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A TAXONOMIC REVIEW OF THE ENDEMIC ALLIGATOR LIZARD *ELGARIA PAUCICARINATA* (ANGUIDAE: SQUAMATA) OF BAJA CALIFORNIA, MÉXICO WITH A DESCRIPTION OF A NEW SPECIES

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ABSTRACT: A revision of the endemic alligator lizard, *Elgaria paucicarinata* from Baja California, México, revealed that it is composed of at least three separate species: *E. cedrosensis* from Isla de Cedros and the narrow coastal margin of adjacent northwestern Baja California; *E. paucicarinata* which is restricted to the Cape Region of Baja California; and a new species described herein which extends along the Peninsular Ranges of central Baja California from at least 41.5 km west of Santa Rosalía in the north to Misión de Dolores in the south. The new species is unique in that it has strongly keeled dorsal scales, dark dorsal head markings in the shape of spots, bar-shaped transverse black and white markings in the lateral body fold, a hatchling/juvenile color pattern of distinct, pale-colored, transverse bands, and lacks a distinct, dark dorsal postorbital stripe.

Key words: *Elgaria cedrosensis; Elgaria* new species; *Elgaria paucicarinata;* Baja California; Isla de Cedros; México; Biogeography; Systematics; Taxonomy

IN THE latest revision of the Baja California alligator lizard, *Elgaria paucicarinata*, Grismer (1988) recognized *E. p. paucicarinata* of the Cape Region of southern Baja California and *E. p. cedrosensis* of central Baja California and Isla de Cedros. Grismer (1988) noted that the central Baja California populations showed unique character state trends but did not accord them taxonomic recognition. At that time, these populations were known from only four specimens covering a range of over 700 km throughout some of the most remote regions of central Baja California. Grismer (1988) indicated that additional alligator lizards from throughout this area may indicate that these populations should be recognized as a separate taxon. Since that time, 10 additional specimens from four additional localities throughout central Baja California have been collected. We now believe that *E. paucicarinata* (sensu Grismer, 1988) occurs in at least four allopatric populations: Isla de Cedros; the coastal Vizcaíno region, extending at least 220 km along the Pacific coast from near Puerto Santa Catarina, BC southward to at least Laguna Manuela, BC (Bostic, 1971; Grismer, 1988); a central peninsular population extending a minimum of 330 km from at least 41.5 km west of Santa Rosalía, BCS southward to Misión de Dolores, BCS; and the Cape Region, BCS (Fig. 1).

The intent of this paper is to review these allopatric populations in light of an evolutionary species concept (sensu Frost and Hillis, 1990), demonstrate that *Elgaria paucicarinata paucicarinata* and *E. p. cedrosensis* should be elevated to species status, and that the central peninsular population represents an undescribed species that is discretely diagnosable, i.e., it shows no overlap in the range of character state variation between it and other populations.

MATERIALS AND METHODS

Scale counts and color pattern characters examined, and terminology used follow Good (1988) and Grismer (1988). Color pattern characteristics shows no significant differences in living or preserved specimens and were evaluated on both [in the form of 35 mm color transparencies for living specimens (Appendix I) and see Appendix II for preserved specimens]. Only those characters presented by Gris-

