

New Species of Diminutive Scincid Lizard (Squamata; Lygosominae: *Sphenomorphus*) from Luzon Island, Republic of the Philippines

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Sphenomorphus tagapayo is a new species of scincid lizard from Aurora Province, southeastern Luzon Island, Republic of the Philippines. The new species inhabits leaf litter between the elevations of 720 and 1175 m in tropical montane cloud forests along the island's eastern coast. *Sphenomorphus tagapayo* appears most closely related to *Sphenomorphus atrigularis*, *S. lawtoni*, *S. biparietalis*, *S. steerei* (differing from all of these by coloration and various morphological characters, most notably a scale-covered tympanum) and *S. luzonensis* (from which it differs by a much smaller body size, coloration, fewer paravertebrals and greater number of midbody scale rows). The new species is also similar in size, scalation, ecology, and coloration to members of the genus *Parvosincus* (*P. palawanensis* and *P. sisoni*) but differs from these species by the possession of a single frontoparietal (vs paired frontoparietals), two rows (vs one row) of alternately overlapping supradigital scales, smaller lower eyelid scales (vs a row of columnar-shaped scales covering half of the lower eyelid), higher midbody scale counts, the presence of two (vs one) oviducts, and a brood size of two (vs one).

THE most recent taxonomic review of Philippine *Sphenomorphus* (Brown and Alcalá, 1980) enumerated 23 species contained within six nonphylogenetic species groups. In their monograph of Philippine lizards of the family Scincidae, Brown and Alcalá (1980) thoroughly revised the only previous comprehensive treatment of Philippine *Sphenomorphus* (Taylor, 1922a) and described four new species. They also synonymized several of the 19 species recognized by Taylor (see also Taylor, 1922b, 1922c, 1923) and followed Greer and Parker (1967a, 1967b, 1974) in placing *Insulasaurus wrighti* (Taylor, 1925) and other Philippine species previously included in *Otosaurus*, *Lygosoma*, and *Parotosaurus* in the synonymy of *Sphenomorphus*. Fueled by interest in patterns of montane endemism in the Philippines, recent survey efforts have resulted in the discovery of still more new species (Brown et al., 1995a, 1996; Brown, 1995). Following the transfer of *S. palawanensis* to *Parvosincus* (Ferner et al., 1997; see below), the number of Philippine species of *Sphenomorphus* currently stands at 24.

Parvosincus (Ferner et al., 1997) was erected to accommodate two Philippine species with several derived character states and with troubling disjunct distributions (Fig. 1). *Sphenomorphus palawanensis* (known only from Palawan Island; Brown and Alcalá, 1961) was transferred from Brown and Alcalá's (1980) Group II *Sphenomorphus* to the genus *Parvosincus* and another species, *P. sisoni*, known only from Panay Island, was described as new.

During recent fieldwork in Aurora National

Park, Aurora Province, southeastern Luzon Island (Fig. 1), we obtained six specimens representing a new species of cryptozoic skink inhabiting leaf litter between elevations of 720 and 1175 m above sea level. The new species shares several character states with species included in Brown and Alcalá's (1980) Group II *Sphenomorphus* but also shares a number of potentially derived character states with *Parvosincus*. Both Group II *Sphenomorphus* (*S. atrigularis*, *S. luzonensis*, *S. lawtoni*, *S. biparietalis*, *S. steerei*) and *Parvosincus* (*P. palawanensis* and *P. sisoni*) are characterized by moderate to small body size and relatively low numbers of subdigital lamellae, paravertebrals, and midbody scale rows (Brown and Alcalá, 1980). Given the uncertainty regarding the phylogenetic relationships of *Sphenomorphus* and *Parvosincus*, we tentatively place the new species in the genus *Sphenomorphus* pending a phylogenetic analysis of the group.

