

# Reptilia, Squamata, Scincidae, *Brachymeles elerae* (Taylor, 1917): Rediscovery in Old Balbalan, Cordillera Mountain Range, Luzon Island, Philippines, and natural history

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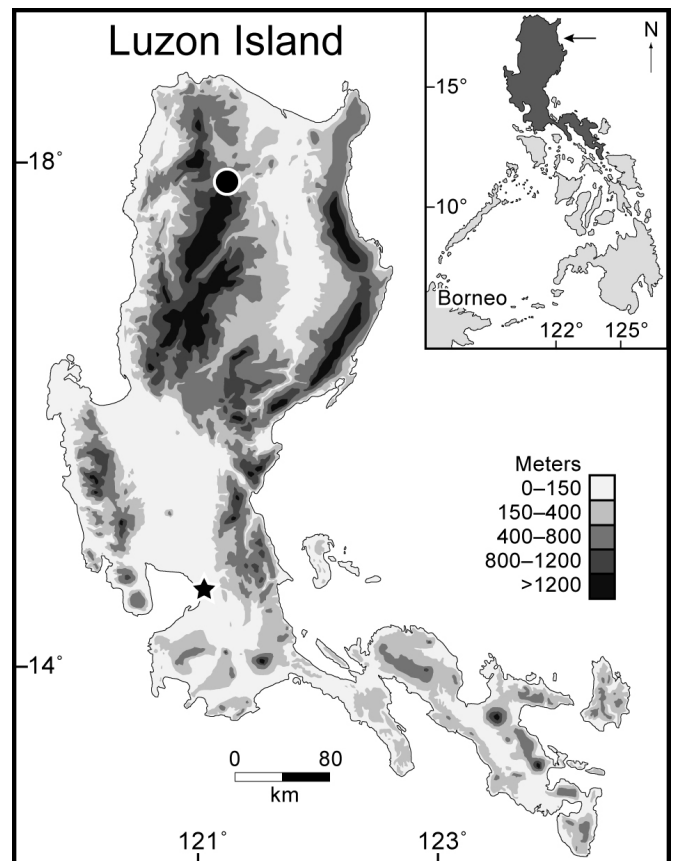
**ABSTRACT:** *Brachymeles elerae* (Taylor 1917) is one of 18 recognized lizard species of *Brachymeles*, and is one of only two species known to possess four digits on the fore- and hind limbs. This unique species was originally described on the basis of two specimens, both lacking locality data, and has long been presumed to occur in the Nueva Vizcaya Province in the north central region of Luzon Island in the Philippines. In 1920, two additional specimens were collected from the Municipality of Balbalan of Luzon by E. H. Taylor. All subsequent reviews of the genus have been based on this material. I report on the first records of *Brachymeles elerae* in over ninety years and present the first photograph and new data on morphology and habitat.

The lizard *Brachymeles elerae* (Taylor 1917) is one of eighteen recognized species of the genus *Brachymeles*, all but one of which are endemic to the Philippines (Brown and Alcala 1980; Hikida 1982; Siler *et al.* 2009; 2010a, b). Species in the genus possess a full suite of different body forms (Siler *et al.* 2009; 2010a, b): six species are pentadactyl, eight are non-pentadactyl with incompletely developed limbs and reduced numbers of digits, and four are entirely limbless. Among the non-pentadactyl species (Taylor 1917; 1918; 1922a, b; 1923), *Brachymeles elerae* and *B. wrighti* are the only two species with four digits on the fore and hind limbs (Taylor 1917; 1925). Taylor (1917) described *Brachymeles elerae* based on two specimens housed in the natural history museum of the University of Santo Tomas, Manila, both without locality data, but presumed to have been collected in Nueva Vizcaya Province. In 1920, two additional specimens were collected from the Municipality of Balbalan, Luzon Island, Philippines (Taylor 1923), and were deposited at the California Academy of Sciences (CAS 61499-500). All subsequent reviews of the genus (Brown 1956; Brown and Rabor 1967; Brown and Alcala 1980) have been based on this material. The species has remained elusive and undocumented in the literature for the last ninety years.