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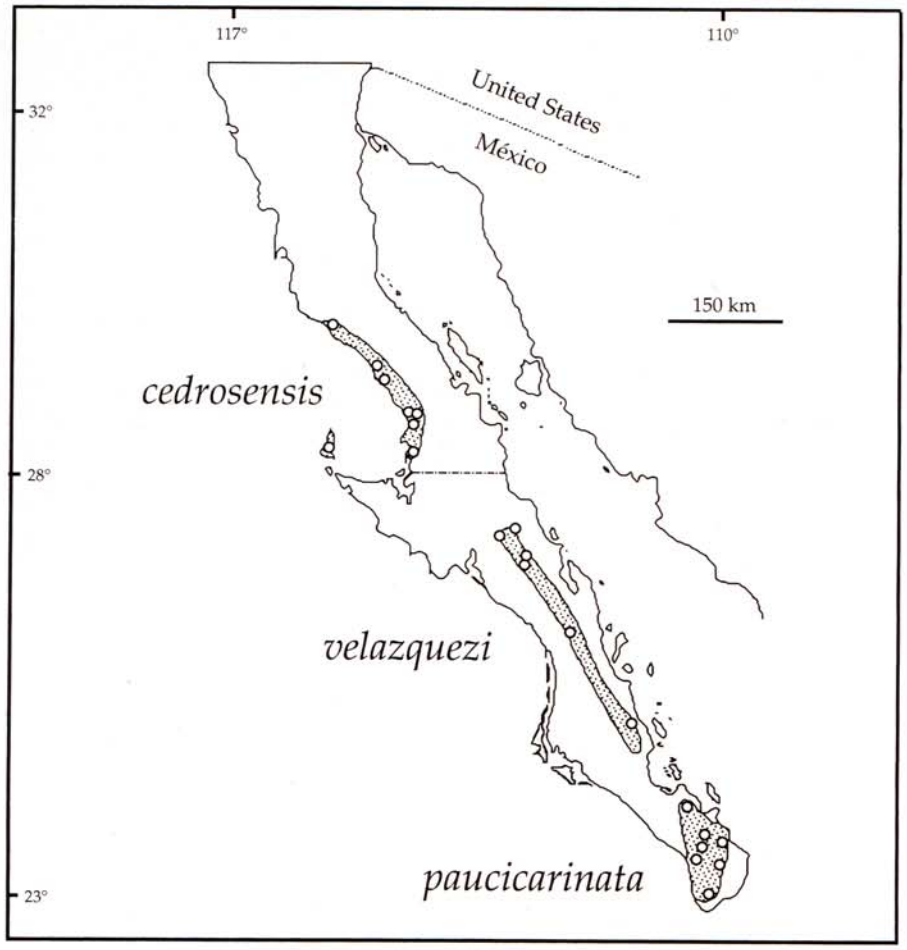

FIG. 1.—Distribution of *Elgaria cedrosensis*, *E. velazquezi*, and *E. paucicarinata* in Baja California, México.

mer (1988) that varied within *Elgaria paucicarinata* sensu lato are used here. Those that varied between *E. paucicarinata* and *E. multicarinata* were uninformative and not used in this study. An additional character not used in Grismer (1988) but used here is the presence or absence of thin, cream colored, transverse, dorsal bands. For scale counts, an analysis of variance (ANOVA) was performed to test for the inequality of means among the four sample populations. Scale counts with significant *F*-values ($P < 0.05$) were subjected to a Student-Newman-Keuls multiple range test (SNK) to determine which population means differed significantly ($P < 0.05$) from each other. Because population samples were unequal, a correction factor (Steel and Torrie, 1960) for calculating standard errors was used. All data met the assumption of parametric statistics. All statistics were performed using SPSS version 9.0.

CHARACTER ANALYSIS

Scalation

Means of all scale counts (Table 1) had significant *F*-values ($P < 0.05$) and were subjected to a SNK to determine which population means differed significantly ($P < 0.05$) from one another (Table 2). The central peninsular population is distinct in having a higher mean number of eyelid fringe scales than those of other populations which do not differ significantly from

TABLE 1.—Descriptive statistics of the four populations of *Elgaria paucicarinata*. ICED = Isla de Cedros population; CVIZ = coastal Vizcaíno population; CPEN = central peninsular population; and CREG = Cape Region population. Transdor = transverse dorsal scale rows; Longdor = longitudinal dorsal scale rows; Femoral = number of scales around the femoral region; Keeldor = number of keeled longitudinal dorsal scale rows; Keelfem = number of keeled rows of femoral scales; and Keelcau = number of keeled longitudinal rows of caudal scales.

	ICED	CVIZ	CPEN	CREG
Eye				
mean	27.56	29.23	31.71	27.90
n	9	13	14	42
SD	2.24	1.59	2.33	1.43
range	24–31	26–31	28–35	24–35
Transdor				
mean	50.78	52.15	51.07	54.74
n	9	13	14	42
SD	1.56	2.16	3.25	2.11
range	49–55	49–54	46–59	50–59
Longdor				
mean	14.00	14.00	14.57	15.13
n	9	13	14	42
SD	0.00	0.00	0.94	0.43
range	14	14	14 or 16	14 or 16
Femoral				
mean	21.11	19.85	23.57	20.38
n	13	9	14	42
SD	1.36	1.86	3.06	1.59
range	20–24	17–23	20–29	17–23
Keeldor				
mean	9.22	9.75	13.3	10.26
n	12	9	13	35
SD	1.48	2.09	1.25	1.96
range	7–11	5–12	10–14	7–14
Keelfem				
mean	0.78	1.42	2.31	1.26
n	12	9	13	35
SD	0.83	0.67	0.63	0.82
range	0–2	0–2	2–4	0–3
Keelcau				
mean	4.67	4.30	6.54	5.00
n	10	9	13	34
SD	1.00	1.49	1.71	1.30
range	4–6	1–6	2–8	2–7