MATERIALS AND METHODS

Scale counts and measurements (defined in Brown and Alcalá, 1980; Brown et al., 1995b) are based on fluid-preserved specimens. Museum abbreviations follow Leviton et al. (1985) except for the abbreviation for the Cincinnati Museum of Natural History (CMNH). Measurements were taken with digital needle point calipers to the nearest 0.1 mm, and only data scored by RMB were analyzed to reduce the possibility of measurer bias (Lee, 1990). Measurements included snout-vent length (SVL), tail length (TL), tail width (TW), tail depth (TD),



Fig. 1. The distribution of *Sphenomorphus tagapayo* in relation to the other members of Group II *Sphenomorphus* (Brown and Alcalá, 1980) and the members of the genus *Parvosciencus* (Ferner et al., 1997) in the Philippines (darkly shaded islands). *Sphenomorphus sterei* is known from all of the larger islands in the archipelago (Brown and Alcalá, 1980); individual localities are not shown.

head length (HL), head width (HW), head depth (HD), snout length (SL), interorbital distance (IOD), internarial distance (IND), eye diameter (ED), eye-nares distance (END), frontal length (FL), axilla-groin distance (AGD), fore-limb length (FLL), hind-limb length (HLL),

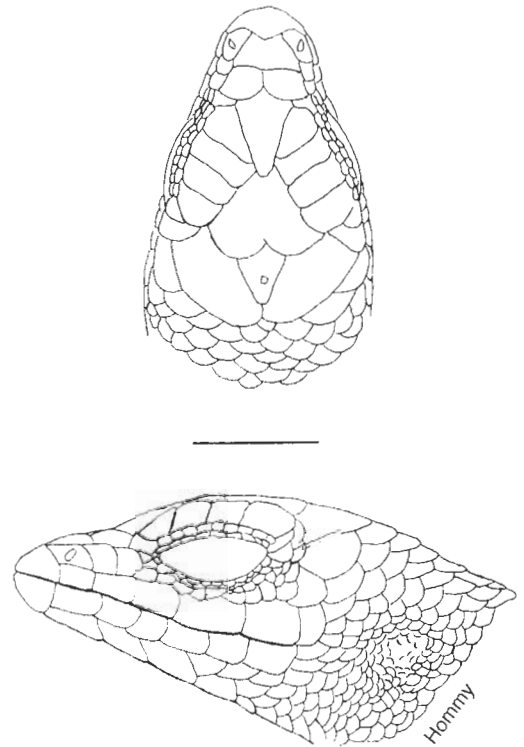


Fig. 3. The head of paratype CMNH 5632 (female, SVL 28.8 mm) in dorsal and lateral aspect. Scale bar = 2 mm.

third finger length (Fin III), and fourth toe length (Toe IV).

Sphenomorphus tagapayo, new species
Figures 2–3

Suggested common name.—Aurora mountain skink.

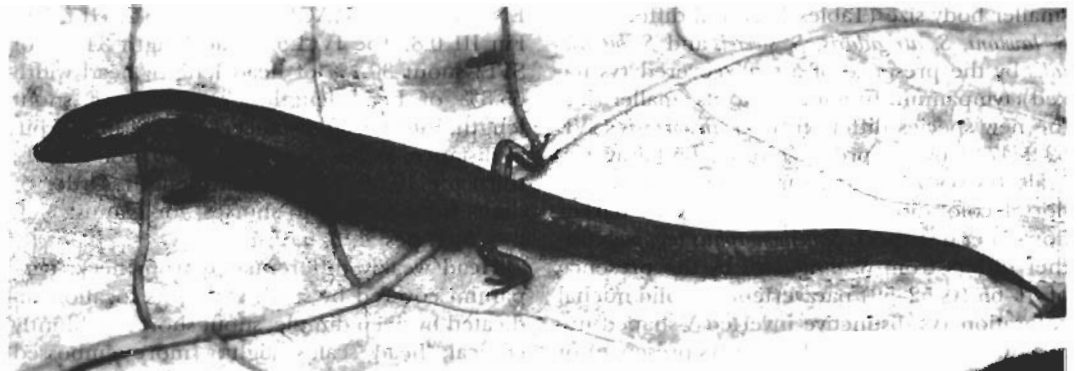


Fig. 2. The holotype of *Sphenomorphus tagapayo* (adult female; SVL 28.8 mm; PNM 5767) in life.

