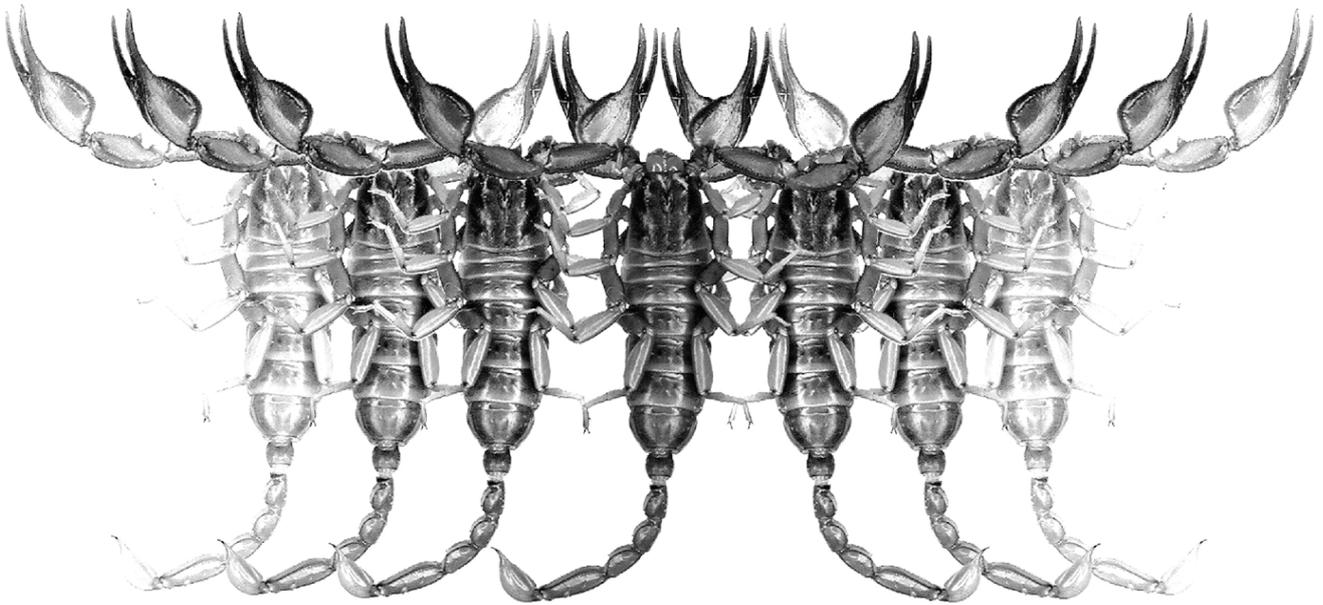


# *Euscorpius*

Occasional Publications in Scorpiology



**A new species of *Catalinia* Soleglad et al.,  
2017 (Scorpiones: Vaejoidea) from southern  
California, USA**

**Rolando Teruel<sup>1,2</sup> & Brandon Myers<sup>3</sup>**

**August 2019 — No. 285**

# *Euscorpius*

## *Occasional Publications in Scorpiology*

EDITOR: Victor Fet, Marshall University, 'fet@marshall.edu'

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**Publication date: 12 August 2019**

**<http://zoobank.org/urn:lsid:zoobank.org:pub:9BC7F574-BD8F-4488-B691-9FD7F1096421>**

## A new species of *Catalinia* Soleglad et al., 2017 (Scorpiones: Vaejovidae) from southern California, USA

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### Summary

Herein we describe a new species of the vaejovid scorpion genus *Catalinia* Soleglad, Ayrey, Graham & Fet, 2017. It was collected in a single locality of the northwestern foothills of the Santa Ana Mountains. It is most closely related to both *Catalinia andreas* (Gertsch & Soleglad, 1972) and *C. minima* (Kraepelin, 1911), but is clearly distinguished by tegumentary sculpture, morphometric ratios and pectinal tooth counts. The new species is described and illustrated in detail, with some ecological data included; moreover, a minor correction is introduced to the diagnosis of the genus.

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### Introduction

The North American scorpion genus *Catalinia* Soleglad, Ayrey, Graham & Fet, 2017, was recently erected by Soleglad et al. (2017) to accommodate four very closely related, tiny members of the family Vaejovidae Thorell, 1876. All are endemic to the Pacific coastal ranges and offshore islands of southern California (USA) and northern Baja California Norte (Mexico): *Catalinia andreas* (Gertsch & Soleglad, 1972), *C. castanea* (Gertsch & Soleglad, 1972), *C. minima* (Kraepelin, 1911, the type species), and *C. thompsoni* (Gertsch & Soleglad, 1972). Despite representing a very compact and homogeneous morphological clade, they had a long, controversial and unstable taxonomic history, that was reviewed in detail by Soleglad et al. (2017). Thus, it will not be revisited here and only two points that illustrate this will be mentioned. First, *Catalinia castanea* and *C. thompsoni* were long regarded as subspecies of *C. minima*. Second, the generic assignment of the four species was shuffled back and forth between the genera *Vaejovis* C. L. Koch, 1836 (before 1972 predominantly under the incorrect subsequent spelling “*Vejovis*”, see Sissom, 2000: 529), *Uroctonus* Thorell, 1876 (currently placed within the family Chactidae Pocock, 1893), and *Pseudouroctonus* Stahnke, 1974.