I report on the first records of *Brachymeles elerae* since 1920 from Luzon Island, Philippines (Figure 1), and present the first photograph and new data on external morphology. On 8 June 2008, one adult and one juvenile of *Brachymeles elerae* were collected during herpetological field surveys in mid-elevation forest in the village of Old Balbalan, Municipality of Balbalan, Kalinga Province, Luzon Island, Philippines (Figure 1). These specimens are deposited at the National Museum of the Philippines (PNM), Manila.

Due to the absence of rigorous descriptions of *Brachymeles elerae*, I provide a detailed summary

description of the species based on three adult specimens (CAS 61499, male; CAS 61500, female; PNM 9563, male) and one juvenile (PNM 9564) specimen. Body small, slender; snout-vent length 68.2, 71.9 mm for males, 71.5 mm for females (juvenile = 46.8); head weakly differentiated from



**FIGURE 1.** Known distribution of *Brachymeles elerae* on Luzon Island, Philippines. Type locality (Barangay Old Balbalan, Municipality of Balbalan, Kalinga Province, Luzon Island) is indicated by a black circle. The capital city, Manila, is shown for reference by a black star.

neck, nearly as wide as body, head width 8.2-9.2% ( $8.8 \pm 0.5$ ) snout-vent length (juvenile = 8.5), 101.4-119.2% ( $112.6 \pm 9.8$ ) head length (juvenile = 99.7); head length 34.6-39.1% ( $37.6 \pm 2.6$ ) snout-forearm length (juvenile = 34.2); snout-forearm length 19.1-23.4% ( $20.9 \pm 2.2$ ) snout-vent length (juvenile = 24.9); snout moderate, rounded in dorsal and lateral profile, snout length 55.8-63.7% ( $59.1 \pm 4.1$ ) head length (juvenile = 61.4); auricular opening absent; eyes small, eye diameter 1.3-1.6% ( $1.4 \pm 0.2$ ) snout-vent length (juvenile = 1.6), 16.0-21.6% ( $18.6 \pm 2.8$ ) head length (juvenile = 19.5), 39.3-51.9% ( $45.4 \pm 6.3$ ) eye-nares distance (juvenile = 45.6), pupil nearly round; body slightly depressed, mid-body width 118.8-136.6% ( $129.6 \pm 9.5$ ) mid-body height (juvenile = 135.1); scales smooth, glossy, imbricate; longitudinal scale rows at midbody 22-24 (juvenile = 22); paravertebral scale rows 84-87 (juvenile = 86); axilla-groin scale rows 63-67 (juvenile = 66); limbs developed, short, slender, quadridactyl, digits small; Finger-III lamellae 2 (juvenile = 2); Toe-IV lamellae 3 (juvenile = 3); forelimb length 6.4-6.8% ( $6.6 \pm 0.2$ ) axilla-groin distance (juvenile = 2.9), 4.6-5.1% ( $4.8 \pm 0.3$ ) snout-vent length (juvenile = 2.0); hind limb length 8.4-10.5% ( $9.7 \pm 1.2$ ) axilla-groin distance (juvenile = 5.8), 6.3-7.6% ( $7.1 \pm 0.7$ ) snout-vent length (juvenile = 3.9); order of digits from shortest to longest for hand: I = IV < II = III, for foot: I < II < IV < III; tail nearly as wide as body, gradually tapered towards end, tail width 75.6-84.7% ( $80.0 \pm 4.5$ ) mid-body width (juvenile = 73.1), tail length 61.2-83.6% ( $72.4 \pm 15.8$ ) snout-vent length (juvenile = 78.6).