each other (Table 2). The Cape Region population is distinct in having a significantly greater mean number of transverse dorsal scales than the other populations which do not differ significantly from each other. Lizards from the central peninsular population have 14 or 16 longitudinal dorsal scales, and this population has a significantly higher mean number than either the coastal Vizcaíno or the Isla de Cedros populations whose lizards have only 14 rows (Tables 1, 2). The central peninsular population is also distinctive in having a significantly greater mean number of scales encircling the femoral region compared to those means of the other populations which do not differ significantly from one another.

TABLE 2.—Statistically homogeneous populations of *Elgaria* arranged by the Student-Newman-Kuels multiple range test. Abbreviations follow those of Table 1.

Eye	Transdor
ICED CVIZ CREG CPEN	ICED CPEN CVIZ CREG
Longdor	Femoral
CVIZ ICED CPEN CREG	CVIZ CREG ICED CPEN
Keeldor	Keelfem
ICED CVIZ CREG CPEN	ICED CREG CVIZ CPEN
Keelcau	
CVIZ ICED CREG CPEN	

A striking characteristic of the lizards from the central peninsular population is their degree of keeling. One of the diagnostic characters for *E. paucicarinata* is that it is weakly keeled (Good, 1988). However, lizards of the central peninsular population are strongly keeled, and large adults approach the condition found in *E. multicarinata*. This is manifest in the population's significantly greater mean numbers of rows of keeled dorsal, femoral, and caudal scales relative to the other populations which do not differ significantly from each other (Tables 1, 2).

Color Pattern

Dorsal postorbital stripe.—Lizards from the Cape Region, Isla de Cedros, and coastal Vizcaíno populations have a distinct, dark, dorsal postorbital stripe (Fig. 2). Eight of the nine specimens of the central peninsular population lack a dorsal postorbital stripe. Although SDSNH (68676) has a stripe, it is very faint and fragmented.

Head spotting.—Specimens from Isla de Cedros essentially lack large dark markings on the top of the head and temporal region (Fig. 2). This is always the case for hatchlings and juveniles, and only in the