Holotype.—PNM 5767 (RMB Field No. 991; Figs. 2–3), adult female, collected 20 May 1997 at 1100 h by V. Yngente at 1050 m above sea level (masl) on the south-facing slope of Mt. Ma-al-ing-aling, (15°39'6"N, 121°21'7"E), Kabatangan River drainage, Aurora National Park, 1.2 km south, 1.3 km east of Barangay Villa Aurora, Municipality of San Luis, Aurora Province, Luzon Island, Republic of the Philippines.

Paratopotypes.—Cincinnati Museum of Natural History (CMNH) 5631; PNM 5766 and 5768 (RMB Field Nos. 1009, 990, and 993, respectively) an adult male, adult female, and juvenile of undetermined sex, all collected (at 1150, 1050, and 1175 masl, respectively) 20 May 1997 by V. Yngente, J. Bulalacao, J. A. McGuire, and R. M. Brown at the type locality; CMNH 5632 (RMB 700), adult female, collected 13 May 1997, 1900 h, 1100 masl at the type locality by R. S. Kennedy.

Other paratype.—CMNH 5633 (Field No. JWF 97181) adult male collected 30 May 1997 by J. W. Ferner at 720 masl in the Kamatis River drainage (15°40'6"N, 121°18'6"E), 0.5 km south, 2.6 km west of Barangay Villa Aurora, Municipality of Maria Aurora, Aurora Province.

Etymology.—It is our pleasure to name this new species of skink in honor of Walter C. Brown. We do so in reference to his extraordinary contribution to our knowledge of the systematics and biogeography of Southeast Asian and Southwest Pacific amphibians and reptiles and for the guidance and support he has provided RMB and ACA. The specific appellation, a noun in the genitive case, is chosen from the tagalog term *tagapayo*, meaning a wise and trusted friend, advisor, or mentor.

Diagnosis.—*Sphenomorphus tagapayo* is distinguished from *S. lawtoni* and *S. luzonensis* by its smaller body size (Tables 1–2) and differs from *S. lawtoni*, *S. atrigularis*, *S. steerei*, and *S. biparietalis* by the presence of a scale-covered (vs naked) tympanum. In addition to its smaller size, the new species differs from *S. luzonensis* (SVL 39.9–47.8) by the presence of 61–65 paravertebrals (vs 65–73) and nearly solid dark brown dorsal coloration (vs light brown with darker dorsolateral stripes). *Sphenomorphus tagapayo* further differs from *S. atrigularis* by the presence of 61–65 (vs 52–59) paravertebrals, solid nuchal coloration (vs distinctive inverted V-shaped nuchal marking) and the absence (vs presence) of dorsolateral stripes; from *S. biparietalis* by the presence of unfused (vs fused) loreals, trans-

versely elongate (vs square) parietals, and a single (vs paired) frontoparietal; from *S. lawtoni* by 9–11 fourth toe subdigital lamellae (vs 13–15), smaller body size (Table 1), and nearly solid dark brown coloration (vs dorsolateral and vertebral dark stripes or spot rows); from *S. steerei* by variation in prefrontal contact (vs invariably contacting) and nearly solid dark brown coloration (vs dorsolateral dark stripes or spot rows).