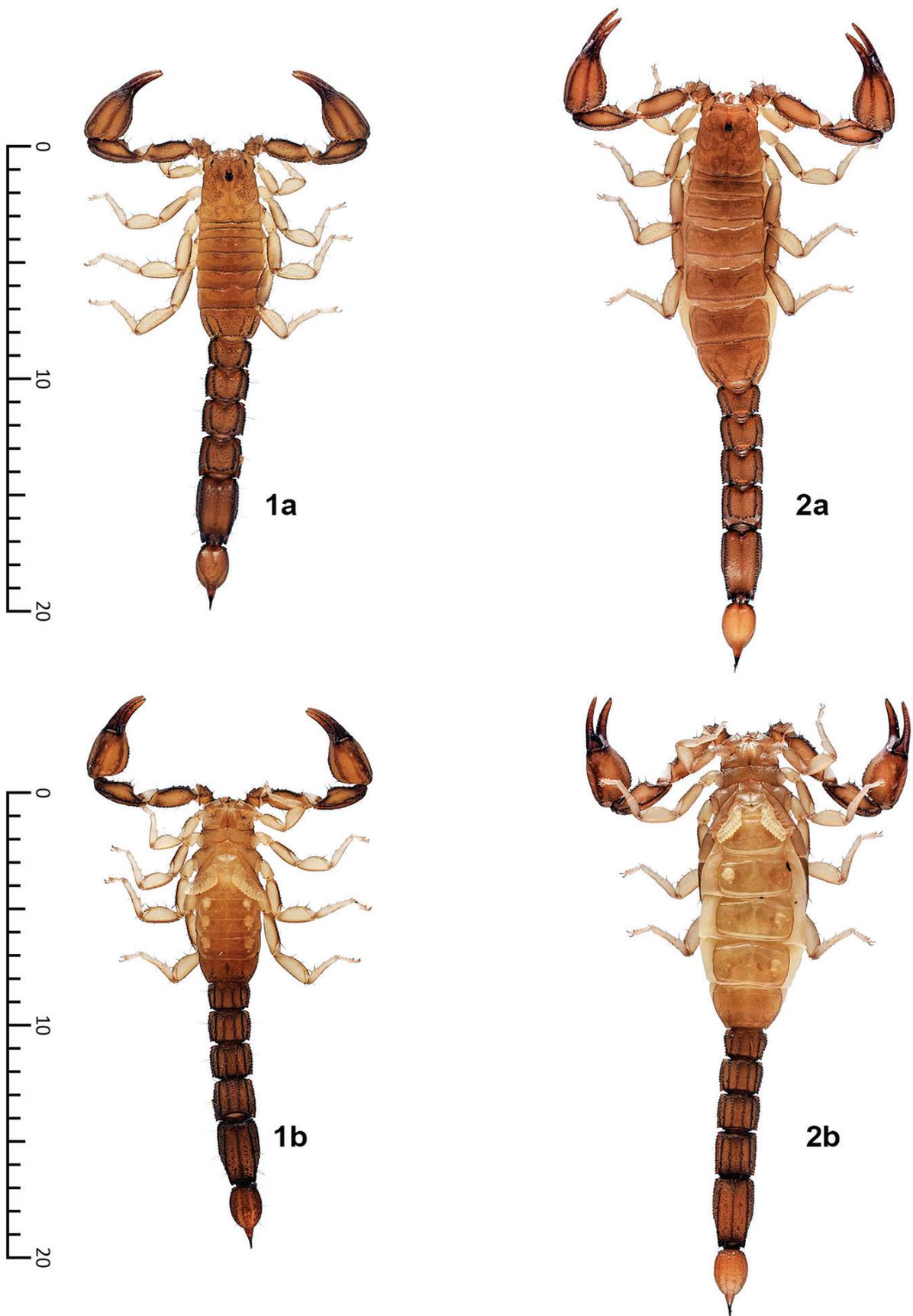
Very recently, we acquired a representative sample of *Catalinia* from a single locality in the northwestern foothills of the Santa Ana Mountains, situated more or less in the core of the range of distribution of the genus. Detailed study of these specimens revealed that this population represents a fifth species in the genus, which is formally described here. Moreover, a couple of minor corrections are introduced to the generic diagnosis.

### Methods & Material

Specimens were studied under an AmScope SM-3TZZ stereomicroscope, equipped with an AmScope measurement software calibrated with a stage micrometer, and an AmScope MU1000 Microscope Camera for micro-photographs: a variable series of consecutive-plane shots was taken depending on the field depth (i.e., the bulkiest the structure, the largest number of photographs needed) and afterwards, all images of the same structure were assembled into a single fully-focused image using the software Zerene Stacker. Habitus photographs and photographs of live individuals were taken with a Nikon D3300 digital camera, equipped with a Tamron 90mm F/2.8 macro lens. All images were processed with Adobe Photoshop CC 2018 only slightly, i.e., bright/contrast optimization, removal of artifacts and unnecessary details from background and assemblage of plates.

Nomenclature and measurements follow Stahnke (1971), except as follows. Trichobothriotaxy (Vachon, 1974), metasomal carinae (Francke, 1977), pedipalp patella carinae (Vachon, 1952, modified by Soleglad & Fet, 2003b), pedipalp chela carinae (Acosta et al., 2008), and sternum (Soleglad & Fet, 2003a). The granulation of the dorsal patellar spur carina (DPSc) was evaluated following Soleglad et al. (2017).

Hemispermaphore axis terminology follows the somatic-independent convention of Kovarik et al. (2018), hemispermaphore structure terminology of Soleglad & Fet (2008) and hemi-mating plug terminology of Soleglad et al. (2017). Unless otherwise noted, all morphologically diagnostic characters mentioned in the diagnoses and comparisons refer to adults of both sexes. Counts are given as fractions meaning left/right sides. Total length includes telson.



Figures 1–2. *Catalinia ayreyi* sp. n., adult male holotype (1) and adult female paratopotype (2), habitus: a) dorsal; b) ventral. Scale in millimeters.

Dimensions (MM)		<i>C. ayreyi</i> sp. n. ♂ paratopotype	<i>C. ayreyi</i> sp. n. ♂ holotype	<i>C. ayreyi</i> sp. n. ♀ paratopotype	<i>C. ayreyi</i> sp. n. ♀ paratopotype
Carapace	L / Wp	2.14 / 1.96	2.43 / 2.25	2.64 / 2.38	2.79 / 2.48
Mesosoma	L	5.96	07.12	8.37	9.84
Tergite VII	L / W	0.92 / 1.89	0.96 / 2.18	1.14 / 2.35	1.50 / 2.57
Metasoma	L	6.49	07.11	7.46	7.75
Segment I	L / W / D	0.92 / 1.37 / 1.01	1.02 / 1.50 / 1.04	0.95 / 1.50 / 0.84	1.03 / 1.59 / 1.00
Segment II	L / W / D	1.00 / 1.35 / 0.95	1.08 / 1.49 / 1.06	1.23 / 1.49 / 0.96	1.23 / 1.58 / 1.07
Segment III	L / W / D	1.07 / 1.30 / 0.92	1.15 / 1.47 / 1.07	1.27 / 1.45 / 0.99	1.29 / 1.49 / 1.10
Segment IV	L / W / D	1.32 / 1.21 / 0.82	1.47 / 1.38 / 1.02	1.56 / 1.39 / 1.09	1.61 / 1.42 / 1.13
Segment V	L / W / D	2.18 / 1.21 / 0.82	2.39 / 1.35 / 0.98	2.45 / 1.36 / 1.04	2.59 / 1.41 / 1.10
Telson	L	2.29	2.38	2.80	2.86
Vesicle	L / W / D	1.51 / 0.91 / 0.71	1.52 / 0.86 / 0.62	1.69 / 1.20 / 0.97	1.80 / 1.24 / 1.01
Aculeus	L	0.78	0.86	01.11	01.6
Pedipalp	L	6.49	7.13	7.88	8.37
Femur	L / W	1.60 / 0.66	1.74 / 0.69	1.94 / 0.75	2.01 / 0.83
Patella	L / W	1.76 / 0.71	1.91 / 0.85	2.14 / 0.92	2.28 / 1.01
Chela	L	3.13	3.48	3.80	04.8
Manus	L / W / D	1.97 / 1.24 / 1.11	2.13 / 1.33 / 1.29	2.07 / 1.34 / 1.28	2.17 / 1.42 / 1.34
Movable finger	L	1.16	1.35	1.73	1.91
<b>Total</b>	<b>L</b>	<b>16.88</b>	<b>19.4</b>	<b>21.27</b>	<b>23.24</b>