Rostral projecting onto dorsal snout to point in line with center of nasal, broader than high, forming a moderate suture with frontonasal; frontonasal wider than long; nostril ovoid, in center of single rectangular nasal, longer axis directed anterodorsally and posteroventrally; nasals well separated; supranasals present, large, broadly separated; postnasals absent; prefrontals in point contact; frontal nearly square shaped, its anterior margin narrowly separated from frontonasal, in contact with first two anterior supraoculars, 4' wider than anterior supraocular; supraoculars four or five; frontoparietals moderate, narrowly separated to moderate contact mesially, each frontoparietal in contact with interior three supraoculars; interparietal moderate, diamond shaped, longer than wide, its length nearly two thirds midline length frontal; parietal eyespot absent; parietals as broad as frontoparietals laterally, narrower mesially, in broad contact behind interparietal; enlarged, differentiated nuchals absent; loreals two, decreasing in size from anterior to posterior, anterior loreal about as long as and 1.4' higher than posterior loreal, in contact with prefrontal, supranasal, first and second supralabials, and second loreal; single preocular; supraciliaries five or six, anterior supraciliary contacting prefrontal and separating posterior loreal from first supraocular; single subocular row complete, in contact with supralabials; lower eyelid with one row of scales; supralabials six, first 2' size of other supralabials, fourth beneath center of eye; infralabials six.

Mental wider than long, in contact with first two infralabials on both sides; single enlarged postmental, equal in width to mental; followed by three pairs of enlarged chin shields, scales of first two pairs narrowly separated,

scales of third pair broadly separated; first and second pairs separated by single row of undifferentiated scales, third pair separated by three rows of undifferentiated scales.

Scales on limbs smaller than body scales; scales on dorsal surfaces of digits large, wrapping around lateral edges of digits; lamellae undivided to bases of digits; palmar surfaces of hands and plantar surfaces of feet covered by small, irregular scales, each with irregular raised anterior edges; scales on dorsal surface of hands and feet smaller than limb scales, lacking raised edges.

**Coloration:** In preservative, the ground color of the body is light to medium brown, with each dorsal scale having a dark, chocolate-brown blotch on the posterior two thirds of the scale (Figure 2). Each blotch does not correspond to the scale boundary, but extends to the anterior edge of the next most posterior scale. The blotches are present around the entire body, and gradually reduce in size laterally. Ventral scales have smaller blotches restricted to the posterior one-third of each scale. Caudals and subcaudals have blotches nearly homogeneous in size, and only slightly reduced ventrally, thereby giving the appearance of a darker tail color. Limb scales are medium brown. Head scales lack a spotting pattern, have mottled light and medium brown coloration, and are consistent with the background body color. The rostral, nasal, supranasal, mental, and first supralabial scales have a medium gray coloration, lacking any brown color. In life, the body coloration is consistent with coloration in preservative; however, the ground color of the body appears orange-brown, and tail appears dark brown (Figure 2).



**FIGURE 2.** Photograph in life of *Brachymeles elerae* (PNM 9563), male, SVL = 71.9 mm.

**Distribution and natural history:** *Brachymeles elerae* is known to occur only from the Municipality of Balbalan in northern Luzon Island (Figure 1), and occurs in primary- and secondary-growth forest (Figure 3). Although the site of original collection remains unknown, this species has only been observed in Balbalan, and may possess a small geographic range. Both newly collected individuals were observed within small, rotting logs. As is typical for species in the genus, individuals immediately moved in a rapid serpentine manner and attempted to burrow back into loose soil or humus when disturbed. *Brachymeles elerae* is one of four species within the genus that have been

documented to occur at higher elevations (incl. *B. apus*, *B. lukbani*, and *B. muntingkamay*). Whether this species possesses a wider geographical distribution in northern Luzon Island is unknown. I consider the conservation status of the new species “data deficient,” pending the collection of additional information on distribution and habitat requirements of this unique species.



**FIGURE 3.** Mid-elevation habitat of *Brachymeles elerae* in Kalinga Province, Philippines.

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