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Rediscovery and Redescription of the Night Lizard *Lepidophyma radula* Smith, 1942

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ABSTRACT.—Five specimens of *Lepidophyma radula* were collected recently near San Pablo Villa de Mitla, Oaxaca. The species had not been collected since its description in 1942. A redescription of the holotype is presented, including new and important taxonomic characters proposed by other workers.

The lizard *Lepidophyma radula* was described by Smith (1942) on the basis of one adult female specimen from “San José Manteca, 5 km from San Carlos Yautepec, Oaxaca.” We believe the type locality to be in error and should be San Isidro Manteca. We have not found San José Manteca on available maps, and people from the region do not recognize the name. San Isidro Manteca is approximately 5 km east of San Carlos Yautepec (approximately 16°29'00"N, 96°03'30"W, 900 m elevation). No additional specimens have been reported since the description by Smith. Two specimens tentatively assigned to this species by Bezy and Camarillo (1992) were later described as *Lepidophyma lowei* by the same authors (Bezy and Camarillo, 1997). Smith's (1942) original description of the holotype of *L. radula* is incomplete, lacking important diagnostic characters (characters used by Bezy and Camarillo, 2002). Previous workers did not provide measurements of the type, making it impossible to compare it to other specimens according to age class.

During fieldwork in Oaxaca, Mexico, in the fall of 2001 and the winter of 2002, we collected five specimens of *L. radula*. The specimens were collected 3.5 km from Mitla (San Pablo Villa de Mitla) on the road to Ayutla (San Pablo Ayutla), between 1750 and 1800 m elevation. We provide a detailed morphological description of the holotype and these five additional specimens, as well as notes on coloration in life.

MATERIALS AND METHODS

All measurements were taken with a digital caliper (to 0.1 mm). Morphological characters are described in Savage (1963) and Bezy and Camarillo (2002). Sex and maturity of recent specimens (at UTA and MZFC) were verified by dissection (presence of vitellogenic eggs or distended oviducts indicative of female maturity). No males were represented. Specimens examined of other species related to *L. radula* are presented in Appendix 1.

Lepidophyma radula Smith, 1942

Holotype.—United States National Museum, Washington (USNM 111472), from San José Manteca [San

Isidro Manteca], 5 km from San Carlos Yautepec, Oaxaca.

Diagnosis.—This species is characterized by having only one ring of small dorsal scales separating the first two caudal whorls. It differs from other members of the *gaigeae* group (sensu Bezy and Camarillo, 1992, 2002) in having 24 rows of enlarged dorsolateral tubercles; *Lepidophyma gaigeae* and *Lepidophyma dontomasi* do not have conspicuous dorsolateral rows of enlarged tubercles. It differs from *L. lowei*, a species with which it has been confused, in having fewer than a total of 22 femoral pores (both legs), fewer dorsal scales between the occiput and level of the vent (120–129 vs. 158–178), and fewer rows of lateral tubercles (21–27 vs. 28–31).

Description of Holotype.—Nasals in contact posterior to rostral, followed by a median frontonasal, two prefrontals, a median prefrontal, and two frontals (median suture of frontals slightly longer than suture between prefrontals), and interparietal with an evident parietal organ situated on the posterior half. Interparietal bordered by frontals, parietals, and postparietals. Postnasals smaller than loreals, followed by anterior and posterior loreals; a narrow vertical preocular and a small preocular beneath the anterior loreals; four (left) and three (right) postoculars on side of head. Three primary temporals on each side of head (immediately behind postoculars), uppermost larger, almost twice as large as others; three secondary temporals on each side of head, upper scale about same size as temporal granules. Anterior part of tympanum bordered by nine granular scales slightly larger than surrounding scales. Supralabials 9/9, posterior two smaller, fifth and sixth below eye; infralabials 6/7, posterior two and three, respectively, smaller; second and third below eye. Mental followed by two pairs of infralabials meeting at midline; scales behind the first two pairs of infralabials granular, 32 in straight line from the gular fold to the second pair of infralabials.

Dorsal and lateral surfaces of body covered by granular scales arranged in approximately transverse rows, intercalated keeled tubercular scales conspicuously larger, scattered on flanks; dorsal tubercles in two paravertebral rows separated by two to three granular scales; 24–25 paravertebral tubercles between axilla and groin; 21–22 lateral tubercles arranged in a longitudinal row between axilla and groin.