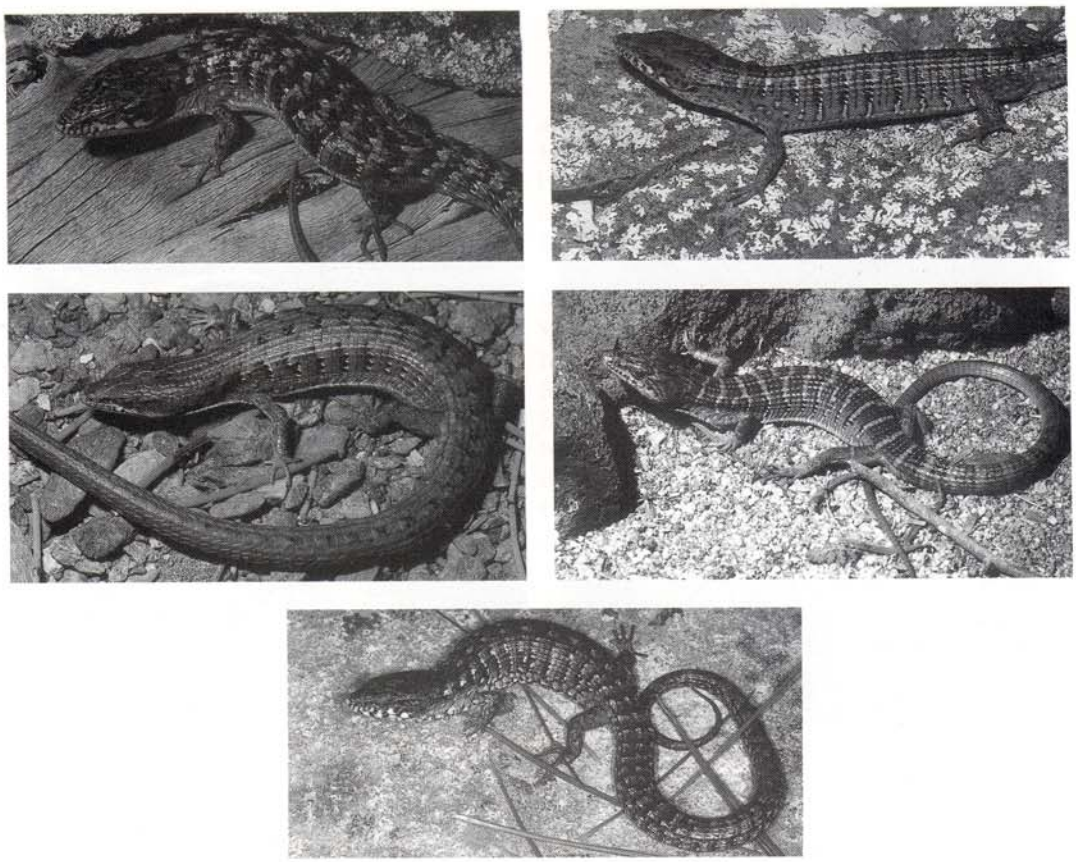

FIG. 2.—(Upper left) Adult *Elgaria cedrosensis* from the coastal Vizcaíno Region at Nuevo Rosarito, BC (LSUPC-L2543). (Middle left) Adult *E. cedrosensis* from Isla de Cedros (LSUPC-L4583). (Upper right) Adult *E. velazquezi* Cumbre de San Pedro, Sierra Guadalupe, BCS (SDSNH 68683). (Middle right) Holotype of *E. velazquezi* from 41.5 km W of Santa Rosalía (SDSNH 68679; LSUPC-L4218). (Bottom) Adult *E. paucicarinata* from La Victoria, Sierra de La Laguna, BCS (LSUPC-L2095).

largest individuals are a few scattered, irregularly shaped markings evident. Lizards from the coastal Vizcaíno population have large irregular dark blotches in some individuals irrespective of snout–vent length (SVL). Many, however, have the same condition found in lizards from Isla de Cedros. Lizards from the Cape Region have dark irregular markings that are especially evident in larger individuals. Lizards from the central peninsular population always have distinct, evenly-spaced, dark circular markings rather than randomly distributed, irregularly shaped markings of various sizes as in the other populations (Fig. 2).

Lateral fold color pattern.—Large amounts of black pigmentation occur within the lateral fold of lizards from the Cape Region population in the form of a thick prominent reticulum and large dark spots. In lizards from the Isla de Cedros population, the black markings are reduced to faint thick lines forming a reticulate pattern around the white markings in the fold. The black markings are much the same in lizards from the coastal Vizcaíno population. In lizards from the central peninsular population, black markings in the lateral fold are present as faint transverse bars outlining the white transverse markings with additional random flecking occurring in some specimens.

Lizards from the Cape Region have white markings in the lateral fold that are irregularly shaped. In lizards from the Isla de Cedros and coastal Vizcaíno popula-