**Table 1.** Measurements (mm) of four type specimens of *Catalinia ayreyi* sp. n. Abbreviations: length (L), width (W), posterior width (Wp), depth (D).

Specimens studied herein are preserved in ethanol 80% ethanol and housed in the following repositories: United States National Museum, Smithsonian Institution, Washington, DC, USA (USNM) and personal collections of the authors (RTO, BTM).

### Systematics

#### Family Vaejovidae Thorell, 1876

#### Genus *Catalinia* Soleglad, Ayrey, Graham & Fet, 2017

#### *Catalinia ayreyi* Teruel et Myers, sp. n.

(Figures 1–11; Table 1)

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**TYPE DATA.** USA, *California*, Orange County, 2.2 km east of Villa Park, from 127–168 m a.s.l., under rocks in open area, 25 May 2019, B. Myers leg., 1♂ holotype and 1♀ paratopotype (USNM), 1♂ and 1♀ paratopotypes (RTO), 1♂ and 1♀ paratopotypes (BTM).

**ADDITIONAL MATERIAL EXAMINED** (not types). Three juveniles collected with the types (25 May 2019), plus one litter born in captivity (see below, in Ecological Notes section). These juveniles are kept alive to study the reproductive biology of *Catalinia ayreyi* sp. n. All were intentionally excluded from the type series because their immaturity hampers an accurate species identification and their preservation cannot be warranted (e.g., escape, cannibalism and decay after death may occur).

**ETYMOLOGY.** We are pleased to name this tiny scorpion after our colleague Richard F. Ayrey (Flagstaff, Arizona, USA), in recognition to his relevant contributions to the taxonomy of the “micro-vaejovid” scorpions, especially those of the genus *Catalinia*, of which he is one of the authors.

**DIAGNOSIS.** Adult size small for the genus (males 17–19 mm, females 21–23 mm). Coloration essentially uniform yellowish brown, with faint infuscation on carapace and carinae of pedipalps and metasoma. Pedipalps with dorsal patella spur carina with 1–4 major granules, the dorsal spur bearing a thick macroseta; manus oval (length/width ratio: 1.59–1.60 in males, 1.53–1.54 in females), much wider than patella (ratio: 1.56–1.75 in males, 1.41–1.46 in females), with carinae moderately granulose, internal surface very finely, densely and evenly granulose; fixed/movable fingers each with 6/6 principal rows of denticles. Carapace trapezoidal, clearly longer than wide and very finely and densely granulose, with many medium-sized, rough granules scattered. Tergites I–VI very finely and evenly granulose. Pectines with tooth count 9/9 in males, 8/8 in females. Metasoma slightly more robust in males (length/width ratio of segments IV and V: 1.07–1.09 and 1.77–1.80, respectively, vs. 1.12–1.13 and 1.80–1.84 in females). Telson vesicle oval and slightly narrower in males (length/width ratio: 1.66–1.77 vs. 1.41–1.45 in females), dorsal surface with well-defined, pigmented oval patch in male (absent in female), subaculear tubercle absent.

**DESCRIPTION** (adult male holotype). **Coloration** (Figs. 1, 3, 5, 7, 9, 13a) base yellowish brown, almost uniform except as follows. Chelicerae, legs, sternopectinal region, sternites III–VI and telson paler. Carapace with ocular tubercles and posterior margin blackish, area around median eyes faintly infuscate. Tergites I–VI with posterior margin blackish. Pedipalps, tergite VII, sternite VII and metasoma with all carinae moderately infuscate. Legs with very faint infuscation on external surfaces of femur and patella. Pectines and intersegmental membranes whitish.

**Chelicerae** (Fig. 9a–b). With dentition typical for the genus, teeth relatively small but sharp. Tegument smooth and glossy. Setation very dense ventrally, but essentially lacking dorsally, except for two large macrosetae (the innermost one longer and dark, the other shorter and pale).

**Pedipalps** (Figs. 3, 9c). Size and robustness standard for the genus, sparsely setose. Orthobothriotaxic C. Femur slightly curved inwards and sparsely setose (setae variously-sized); all four carinae strong, coarsely granulose; intercarinal tegument fine and densely granulose, with many coarser granules scattered. Patella essentially straight and sparsely setose (setae longer and thicker on internal surface); all six carinae strong, coarsely granulose; intercarinal tegument fine and densely granulose, with some coarser granules scattered. Chela robust and very sparsely setose (setae variously-sized, denser on fingers); manus oval and relatively slender (1.60 times longer than wide), much wider than patella (ratio 1.56), and with the distal half wider, all eight carinae moderate to strong, variably granulose to subcostate, intercarinal tegument very finely, densely and evenly granulose; fingers remarkably short (underhand 1.58 times longer than movable finger), very shallowly curved and with tegument coriaceous; fixed finger with 6/6 principal rows of denticles, movable finger with 6/6, basal lobe/notch combination absent.

**Carapace** (Fig. 5a). Trapezoidal and clearly longer than wide; anterior margin rough and widely bilobed, with three pairs of dark macrosetae and a few pale microsetae scattered. Carination essentially absent: the only definable carinae are the superciliaries (moderately and irregularly granulose). Furrows: anterior marginal, anterior median, median ocular, central median, posterior median and posterior marginal fused, narrow and deep, posterior laterals and posterior transverse long, wide and shallow, other furrows indistinct. Tegument very finely and densely granulose, with many medium-sized, rough granules scattered all over. Median eyes relatively small, separated by more than one ocular diameter; two pairs of much smaller lateral eyes.