Ventral scales without keels, quadrangular, arranged in 33 transverse rows, 10 longitudinal rows at mid-venter, two rows of preanal scales, one irregular row

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FIG. 1. Photograph of a live specimen of *Lepidophyma radula* UTA R-52402. (Reproduced from UTA slide 27871).

of small scales between ventrals and preanals, two anterior preanals followed by four posterior preanals, lateral posterior preanals about half size of central posterior preanals; scales on dorsal surfaces of front limbs more or less granular and with a small keel, on hind limbs slightly larger and with a more evident keel; femoral pores 10/10; 20 lamellae on fourth toe.

Tail encircled by whorls of enlarged quadrangular scales, heavily keeled, only one ring of small dorsal scales separating first two caudal whorls, the following whorls separated by two rows of interwhorls of smaller scales; anterior interwhorl ring incomplete and not extending across ventral surface, one interwhorl on ventral surface; about half of tail regenerated.

Measurements.—Measurements in millimeters. Snout-vent length 40.2, tail length (included regenerated part) 50.1, head length (from behind the ear opening) 11.1, head width 6.0, head height 4.1.

Color in Life.—Color pattern of UTA R-52402 (Fig. 1). Dorsal color of body pale brown with two narrow dark brown paravertebral stripes; vertebral region slightly paler than flanks; dorsal dark stripes interrupted by yellow-brown spots along dorsum. Dorsal color of limbs similar to ground color of trunk. Top of head pale brown; with narrow dark stripe on canthus from tip of snout to eye, bordering supraoculars and extending from back of eye to temporal region; with dark spot on posterior half of interparietal. Lips mottled with dark

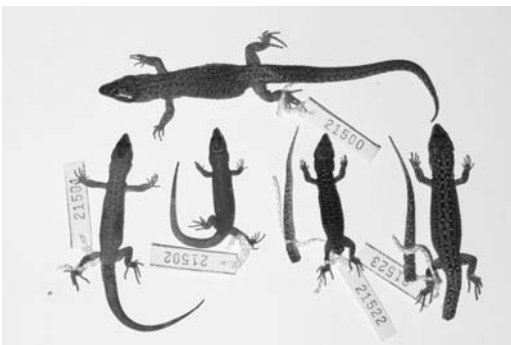


FIG. 2. Five additional specimens of *Lepidophyma radula*, from central Oaxaca.

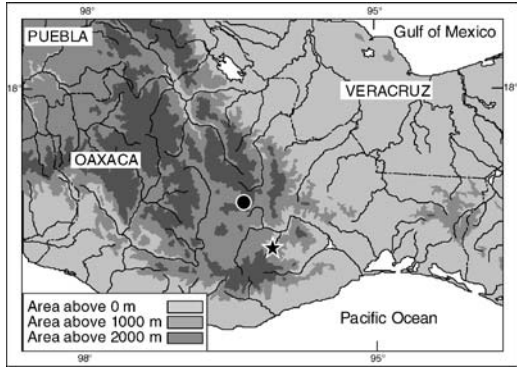


FIG. 3. Geographic distribution of *Lepidophyma radula*, in Oaxaca, Mexico (dot represents new locality and star the type locality).

brown and yellow dots. Ventral surfaces creamy and translucent, belly somewhat pinkish; ventral surfaces of limbs same color as venter. Dorsal surfaces of tail brown-gray with irregular black markings; ventral surfaces of tail white, with some dark on whorl sutures.

There is some variation to the overall pattern just described. Some specimens may have a darker (Fig. 2; MZFC-15525-526) or paler (UTA R-52403) dorsal coloration and the dark canthal stripe may be interrupted on small specimens (MZFC-15524, UTA R-52403). Some specimens have a few dark spots scattered on the posterior half of the top of the head (MZFC-15525-526).

Distribution.—*Lepidophyma radula* is known from two localities in southern and Central Oaxaca, Mexico (Fig. 3). It occurs in rocky areas with semiarid vegetation (Fig. 4).