Sphenomorphus tagapayo differs from *Parvosцинus sisoni* and *P. palawanensis* (Table 1) by the single (vs paired) frontoparietal, two rows of alternately overlapping (vs a single median) supradigital scale rows, the presence of two (vs one) oviducts, a brood size of two (vs one), and an upper row of small lower eyelid scales (vs columnar scales, covering the upper half of the lower eyelid). The new species further differs from *P. palawanensis* by the presence (vs absence) of prefrontals, the presence of two loreals (vs single), the presence of 28–30 (vs 22–24) midbody scale rows, the presence of 61–65 (vs 48–54) paravertebrals, the presence of 6 (vs 5) infralabials and color pattern (*P. palawanensis* has a pair of dorsolateral light lines, and *P. tagapayo* has a faint dark vertebral stripe). It further differs from *P. sisoni* by occasional (one of six specimens) contact between prefrontals, a greater number of midbody scales (*P. sisoni* = 24–26), and a faint dark vertebral stripe.

Description of holotype.—The holotype (Figs. 2–3) is an adult female with a small midventral incision (dissected in the field for tissue samples; small portion of liver removed), a patch of skin missing on right tibial segment of forelimb, and an excised fourth digit of the left manus. The new species is a small, slender, dark brown skink with limbs that do not meet when adpressed (Fig. 2, Table 2).

SVL 28.8 mm; TL 31.3 (autotomized and regenerated at 24.4); TW 3.5; TD 3.0; HL 6.0; HW 3.9; HD 3.1; SL 1.8; IOD 2.4; IND 1.0; ED 1.5; END 1.4; FL 1.6; AGD 16.4; FLL 5.2; HLL 7.6; Fin III 0.8; Toe IV 1.5. Head length 34.7% of SVL; snout 30.1% of head length; head width 65.8% of head length; eye 25.3% of snout length; internarial distance 42.0% of interorbital distance; axilla–groin distance 57.0% of SVL; third toe 19.6% of hind-limb length. Order of digits from longest to shortest for manus: 3, 4, 2 = 5, 1; pes: 4, 3, 5, 2, 1.

Head weakly differentiated from neck; tympanum covered by small scales, its location indicated by deep dimple; snout short and bluntly conical; head scales slightly more embossed than body scales; lateral and dorsal rostrum scales with minute pits; rostral projecting

TABLE 1. DISTRIBUTION OF DIAGNOSTIC CHARACTERS OF *Spharonomphalus tagapoyensis* RELATION TO MEMBERS OF GROUP II SPHEXOMORPHUS (BROWN AND ALCOCK, 1980) AND THE GENUS *Paroxysticus* (FERNER ET AL., 1997). Question marks indicate data that were unavailable on the basis of existing specimens.

Character	<i>S. tagapoyensis</i>	<i>S. stricta</i>	<i>S. atrigularis</i>	<i>S. deparvulus</i>	<i>S. laetantii</i>	<i>P. palauensis</i>	<i>P. visioni</i>
n	6	26	1	8	3	2	7
SVL (mm)	23.1-32.1	26.4-36.0	29.5-34.5	31.3-36	33.1-47.0	28.1-34.3	26.5-33.6
Tympanum exposed	-	+	+	+	+	-	-
Prefrontals in contact	+, +	+	+	+, +	+	absent	-
Rows of supradigitals	2	2	2	2	2	1	1
Midbody scales	28-30	28-32	28-32	30-34	28-29	22-24	24-26
Paravertebrals	61-65	52-63	53-60	61-68	58-64	48-54	62-68
Loricals	2	2	4	1	2	1	2
Infralabials	5-6	6	5-6	5-6	6-7	5	6
Toe IV lamellae	9-11	9-11	8-11	9-11	12-15	10-12	11-12
Fusion of frontoparietals	+	-	-	+	+	-	-
Dorsolateral lines	-	+	+	+	+	+	-
Vertebral lines	+	+	+	+	+	-	-
Apical pits	-	+	+	+	+	-	-
Parietal eye evident through interparietal	-	+	+	+	+, -	+	+
Left oviduct lost (brood size)	- (2)	(2)	+	+	- (2)	+	+
Supraciliaries	9-11	9-10	10	10-12	10	9	9
Upper row of lower eyelid scales in single columnar row	-	+	-	+	-	+	+
1st supraciliary contacts frontal	+	+	+	+	+, -	+	+

TABLE 2. VARIATION IN MERISTIC AND MEASURAL CHARACTERS OF THE TYPE SERIES OF *Sphenomorphus tagapayo*.