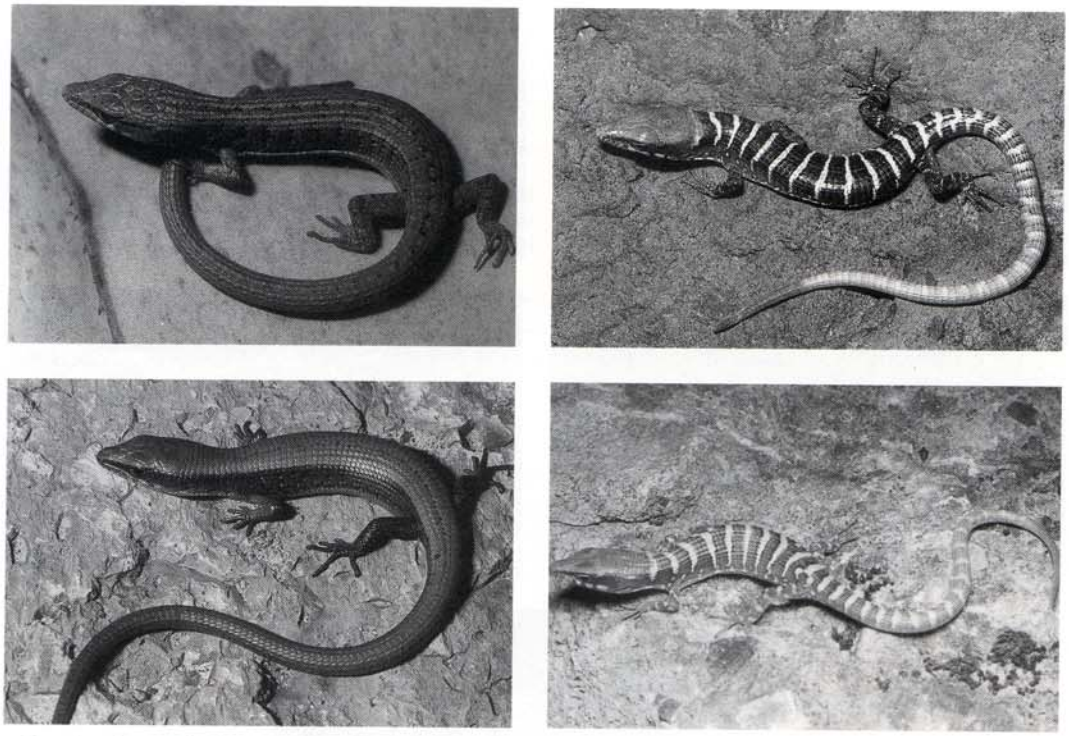

FIG. 3.—(Upper left) Juvenile *Elgaria cedrosensis* from Isla de Cedros, BC (LSUPC-L4569; SVL = 45 mm). (Lower left) Juvenile *E. paucicarinata* from La Laguna, Sierra de La Laguna, BCS (LSUPC-L2571; SVL = 40 mm). (Upper right) Juvenile *E. velazquezi* from 41.5 km W of Santa Rosalía, BCS (SDSNH 68787; SVL = 42 mm). (Lower right) Juvenile *E. velazquezi* from Misión de Dolores, BCS (LSUPC-L2211; photo by Karl Switak).

tions, the white markings are circular and well-defined. In lizards from the central peninsular population, small white circular markings exist along with transversely oriented rectangular markings which are extensions of the cream colored dorsal body bands. These bands extend onto the lateral most ventral scales which is a condition not seen in lizards from the other populations.

Dorsal pattern.—The hatchling/juvenile dorsal color pattern (Figs. 2, 3) of Cape Region lizards consists of a single, wide, golden/tan stripe covering the dorsum, extending from the occipital region onto the base of the tail. We have observed two living juveniles from Isla de Cedros (SVLs 45 mm and 52 mm; SDSHN 68675; Fig. 3). Both had a unicolor pattern that was essentially the same as many adults, suggesting there is little to no ontogenetic change. We have observed living juveniles (SVL < 45 mm) and/or 35 mm color transparencies of living individuals from 41.5 km west of Santa Rosalía (n = 2) and Misión de Dolores (n = 1) which have distinctive thin white bands or crossbars on the dorsum and tail. A subadult (FMNH 25836, SVL = 61 mm) from San José de Comondú has 12.5 distinct, cream colored, body bands between the occiput and the base of the tail.

Adults of the Cape Region, Isla de Cedros, and the coastal Vizcaíno populations have a dorsal body and tail color pattern which usually consists of faintly to well-developed, zigzag dark bands. The bands are counter shaded posteriorly in white on the sides of the body but often lack white countershading dorsally. In many specimens from Isla de Cedros, all dorsal banding is nearly absent and only that on the sides of the body remains. In the central peninsular population, lizards from San Ig-

nacio, 41.5 km west of Santa Rosalía, Arroyo Santa María near Rancho San Sebastian and Cumbre de San Pedro in the Sierra Guadalupe, and San José de Comondú have distinct cream colored dorsal bands, producing in most specimens a markedly vivid color pattern of transverse bars (Fig. 2). In one large male (SDSNH 68677, SVL = 126 mm) from Cumbre de San Pedro, the banding pattern on the tail and dorsum has been replaced by a series of randomly arranged dark spots. Remnants of bands and countershading remain laterally on the body as a transverse series of black scales with white tips. Juveniles and other adults from this locale, however, have a dorsal banding pattern. In all central peninsular populations, the boldness of the cream colored bands usually fades with age and becames clouded with darker coloring but nonetheless remains distinctive.