**Sternum** (Fig. 5b). Standard for the genus: type 2, relatively large, markedly wider than long and pentagonal, with 4–5 pairs of dark macrosetae. Tegument finely and densely granulose.

**Genital operculum** (Fig. 5b). Relatively large, halves slightly separated and acutely paraboloid in shape, with 4–5 pairs of dark macrosetae; tegument smooth. Genital papillae protruding. Pre-pectinal plate absent.

**Hemispermatothore** (paratopotype: Figs. 11–12). Lamelliform, overall morphology and morphometrics standard for the genus: trunk broad, about as long as distal

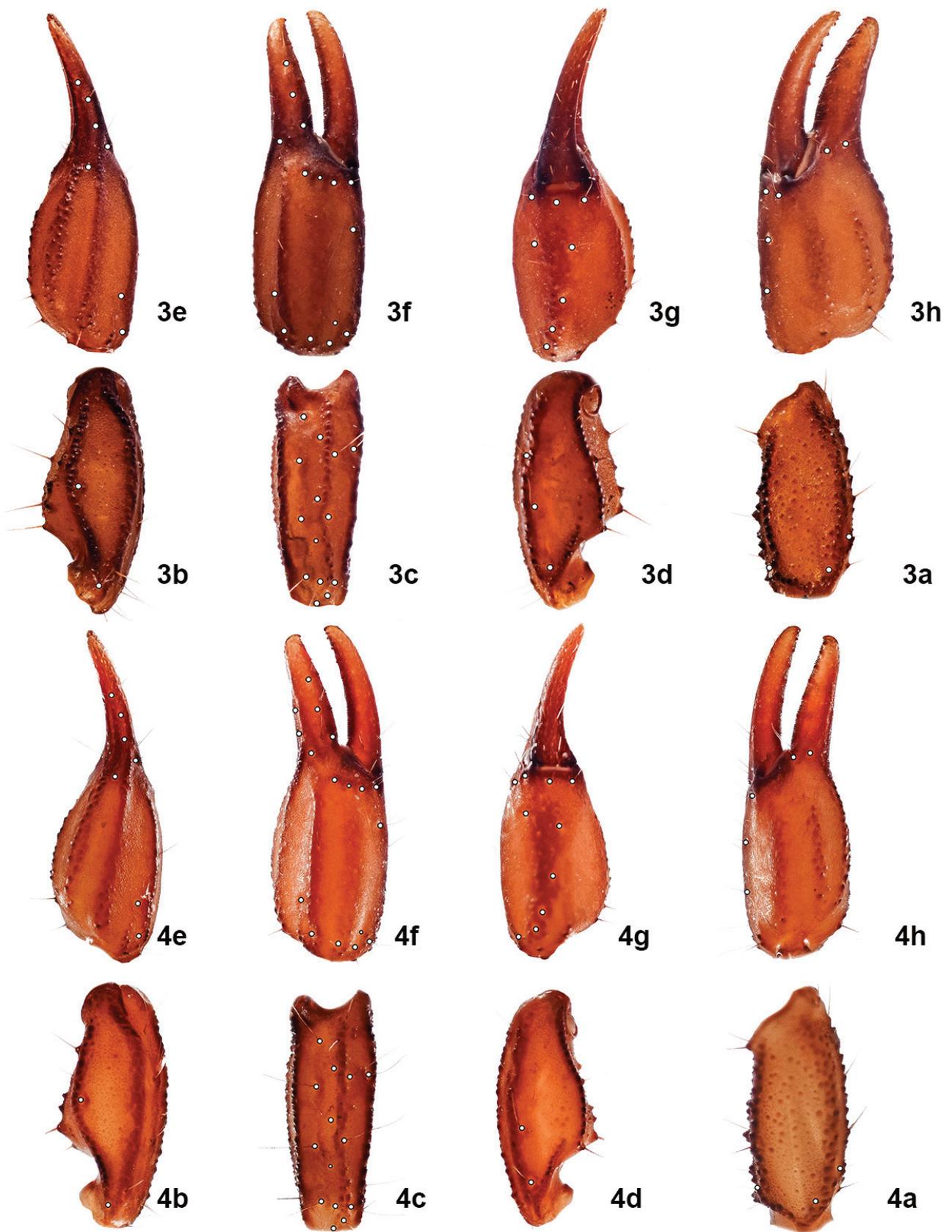
lamina; lamina margins subparallel, terminus truncated, lacking distal crest; lamellar hook arising from anterior edge of dorsal trough, elongated, apex distinctly bifurcated, secondary lamellar hook and basal constriction absent. Hemimating plug in standard configuration for the genus: primary base connecting, via short secondary stem, to flared secondary base; secondary base connecting via longer primary stem to simple barb with short tine, long tine and smooth edge.

**Pectines** (Fig. 5b). Size and shape standard for the genus: short (not reaching leg IV trochanter-femur articulation), subtriangular and densely setose. Fulcra large. Tooth count 9/9, teeth moderately short and swollen. Basal middle lamella unmodified. Basal plate weakly sclerotized, wider than long, with a wide, deep median furrow all along and five pairs of dark macrosetae; anterior margin very widely V-shaped, posterior margin shallowly convex; tegument coriaceous.

**Legs** (paratopotype: Fig. 10c). Relatively short but slender, with all carinae finely serrate to granulose; intercarinal tegument very finely, densely and evenly granulose. All basitarsi with two primary ventral setae (PVS) and two primary ventroexternal setae (PEVS), as standard for the genus. Prolateral and retrolateral pedal spurs long and thick. Prolateral and retrolateral pedal spurs long and thick. Ventral surface of telotarsi round and with setae and spinules arranged in standard pattern for the genus. Claws short and strongly curved.

**Mesosoma** (Figs. 1, 13). Tergites I–VI essentially bare and very finely, densely and evenly granulose, with coarser granules scattered along posterior margin only; single longitudinal carina (median) obsolete to vestigial; VII densely granulose, with many coarser granules scattered all over, longitudinal median carina vestigial, submedian and lateral carinae very long, strong and coarsely granulose. Sternites III–VI sparsely setose, acarinate and very finely and densely granulose, spiracles oblique, small and short-oval; VII densely granulose, with many coarser granules scattered all over, submedian carinae either absent or obscured by surrounding granulation, lateral carinae long and moderately granulose; posterior margin of I–VII almost straight; smooth patch of V not defined.