	Range	Mean	SD	n
Paravertebrals	61-65	63.5	1.6	6
Midbody Scales	28-30	29.0	0.6	6
Supralabials	5-6	5.7	0.5	12
Infralabials	5-6	5.8	0.4	12
Subdigital lamellae of:				
Finger I	3-4	3.4	0.5	12
Finger II	4-5	4.6	0.5	12
Finger III	5-7	5.8	0.6	10
Finger IV	5-7	6.0	0.5	10
Finger V	3-4	3.9	0.3	12
Toe I	3-5	4.1	0.5	12
Toe II	6-8	6.5	0.7	11
Toe III	8-10	8.9	0.8	12
Toe IV	9-11	9.9	0.7	12
Toe V	5-8	6.3	1.1	12
SVL	23.1-32.1 ^a	28.8	3.0	6
TL	6.7-31.3 ^b	21.7	8.8	6
AGD	11.6-18.3	15.9	2.5	6
TW	2.8-3.5	3.3	0.3	6
TD	2.7-3.2	3.0	0.2	6
HL	5.6-7.0	6.3	0.5	6
HW	3.6-4.2	4.0	0.2	6
HD	2.4-3.3	3.0	0.3	6
SL	1.2-2.3	1.9	0.4	6
IND	1.0-1.2	1.1	0.1	6
IOD	2.1-2.7	2.3	0.3	6
FL	1.4-1.7	1.6	0.1	6
ED	1.5-2.0	1.6	0.2	12
END	1.0-1.5	1.3	0.2	12
FLI	5.1-5.6	5.3	0.2	12
HLI	6.4-8.1	7.4	0.6	12
Fin III	0.8-0.9	0.8	0.1	12
Toe IV	1.5-1.9	1.6	0.2	12

^a 28.8-32.1 (x = 29.0) ± 1.3 (SD) when immature specimen are excluded.

^b Tails of all specimens with autotomy scars.

strongly onto dorsal snout; nasals well separated; supranasals and postnasals absent; frontonasal wider than long; prefrontals in contact for length shorter than width of either scale; frontal rhomboidal, very long and narrow, contacting first two (of four) supraoculars; frontoparietal single; interparietal moderate, its length two-thirds midline length of frontoparietal; combined midline length of interparietal and frontoparietal longer than frontal; parietals meet behind interparietal (left overlaps right) for length shorter than width of interparietal; slightly elongated outer nuchals medially border secondary temporals and parietals; series of four small, undifferentiated nuchals between outer enlarged nuchals; parietal eye visible

through clear region in posterior lobe of interparietal.

Nostril ovoid, in center of single trapezoidal nasal, longer axis directed anteroventrally and posterodorsally; two loreals, posterior slightly larger than anterior, narrowly separated from third supralabial; two preoculars, ventral larger than dorsal; 9/9 supraciliaries, the anteriormost contacting frontal and separating posterior loreal from first supraocular and posteriormost extending behind the last supraocular; first subocular row complete, in contact with supralabials for first (cranial) half of its length; shorter second subocular row barely spans (caudal) half of eye width; lower eyelid with two rows of scales, upper row (ciliaries) small to moderate in depth with ventrally pointed edges that interdigitate with second row above mideyelid; 6/6 supralabials, fourth largest and subocular; 6/6 infralabials; 2/2 postsupralabials, ventral smaller than dorsal; 3/3 pretemporals, 2/2 primary temporals, upper greatly enlarged, overlapped by lower; 2/2 secondary temporals, lower larger and overlapping upper; 1/1 tertiary temporal.

Mental wider than long, contacting two infralabials on both sides; single enlarged postmental followed by three pairs of enlarged chin shields; the first pair contacting at midline, the second pair separated by two longitudinally oriented undifferentiated nuchal scales, the third pair separated by a row of three undifferentiated scales.