Results

The character analysis indicates that the central peninsular population has significant mean differences from all other populations in all scale counts examined except for the number of transverse dorsals (Table 2). Further, the four allopatric populations can be divided into three, discretely diagnosable evolutionary units (Table 3): the Cape Region population; the Isla de Cedros and coastal Vizcaíno populations; and the central peninsular population. Although the Isla de Cedros and the coastal Vizcaíno populations are allopatric, they are not discretely diagnosable from one another (Appendix I).

Given that these three evolutionary units are allopatric and diagnosable from one another, they are considered here as separate evolutionary species (sensu Frost and Hillis, 1990; Kluge, 1990). Therefore, the Cape Region population is referred to as *Elgaria paucicarinata* (Fitch, 1934*b*: 173), the Isla de Cedros and coastal Vizcaíno populations are referred to as *E. cedrosensis* (Fitch, 1934*a*:6), and the central peninsular population is described here as the new species:

Elgaria ***velazquezi*** sp. nov.
Central Peninsular Alligator Lizard

Holotype.—SDSNH 68679 (Fig. 2), an adult male from 41.5 km W by Mexican Highway 1 of Santa Rosalía at 27° 25′W by 112° 36′N at 400 m in elevation, Baja California Sur (BCS), México, collected by B. D. Hollingsworth on 31 October 1997.

Paratypes.—Thirteen paratypes are as follows: SDSNH 68675, 68678 and SDSNH 68787 have the same data as the holotype; SDSNH 68676 from Arroyo Santa María near Rancho San Sebastian, Sierra Guadalupe, BCS, 25 October 1997; SDSNH 68677, 68680–84 from Cumbre de San Pedro, Sierra Guadalupe, BCS, 29 October 1997; FMNH 25835–36, San José de Comondú, BCS, 13 December 1935; and ROM 13352 from San Ignacio, BCS, 18 September 1978.

Etymology.—This species honors Sr. Victor Velázquez-Solis for his extensive knowledge of the natural history of the herpetofauna of southern Baja California and his support of our field work, which for one of us (L. L. Grismer), has persisted for more than 17 years.

Diagnosis.—*Elgaria velazquezi* is separated from *E. coerulea, E. multicarinata, E. cedrosensis,* and *E. paucicarinata* by having a hatchling-juvenile color pattern consisting of immaculate, well-defined, pale-colored transverse bands on the neck, body, and anterior portion of the tail. It is separated from *E. kingi, E. panamintina, E. parva, E. cedrosensis,* and *E. paucicarinata* by having strongly keeled dorsal scales. It can be further separated from *E. coerulea* and *E. multicarinata* by having a triangularly shaped lower subocular scale as opposed to having a squarish subocular; having black and white labial scales as opposed to having gray labials; and having black markings in the lateral fold as opposed to lacking them. It can be further separated from *E. cedrosensis* and *E. paucicarinata* by lacking a distinct, dark dorsal postorbital stripe (one of nine specimens of *E. velazquezi* has a faint postorbital stripe); having dark circular dorsal head markings in adults rather than randomly distributed, irregularly shaped blotches as

in *E. paucicarinata* or having a nearly unicolor head as in many individuals of *E. cedrosensis* (one of nine specimens of *E. cedrosensis* has faint blotches on the head); having bar-shaped, transverse black markings in the lateral fold as opposed to a black reticulum; having bar-shaped, transverse and circular white markings in the lateral body fold as opposed to having irregularly shaped white markings as in *E. paucicarinata* or having only circular white markings as in *E. cedrosensis*; and having the white markings of the lateral fold extending onto the lateral-most ventral scales.