**Metasoma** (Fig. 7). Relatively short, very robust and parallel-sided (except for slight distal tapering on segments I and V) and very sparsely setose. Length/width ratio of each segment: I (0.68), II (0.72), III (0.78), IV (1.07), V (1.77). Segment I with ten complete carinae, II–IV with eight, V with five, all very strong and coarsely serrate: dorsal laterals on I–IV complete, distally fused by transverse granular row and with terminal denticles conspicuously enlarged, absent on V; lateral supramedians complete on I–V, with terminal denticles conspicuously enlarged on I–IV; lateral inframedians complete on I, present on distal half to two-thirds on III–IV and present on basal two-thirds on V; ventral laterals complete on I–V; ventral submedians complete on I–IV, absent on V but suggested by coarser and irregularly arranged granulation; ventral median absent on I–IV, complete on V. Intercarinal tegument moderately concave on all segments, very finely and densely granulose, with many coarser granules scattered



**Figures 3–4.** *Catalinia ayreyi* sp. n., adult male holotype (3) and adult female paratopotype (4), pedipalp: **a)** femur, dorsal; **b)** patella, dorsal; **c)** patella, external; **d)** patella, ventral; **e)** chela, dorsal; **f)** chela, external; **g)** chela, ventral; **h)** chela, internal. Trichobothria indicated with white dots.

Selected ratios	Sex	<i>C. andreas</i>	<i>C. ayreyi</i> sp. n.	<i>C. castanea</i>	<i>C. minima</i>	<i>C. thompsoni</i>
Pedipalp manus (L/W)	♂♂	1.56–1.62	1.59–1.60	1.39–1.46	1.42–1.56	1.21–1.43
	♀♀	1.48–1.80	1.53–1.54	1.47	1.43–1.53	1.32–1.50
Metasoma (L)/Segment IV (W)	♂♂	5.50–5.62	5.15–5.36	4.24–4.34	4.57–4.81	4.56–4.79
	♀♀	5.77–5.89	5.37–5.46	4.36	4.65–4.83	4.54–4.78
Metasomal segment IV (L/W)	♂♂	1.12–1.20	1.07–1.09	0.91–0.92	0.97–1.00	0.98–1.00
	♀♀	1.13–1.18	1.12–1.13	0.94	1.00–1.04	0.98–1.00
Metasomal segment V (L/W)	♂♂	1.91–1.93	1.77–1.80	1.35–1.41	1.57–1.65	1.62–1.67
	♀♀	1.87–2.15	1.80–1.84	1.36	1.55–1.56	1.54–1.65
Telson (L/W)	♂♂	2.00–2.82	2.52–2.77	2.08–2.40	2.15–2.40	2.38–2.67
	♀♀	2.00–2.31	2.31–2.33	2.00	2.47–2.53	2.10–2.65

**Table 2.** Morphometric comparison of adults of all species of *Catalinia*. Abbreviations: length (L), width (W). Ratios of species other than *C. ayreyi* sp. n. calculated from primary data of Gertsch & Soleglad (1972) and Soleglad et al. (2017).

all over. Dorsal furrow complete, moderately wide and deep on all segments. Setation pattern per carinae on segments I–IV: single macroseta (rarely two) on dorsolaterals, lateral supramedians and lateral inframedians, two macrosetae on ventrolaterals and three macrosetae on ventral submedians; on segment V: three macrosetae on all five carinae (paired on ventral median).

**Telson** (Figs. 7). Vesicle oval (1.77 times longer than wide, 1.39 times wider than deep) and with some setae of different sizes scattered, laterodistal swellings obsolete, dorsal surface with a large, dark, oval patch on distal half (a gland?); tegument coriaceous, with few traces of coarse granules scattered on dorsal and lateral surfaces; ventral median carina obsolete; subaculear tubercle absent. Aculeus very short (1.77 times shorter than vesicle), thick but sharp and moderately curved, with 3–5 laterobasal aculear serrations (LAS).

**FEMALE** (paratopotype: Figs. 2, 4, 6, 8, 13b, 14a–b; Tabs. 1–2). Very similar to male, slight sexual dimorphism evident in: **1)** size slightly larger; **2)** coloration slightly lighter and less vivid; **3)** entire body and appendages with tegument rougher and matter; **4)** pedipalp chelae slightly less robust; **5)** genital operculum with valves fused by a membrane along basal two-thirds; **6)** genital papillae absent; **7)** pectines slightly smaller and with lower tooth count; **8)** mesosoma wider and more convex-sided; **9)** metasoma slightly less robust; **10)** telson vesicle more swollen and lacking dorsal pigmented patch.

**VARIATION.** All adult specimens available of *Catalinia ayreyi* sp. n. are remarkably homogeneous in size, coloration, degree of attenuation of pedipalps and metasoma, sculpture and carination of the tegument, and number of principal rows of denticle in pedipalp fingers. Pectinal tooth counts in the entire sample are fixed: 9/9 in all males and 8/8 in all females.

**COMPARISONS.** The genus *Catalinia* currently includes only four species and two of them (*Catalinia castanea* and *C. thompsoni*) are easily separated from *Catalinia ayreyi* sp. n. by a key character in vaejovoid taxonomy, i.e., the possession

of seven inner denticles on pedipalp movable finger, instead of six. Besides this, both species are further distinguished from the latter by having a remarkably wider, more swollen manus of pedipalp chela, glossier carapace tegument, conspicuously stouter metasoma, and consistently higher pectinal tooth counts (10–12 in males, 10–11 in females).

The remaining two congeners possess six inner denticles on pedipalp movable finger, but can be safely distinguished from *Catalinia ayreyi* sp. n. as follows:

***Catalinia andreas*:** pedipalp patella and chela stouter, with carinae coarser and stronger; carapace longer, narrower and with granulation coarser and denser; metasoma distinctly slenderer.

***Catalinia minima*:** pedipalp chela stouter, with carinae smoother and glossier; carapace distinctly wider; metasoma distinctly stouter; pectinal tooth counts higher (10–11 in males, 9–10 in females).

For a clearer understanding of all these differences, compare Figs. 1–9 and Tabs. 1–2 herein to the detailed descriptions, measurements and illustrations provided by Gertsch & Soleglad (1972), Williams (1980) and Soleglad et al. (2017).

**DISTRIBUTION** (Fig. 16). Known only from the type locality, in the northwestern foothills of the Santa Ana Mountains, southern California, USA.