Body scales smooth, glossy, each with single curved row of apical pits along distal edge, in 29 longitudinal rows at midbody; 61 paravertebrals; scale rows between adpressed limbs nine; anals four, median pair enlarged; 76 subcaudals (56 before autotomy scar, 20 distal to break), first four rows following vent undifferentiated, remaining laterally enlarged by fusion of medial pair; supradigital scales in two alternatively overlapping rows; subdigital lamellae (Roman numerals = digits; Arabic numerals right/left counts) of manus **I** 4/4 **II** 5/5 **III** 6/6 **IV** 6/6 damaged **V** 4/4; pes **I** 5/5 **II** 7/7 **III** 10/9 **IV** 10/10 **V** 7/7; subdigital lamellae acutely keeled.

Coloration in preservative.—Dorsum, dorsal portions of limbs and tail nearly solid dark chocolate brown with minute lighter brown spots; a diffuse vertebral stripe created by absence of lighter brown spots in this region, most distinct on neck and continuing faintly to just above insertion of hind limbs; absence of brown pigmentation imparting the appearance of enlarged round light yellowish tan spots in supraaxial, temporal, and nuchal regions and on

dorsal surfaces of limbs; lateral portions of tail base with short (2–4 mm) black bar, bordered ventrally on either side by a similar pair of short white bars; posterior (apical) sections of dorsal scales darker than anterior portions; dark brown vertebral stripe containing 10 light yellowish tan spots stretching from base of parietals to just beyond insertion of forelimbs; predominance of lighter pale brown spots laterally replaced by creamy yellowish white venter with darker organs visible through translucent ventral scales; ventral portions of limbs dark grayish brown; ventral portion of tail, throat, and chin with scattered dark brown spots on creamy yellowish white background; lateral snout and supraoculars nearly black; head shields with distinct white and brown blotches; labial region brownish gray with single creamy yellowish white spot on each labial scale; ventral surfaces of manus and pes purplish gray; tongue dark gray.

Coloration in life.—From field notes of RMB (deposited at CMNH): "Dorsum very dark brown (burnt umber) with black flecks and faint vertebral stripe; supraoculars black; nuchal region light brown with pale cream circular spots continuing to supra-axial region; venter yellow with darker organs visible; tail dark brown dorsally, black with white blotches laterally, medium gray ventrally behind vent, fading to pinkish brown, then dark, almost black at tip; supralabials black with single white spot on each; iris light brown."

Variation.—Our sample contains three females, two males, and a subadult of undetermined sex. Little variation in scalation is exhibited by the new species (Table 2). Due to occasional fragmentation of median nuchals and variation in size of enlarged lateral nuchals, the number of undifferentiated median nuchals touching posterior edge of parietals ranges from four (PNM 5767) to eight (CMNH 5633). Head shields range from strongly embossed (CMNH 5632) to almost smooth (CMNH 5631); small pits in head shields cluster strongly on rostrum and supraocular region but are almost absent in parietal region.

Three of the six specimens have pale yellowish gray subcaudal coloration, whereas the other three have scattered minute brown spots on the underside of the tail; venter of chin with brown spots in two specimens, immaculate in the remainder; lateral black caudal stripe broken into series of black blotches distally in some specimens (PNM 5766; CMNH 5633); black bars terminate at autotomy scars.

The vertebral stripe ranges from faint in

some darker specimens (PNM 5767; CMNH 5632–33) to distinct, dark, and containing a vertebral row of 10 (PNM 5767), 13 (PNM 5768), or 18 (PNM 5766) round light yellowish tan spots, giving the appearance of a straight, dark vertebral chain. Four to 10 round light brown to tan spots in supra-axial and lateral nuchal region; two to four round light brown to tan spots on enlarged temporals; spots on first labial may be reduced (PNM 5767) or absent (CMNH 5633).

