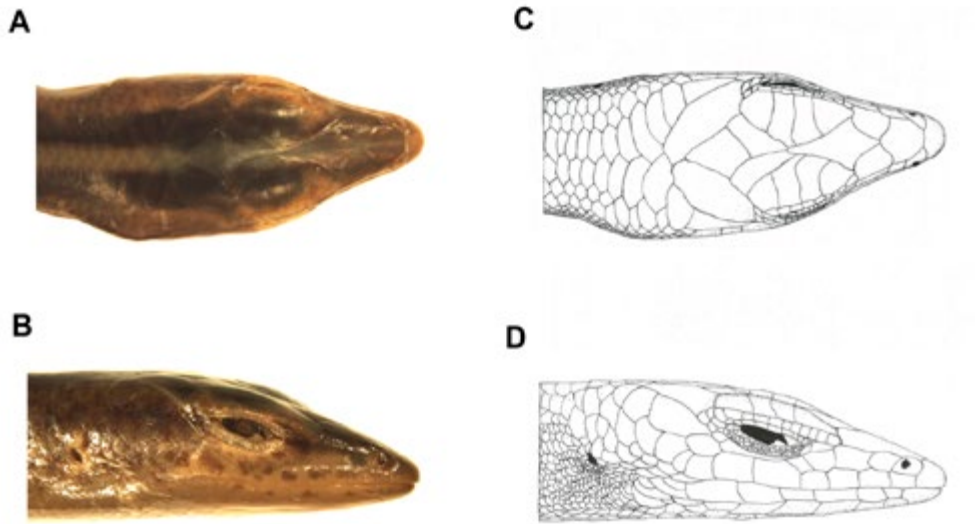

Fig. 2. Holotype of *Lipinia vittigera* (Boulenger, 1894), head dorsal view (A, C) and head portray (B, D). Photos by A. Koch, drawings by T. Hartmann.

(Greer, 1979) and has the following derived characters: small body size (SVL ≤ 58 mm); lower eyelid with a clear window; auricular lobules absent; body scales smooth; midbody scale rows ≤ 28; basal subdigital lamellae expanded; postorbital absent; vomers fused; pterygoid teeth absent; dorsal color pattern compromising a pale (rarely dark) mid-dorsal stripe at least anteriorly; visceral fat bodies absent; brood size two or one. The genus currently contains 27 different species and ranges from continental Southeast Asia and the Philippines through the Indo-Australian Archipelago to New Guinea, the Solomon Islands and the Republic of Belau.

Re-description of the holotype of Lipinia vittigera *(Boulenger, 1894)*

L. vittigera is a small skink (SVL: 36.9 mm) and shows a slender appearance. The holotype has lost its tail, the right hemipenis is partly everted. Measurements in mm: SVL = 36.9; TaL (largest part of tail missing) = 4.5; TrunkL = 17.1; HL = 10.1; HW = 4.8; HH = 3.4; SL = 4.1; STL = 9.5; SfIL = 14.7; END = 3.0; EL = 1.5; TYD = 0.4; FlL = 12.5.

Colour pattern: The holotype exhibits two dorsal dark brown stripes starting above the eye and one pale stripe starting from the tip of the nose. The flanks are dotted with brownish spots. The limbs show brown spots. Dark spots are also visible at the side of the neck.

The snout is obtuse from above but rather pointed at the lateral view. The rostral is wider than long. The prefrontals contact each other medially. The frontal is narrowing posterior. Four supraoculars, first three in contact with frontal. The frontoparietals are in contact with each other, with the frontal, and with supraoculars three and four. The interparietal and parietals are distinct; parietals contact each other posteriorly; 3/4 nuchals.

The nasal is in contact with the rostral and the first supralabial; the postnasal and the supranasal are not present; 2/2 loreals; two preoculars; one presubocular; seven supraciliaries; one primary temporal; two secondary temporals; seven supralabials, five and six below the eye; two postsupralabials; lower eyelid with a clear window; external ear opening present; 7/7 infralabials.

The mental is rounded anteriorly, wider than long; the postmental is in contact with the first infralabial, first pair of chin shields, and anterior portion of second infralabial; three pairs of chin shields, first pair in contact medially; second pair separated by one scale, third pair separated by three scales; the chin shields are in contact with the infralabials; 30 midbody scale rows; 56 paravertebral scales, the dorsal scales are larger than the ventral scales; 58 ventral scale rows from first gular to anterior margin of precloacals; four precloacals; 15/16 subdigital lamellae on fourth finger, 25/25 subdigital lamellae on fourth toe.

ACKNOWLEDGEMENTS

We are grateful to Colin McCarthy (formerly BMNH) for information about *Lipinia* type material under his care. In addition, we would like to thank two anonymous reviewers for their valuable comments on an earlier draft.

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