**ECOLOGICAL NOTES.** The vegetation at the type locality is open grassland with patches of scrub and scattered small trees and bushes (Figs. 15a–b). The specimens of *Catalinia ayreyi* sp. n. were collected under exposed, mostly large rocks partially embedded in moist organic soil with humus and leaf litter. They occurred syntopically with the larger uroctonine chactid *Anuroctonus pococki pococki* Soleglad & Fet, 2004 (Fig. 15c). This habitat and microhabitat is consistent with those described and illustrated by Soleglad et al. (2017) for the other species of the genus.

One of the females was collected pregnant and gave birth in captivity to 17 offspring on 31 May 2019. The newborns accomplished their first molt on 8 June 2019 (first instar = 9 days) and abandoned their mother on 12 June 2019, at an



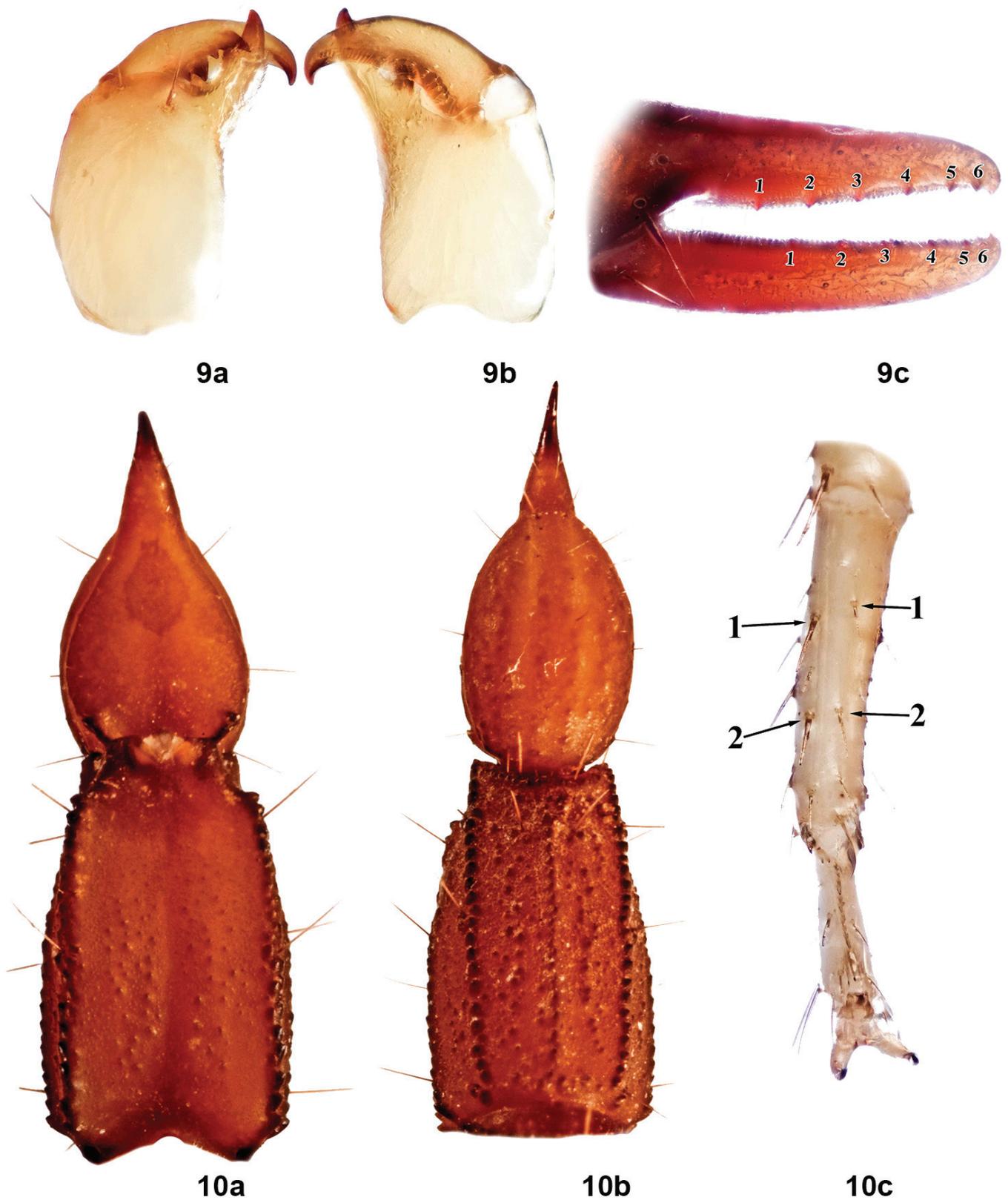
**Figures 5–6.** *Catalinia ayreyi* sp. n., adult male holotype (5) and adult female paratopotype (6): **a)** prosoma, dorsal view; **b)** sternopectinal region, ventral view.

age of 13 days. The alignment of the first instar young on the mesosoma of the mother (Fig. 14b) was mostly non-random, with chelicerae directed forwards, but about a third of the litter was oriented in other directions.