Description of the holotype.—Adult male, 115 mm SVL; head triangular, temporal region enlarged, and snout sharply rounded in dorsal view; head weakly flattened, tapering anteriorly, and rostrum sharply rounded in lateral view; rostral twice as wide as high, followed posteriorly in sequence by pair of anterior internasals, pair posterior internasals, a single median frontonasal, pair of prefrontals, and single median frontal; rostral bordered laterally by first supralabials and nasals; 12 supralabials (R and L); small supranasal contacting dorsal margin of single postnasal and anterior margin of 1st canthal; 1st canthal rectangular and one-third the size of 2nd canthal, 3rd canthal one-half size of 2nd canthal; six (R) seven (L) superciliaries; three lateral supraoculars between superciliaries and five medial supraoculars; two elongate, triangular suboculars; three postoculars; five primary temporals followed sequentially by six (L) seven (R) secondary temporals, seven tertiary temporals; frontal followed sequentially by a pair of frontoparietals, and a single median interparietal; frontoparietal bordered posteriorly and interparietal bordered laterally by parietal; parietal bordered posteriorly by occipital; interparietal bordered posteriorly by interoccipital; mental triangular, followed posteriorly by pair of postmentals; postmentals bordered posteriorly by pair of chinshields; four large chinshields, separated from infralabials by one row anteriorly and two rows posteriorly of sublabials; 11 (R and L) infralabials; mental scales imbricate and arranged in transverse rows; external auditory meatus elliptical, vertically oriented, and surrounded by small granular scales posteriorly and larger scales anteriorly.

Body elongate, squarish in crossection; 14 longitudinal and 53 transverse rows of keeled, submucronate, dorsal body scales; ventrolateral body fold extending from below external auditory meatus to vent, containing small granular scales; forelimbs relatively short, 24% of SVL, covered dorsally with large imbricate scales with three keeled rows decreasing in size distally onto manus, covered ventrally with flat, round, juxtaposed scales; ventral scales of manus tuberculate; subdigital lamellae smooth, transversely elongate; hind limbs short and stout, 34% of SVL, covered anterodorsally by large, keeled, imbricate, submucronate scales, covered ventrally by large, flat, ventral scales, postfemoral region covered by small granular scales, posterior of foreleg covered by flat, imbricate scales; pes covered dorsally by flat imbricate scales and ventrally by tuberculate scales; 20 (L) and 18 (R) transverse subdigital lamellae. Tail long, 2.2 times length of body, round in cross-section, covered dorsally by seven elongate, keeled, submucronate, longitudinal scale rows and ventrally by elongate imbricate scales.

Color in life.—Dorsal ground color brown; dark-gray spots on top of head and temporal regions; alternating black and white bands on supralabial scales; two faint, cream colored bands in nuchal region; 12 distinct cream colored bands between forelimb insertions and base of tail; two cream colored body bands bifurcating medially; scales of lateral portions of bands turn black on sides of body and are tipped in white producing a short, linear array of white spots; spots continue as solid bars in lateral fold and extend onto lateralmost ventral scales; ground color of lateral fold gray with circular white spots between bands; seven cream colored bands on tail, posteriormost very faded; limbs weakly banded, hind limbs more so than forelimbs; entire ventrum immaculate dull white except for very faint, cream colored markings on lateralmost abdominal scales matching the banding pattern of the lateral

fold. The coloration of the holotype in preservative is much the same being only slightly muted.

Variation.—Variation in the ranges and means of the scale counts for the populations are provided in Table 1. The most significant variation is in overall banding pattern. Adults from all localities except for SDSNH 68677 from Cumbre de San Pedro in the Sierra Guadalupe have distinct, cream colored body bands. SDSNH 68677 (SVL = 126 mm) lacks body bands dorsally and instead has a speckled to mottled banding pattern. Remnants of the bands are present laterally in the form of transversely arranged white-tipped black scales. Loss of banding may be due to substrate matching as some of these lizards are found within the cracks of, and beneath, dark, lichen-covered boulders. One specimen from this locale (SDSNH 68681; SVL = 72 mm) is unicolor gray and lacks all traces of a dorsal body pattern but retains dark spots on the top of the head and in another (SDSNH 68680; SVL = 94 mm) the dorsum is unicolor brick red. This pattern was observed in one of 43 specimens examined from the Cape Region population. There is also significant variation in the banding pattern within the population 41.5 km west of Santa Rosalía. SDSNH 68678 has nearly immaculate thin white bands that are bordered on either side by darker markings. Other lizards from this region have wider bands that are clouded with darker markings.