Remarks.—One of us (ENS) has visited the type-locality of *L. radula*, and the locality is heavily modified by human activity. This disturbance probably accounts for the failure to collect more topotypic specimens of this species during the last decade, despite several attempts by J. L. Camarillo (pers. comm. to ENS). The new locality extends the distribution of *L. radula* approximately 60 km northwest (straight line) from the type-locality. The locality is near the Río Salado



FIG. 4. Habitat where additional specimens of *Lepidophyma radula* were collected.

TABLE 1. Variation on several characters of the six known specimens of *Lepidophyma radula*. Characters and abbreviations as in Savage (1963) and Bezy and Camarillo (2002): SVL = snout-vent length, TL = tail length, HL = head length, HW = head width, HH = head height, PTMP = pretympanics, GUL = gulars, GC1IL = gulars contacting first infralabial, DOR = dorsals, DBPVR = dorsals between paravertebral rows, DAPVR = dorsals along paravertebral row, DBPVT = dorsals between paravertebral tubercles, PVTL = large paravertebral tubercles, PVR = paravertebral row, LTR = lateral tubercle rows, IWD2 = dorsal interwhorls, IWV2 = ventral interwhorls, VL = ventrals-longitudinals, VA = ventrals-across, FPT = femoral pores, FTL = fourth toe lamellae, FTLD = divided fourth toe lamellae, PS = parietal spot, Postoculars, Primary temporals, Secondary temporals, Supralabials, Infralabials, Supralabial below eye.

	SEX	Maturity	SVL	TL	HL	HW	HH	PTMP	GUL	GC1IL	DOR
USNM-111472	Female	Adult	40.2	50.1, tail regenerated	11.1	6.0	4.1	3	32	0	129
UTA R-52402	Female	Adult	52.8	67.9, tip of tail regenerated	12.3	7.9	6.0	3	28	0	125
MZFC-15524	Female	Subadult	42.8	46.8, tail regenerated	10.7	6.8	4.9	2	32	0	121
UTA R-52403	Female	Young	35.3	37.8, tip of tail regenerated	8.5	5.7	4.5	2	31	0	120
MZFC-15522	Female	Young	37.4	45.3, broken tail	9.7	6.2	4.0	2	30	0	126
MZFC-15526	Female	Adult	46.6	64.7, broken tail	11.7	7.5	5.3	2	28	0	122

	DBPVR	DAPVR	DBPVT	PVTL	PVR	LTR	IWD2	IWV2	VL	VA	FPT	FTL	FTLD	PS
USNM-111472	2,3	67	1	24,25	47	21,22	2	1	33	10	10,10	20	5,5	0
UTA R-52402	2,3	79	1,2	22	45	21	2	1	33	10	10,10	20	4,3	0
MZFC-15524	2,3	72	2	22	43	24,25	2	1	33	10	11,9	21	4,4	0
UTA R-52403	2,3	77	1,3	22	50	25,26	2	1	33	10	10,10	20	3,4	1
MZFC-15522	2,3	77	1,3	22	55	27	2	1?	34	10	10,10?	19	5,3	1
MZFC-15526	2	72	1,2	23	47	27	2	1	33	10	10,9	20	4,3	1

	Postoculars	Primary temporals	Secondary temporals	Supralabials	Infralabials	Supralabial below eye
USNM-111472	4,3	3	3	9,9	6,7	5
UTA R-52402	3,3	2,3	3,2	8,8	5,5	5
MZFC-15524	3,3	3	2,3	8,8	6,6	5
UTA R-52403	3,3	3	2,3	8,8	6,6	5
MZFC-15522	3,3	4,3	3,3	9,9	7,7	5
MZFC-15526	3,3	2,3	3,2	9,9	6,6	5

in the upper part of the Mitla Valley, approximately 1800 m. All individuals were found under rocks.

Variation.—In Table 1, we summarize some of the morphological variation for *L. radula*, including four body measurements, six head scalation characters, and 18 other characters as defined by Bezy and Camarillo (2002).

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APPENDIX 1

Specimens Examined

Lepidophyma dontomasi.—MEXICO: Oaxaca: USNM 111473 holotype, Lachiguiri.

Lepidophyma lowei.—MEXICO: Oaxaca: IBH 7500 holotype, 4.0 km (by road) southeast of San Bartolomé Zoogocho; IBH 7497–7499 Paratypes, same locality as holotype.