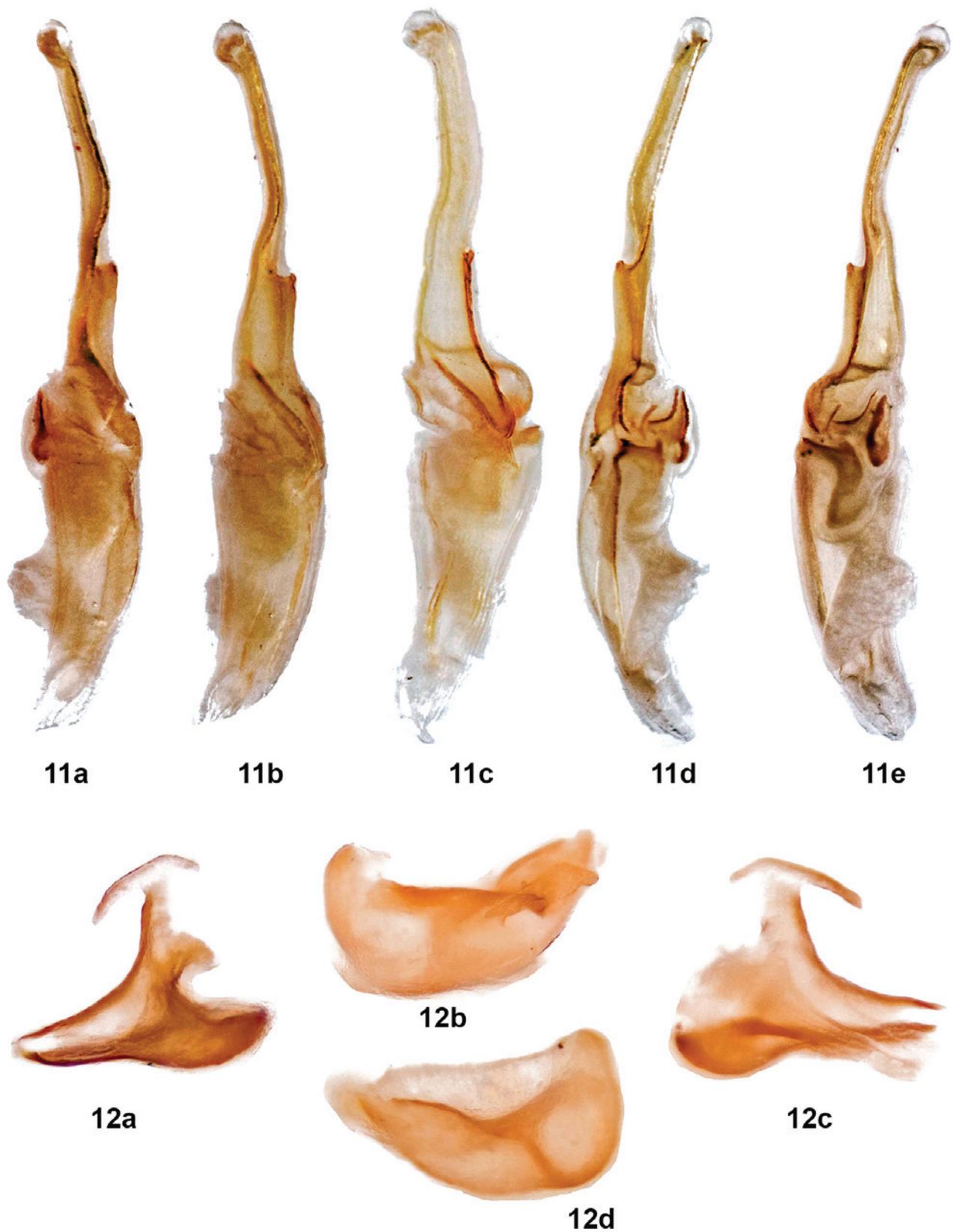
All our data on birth date, litter size, first instar duration, release and orientation of young, closely match what was recorded and illustrated by Soleglad et al. (2017) for *Catalinia minima* from Santa Catalina Island.



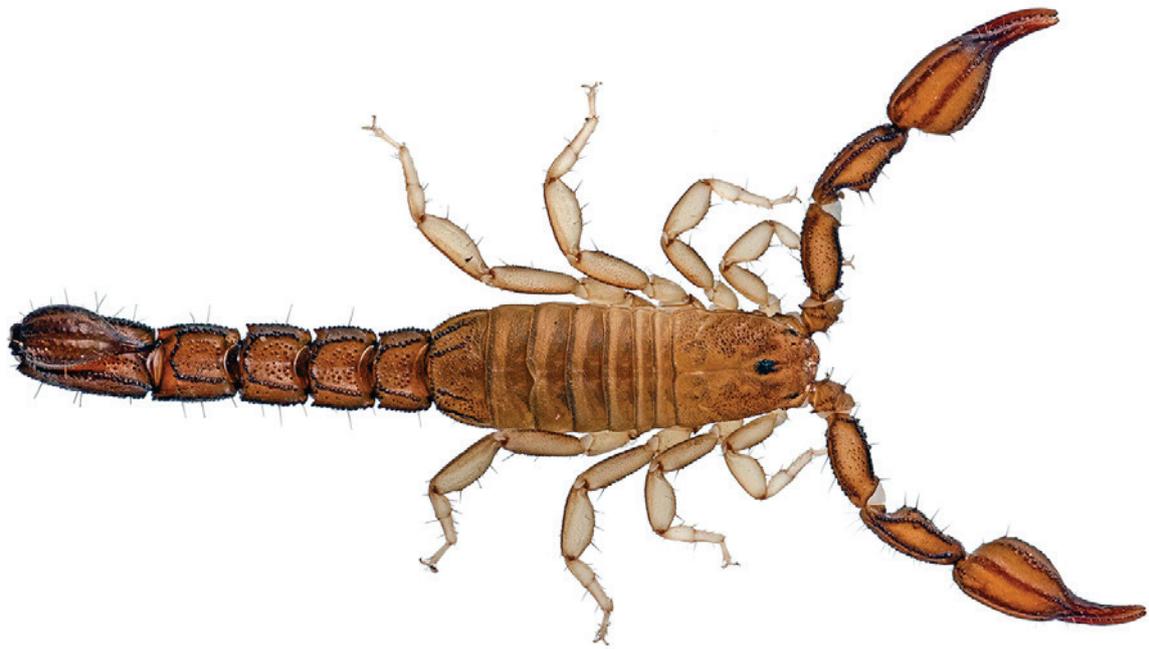
Figures 7–8. *Catalinia ayreyi* sp. n., adult male holotype (7) and adult female paratopotype (8), metasoma and telson: a) dorsal view; b) lateral view; c) ventral view.