Comparisons.—To facilitate identification of the new species, it should be noted that the only other diminutive Philippine scincids lacking an exposed tympanum are *Lipinia quadrivittata* and *L. subvittata*, *Sphenomorphus luzonensis*, and both species in the recently described genus *Parvosцинus* (*P. sisoni* and *P. palawanensis*). *Lipinia* species differ from Group II *Sphenomorphus* (including the new species) and *Parvosцинus* species by transversely expanded subdigital lamellae (vs nonexpanded), greatly enlarged (vs undifferentiated) vertebrae, wide and distinct longitudinal middorsal stripes of alternating colors (vs dorsolateral or vertebral stripes, absent, thin, or faint), a transparent lower eyelid disk (vs lower eyelid scaly), and arboreal (vs semifossorial) habits. Further differences are provided by Brown and Alcalá (1980) and Ferner et al. (1997).

Brown and Alcalá (1980) distinguished the Philippine Group II *Sphenomorphus* from the remaining Philippine *Sphenomorphus* on the basis of small body size and lower lamellar, paravertebral, and midbody scale counts exhibited by *S. atrigularis*, *S. steerei*, *S. luzonensis*, *S. biparietalis*, *S. lawtoni*, and *S. (Parvosцинus) palawanensis*. *Sphenomorphus tagapayo* appears most closely related to these taxa on the basis of Brown and Alcalá's (1980) characters (Table 1). It should be noted that the only other Group II species known from the same island as *S. tagapayo* (Luzon) are *S. luzonensis*, *S. lawtoni* (both much larger species; Table 1) and *S. steerei* (easily diagnosed by the presence of an exposed tympanum).

The new species differs from *Parvosцинus* by occasional contact (1 of 6 specimens) between prefrontals, by a slightly higher midbody scale count (Table 1), the presence of two (vs one) oviducts, a brood size of two (vs one), the presence of small lower eyelid scales along the upper edge (vs columnar scales spanning upper half of lower eyelid), and by the arrangement of supradigital scales. Nevertheless, their ecological similarities and the shared presence of the following putatively derived (Ferner et al.,

1997) character states, all point to a possible common ancestor with the species included in *Parvosцинus*: very small size, high elevation semifossorial ecology, dorsal coloration nearly solid dark brown, tympanum covered by scales.

A robust phylogenetic estimate including Philippines species of *Parvosцинus* and *Sphenomorphus* has not been conducted. Our assignment of this new species to *Sphenomorphus* should be viewed as tentative at this time, pending a thorough phylogenetic investigation of *Sphenomorphus*, *Parvosцинus*, and closely related lygosomines.

Ecology and reproduction.—All specimens were collected under leaf litter, small stones, and other debris on the floor of primary tropical moist closed-canopy rain forest. The forest at the site of collection can be characterized as the transition zone between mixed dipterocarp and upper montane mossy forest (Whitmore, 1984). The habitat was a series of steep slopes with stepped level areas (ranging from a few square meters to approximately one square hectare) with accumulated plant debris, stones, and small shallow pools of stagnant water. Dominant canopy vegetation on the level steps included *Lithocarpus* spp. and *Ficus* spp., and understory vegetation included *Palmae* spp., *Rubis* spp., and *Calamus* spp. Epiphytic orchids, mosses, and ferns were abundant. The date of collection (mid to late May) was the early dry season for southeastern Luzon. All but one specimen were taken within the debris-strewn microhabitat of the level steps; the sixth specimen was collected on a slope ($\leq 45^\circ$) just below one of the steps. The series was collected between 1000 and 1900 h, and specimens attempted escape in rapid undulating movements, attempting to retreat under leaf litter when disturbed. The high-elevation moist closed-canopy habitat of the new species is also typical of *Parvosцинus palawanensis* and *P. sisoni* (Ferner et al., 1997), *S. steerei*, *S. atrigularis*, *S. lawtoni*, and *S. luzonensis* (Brown and Alcala, 1980; Brown et al., 1996).