Distribution.—*Elgaria velazquezi* extends from at least 41.5 km W of Santa Rosalía, BCS southward through the Sierra Guadalupe and Sierra de La Giganta to at least Misión de Dolores, BCS (Fig. 1). We expect that *E. velazquezi* ranges at least another 30 km or so to the north into the Sierra de San Francisco through continuous volcanic habitat.

Natural history.—*Elgaria velazquezi* is a saxicolous species found on and within andesitic lava flows or granitic outcroppings in the arid Magdalena Region of the central deserts Baja California. All specimens that we have encountered abroad from March through November were observed during the evening from 2100–0100 h or on overcast days during September just prior to or following rainstorms. The lizards west of Santa Rosalía were all found crawling amongst rocks in virtually barren lava flows. The nearest oasis system is 33 km to the west at San Ignacio. The Sierra de Guadalupe specimens were found at or near Cumbre de San Pedro nearly 1800 m in elevation in rock outcrops, along rocky road cuts, or under surface debris in an oak gallery. The Arroyo Santa María specimen was found beneath a wood pile near an abandon corral and man-made well.

Discussion

Grismer (1988) and Grismer and McGuire (1993) hypothesized that *Elgaria* in central Baja California had a disjunct distribution that was restricted to isolated systems of oases. With the collection of this additional material, we believe that this is not the case. The natural history data (above) strongly suggest that *E. velazquezi* ranges continuously through the rocky regions of the Peninsular Ranges in central Baja California.

We recognize *Elgaria cedrosensis* as being composed of two allopatric populations, one insular and one peninsular. Although there are differences between them in certain scale counts, no counts have discrete ranges (i.e., the ranges overlap) or even significantly different means (Tables 1, 2). *Elgaria cedrosensis* from Isla de Cedros tends to have a less distinctive pattern of dark, zigzag dorsal body bands and fewer markings on the top of the head than does *E. cedrosensis* from the adjacent coastal Vizcaíno region (Fig. 2). But again, many individuals from both locales are nearly identical. Alligator lizards from the coastal Vizcaíno region also tend to have a distinct, ventral postorbital stripe (Fig. 2). The distinctiveness of this stripe varies in lizards from Isla de Cedros.

Grismer (1988) hypothesized that the *Elgaria paucicarinata* group (sensu Good, 1988) became separated into two separate lineages due to a Late Pliocene inundation across the Isthmus of La Paz that isolated the Cape Region from the rest of the peninsula, leaving one population in the north and another in the Cape Region. In the

absence of a phylogeny for the Baja California populations, biogeographical data would suggest that the northern population underwent subsequent vicariant events resulting in three additional allopatric populations. The first event would have separated *E. velazquezi* and *E. cedrosensis* and may be the result of a mid-peninsular seaway suggested by Upton and Murphy (1997) although the geological data for the existence of such a seaway is weak. The second event was likely the Holocene rise in sea level as proposed by Grismer (1988) which enlarged Bahía de Sebastian Vizcaíno and formed Isla de Cedros and Isla Natividad, thus separating the coastal Vizcaíno and Isla de Cedros populations.

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Appendix I

Keeling morphology and diagnosis character states of pattern. Abbreviations follow Table 1.

Charater	ICED	CVIZ	CPEN	CREG
Postorbital stripe present (+) or absent (0)	+	+	0,+	+
Adult head markings irregular (+) or circular (0)	+	+	0	+
White in lateral fold: circular, well-defined (0); transverse bars and circular (1); irregularly shaped (2)	0	0	1	2
Lateralmost ventrals with (+) or without (0) white markings	0	0	+	0
Hatchling/juvenile color pattern with light-color dorsal bands (+) or not (0)	0	0	+	0
Adult color pattern with cream colored dorsal bands (+) or not (0)	0	0	0,+	0
Dorsal scales strongly (+) or weakly keeled (0)	0	0	+	0

Appendix II

Preserved Specimens Examined

The following are preserved specimens not listed in Grismer (1988). Museum acronyms follow Leviton et al. (1985).

Elgaria velazquezi—(n = 11): 41.5 km W of Santa Rosalía, BCS; SDSNH 68675, 68678–79, 68787. SDSNH 68676 from Arroyo Santa María near Rancho San Sebastian, Sierra Guadalupe, BCS; SDSNH 68677, 68680–84 from Cumbre de San Pedro, Sierra Guadalupe, BCS.