Three specimens (CMNH 5632, PNM 5766–67) were gravid at the time of preservation, and PNM 5766 and 5767 each have a pair of greatly enlarged (PNM 5766: 4.5 and 5.3 mm long) leathery, thickly shelled, longitudinally striated yellowish eggs. *Sphenomorphus tagapayo* has two oviducts and a brood size of two.

Distribution and biogeography.—*Sphenomorphus tagapayo* is only known from the vicinity of the type-locality in the southern Sierra Madres of southeastern Luzon (Fig. 1). Besides *S. steerei*, the new species is the only Group II *Sphenomor-*

phus known from the east coast Sierra Madres mountain range. This insular mountain range is separated from the Cordillera Central (containing the only reliable localities for *S. lawtoni* and *S. luzonensis*) by the wide Cagayan Valley which probably represents a formidable barrier to dispersal for high elevation moist closed-canopy forest obligates.

As currently understood, the species included in Group II *Sphenomorphus* and the genus *Parvosцинus* exhibit disjunct distributions (Fig. 1), with most members (except *S. atrigularis* and *S. steerei*) distributed as allopatric insular endemics (Brown and Alcala, 1970, 1980; Ferner et al., 1997) on the greater Sulu, Mindanao, Palawan, Luzon, and Visayan Pleistocene aggregate island complexes (Heaney, 1985, 1986). *Parvosцинus palawanensis*, *P. sisoni*, *Sphenomorphus tagapayo*, and *S. lawtoni* are each known only from a single mountain [a population closely related to or conspecific with *S. lawtoni* is known from Catauduanes Island (Fig. 1; Ross and Gonzales, 1991)]. However, little can be inferred from this pattern alone due to the lack of sufficient distributional data for montane populations of Philippine amphibians and reptiles.

We expect that more species related to Group II *Sphenomorphus* and *Parvosцинus* will be discovered in the Philippines if naturalists turn their attention to montane forests and if biodiversity research there is permitted to continue. The remaining high-elevation montane forests of Panay, Negros, Mindoro, Mindanao, and Luzon (Fig. 1) all warrant intensive biodiversity survey efforts.

SPECIMENS EXAMINED

Parvosцинus sisoni.—Philippines, Panay Island, Antique Province, Mt. Madja-as: PNM 2308 (holotype), 2309; CAS 193110; CMNH 3797–3799 (paratypes); Arvin C. Diesmos Collection 02.

Parvosцинus palawanensis.—Philippines, Palawan Island, Palawan Province, Malabo Peak: CAS-SU 23122 (holotype), 91905 (paratype).

Sphenomorphus tagapayo.—See holotype and paratypes sections (above).

Sphenomorphus luzonensis.—Philippines, Luzon Island: Highlands of Kipanto: CAS-SU 24147; Luzon Island, Mountain Province, Municipality of Bauko, Barrio Sinta: USNM 512760–62.

Sphenomorphus steerei.—Philippines, Luzon Island, Municipality of Masinloc, Barangay Coto, south slope Mt. Apoy: CMNH 4361–67; PNM

2457-64; Cebu Island, Cebu Province, Cebu City, Taptap Barrio: CAS 139099, 139101-07, 139111-112.

Sphenomorphus atrigularis.—Philippines, Mindanao Island, Davao City Province, Municipality of Malalag, Kibaulalan: CAS-SU 28789, 28794-95; Basilan Island, Basilan Province, Municipality of Abung-abung: CAS 60242, 60244, 60246-47.

Sphenomorphus lawtoni.—Philippines, Luzon Island, Mt. Province (Kalinga-Apayao), Kalinga Subprovince, Municipality of Balbalan: CAS 61501-02, 61504.

Sphenomorphus biparietalis.—Philippines, Jolo Island, Jolo Province, Municipality of Jolo: CAS 60703-04, 60706-08, 60711, 60714, 60718.

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