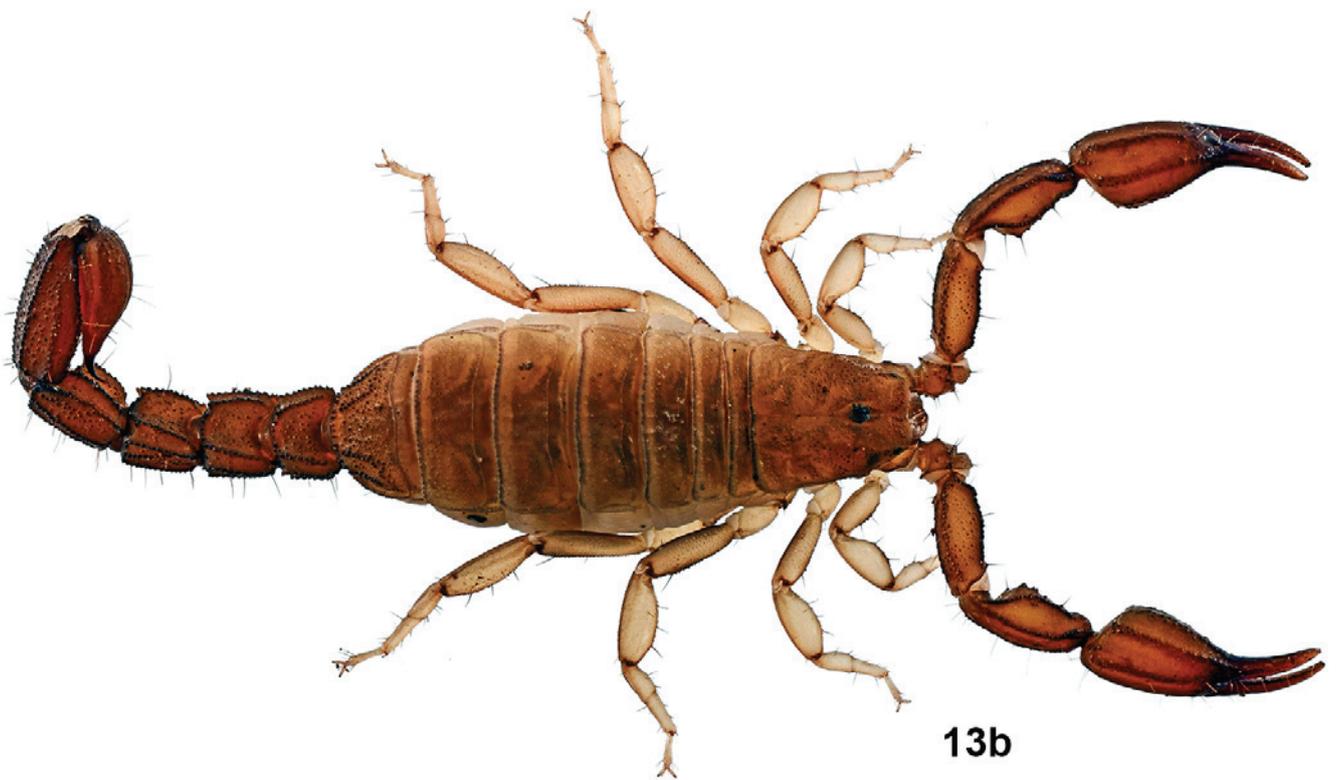
**Figures 9–10.** *Catalinia ayreyi* sp. n. **Figure 9.** Adult male holotype: **a)** chelicera, dorsal view; **b)** chelicera, ventral view; **c)** pedipalp fingers, external view. **Figure 10.** Adult male paratopotype: **a)** metasomal segment V and telson, dorsal view; **b)** metasomal segment V and telson, ventral view; **c)** distal segments of leg III, ventral view.



**Figures 11–12.** *Catalinia ayreyi* sp. n. **Figure 11.** Adult male paratopotype, whole right hemispermatophore with hemi-mating plug in place, consecutively rotated 45° around its longitudinal axis to complete a 180° spin, starting in posterior aspect (a) and finishing in anterior aspect (e). **Figure 12.** Adult male paratopotype, hemi-mating plug of right hemispermatophore, detached: a) exterior aspect; b) anterior (barb) aspect with barb and primary stem bent interiorly; c) interior aspect with barb tilted towards observer; d) posterior (primary base) aspect.



13a



13b

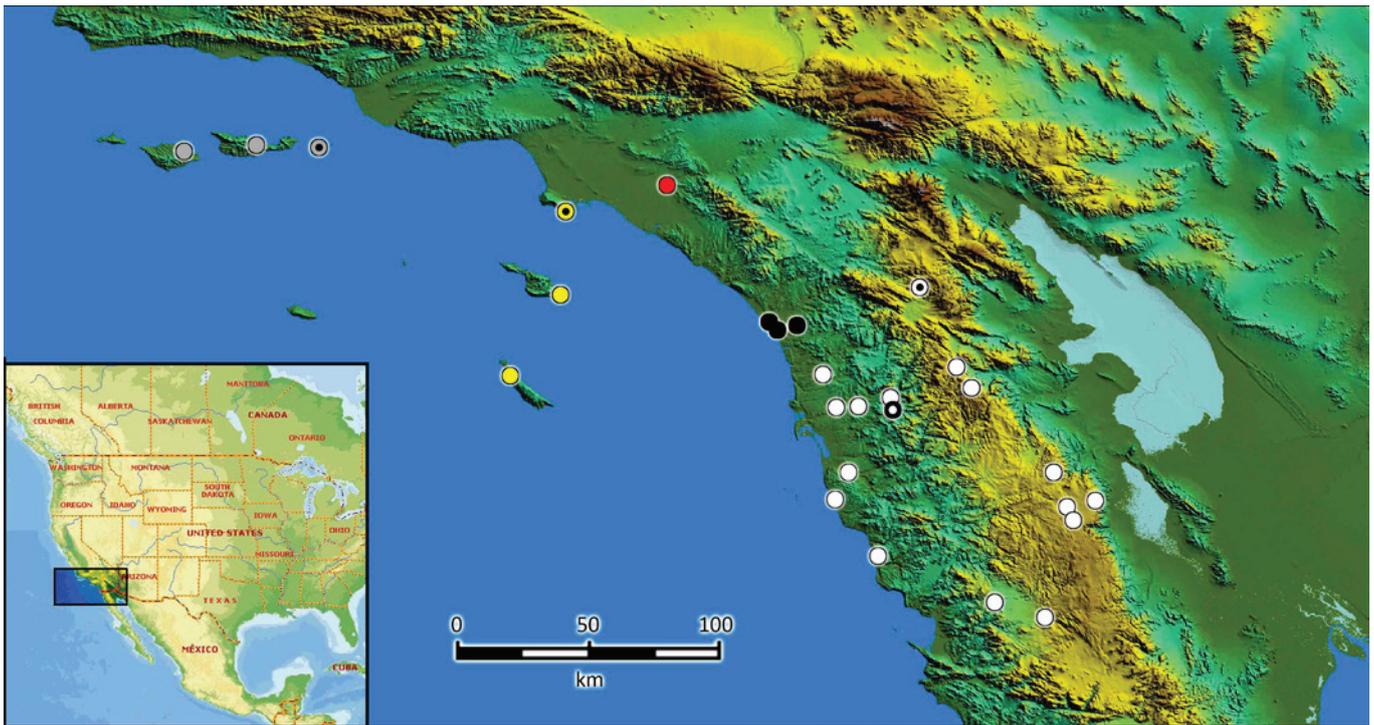
Figure 13. *Catalinia ayreyi* sp. n., adults photographed alive on white background: a) male holotype; b) female paratopotype.



**Figure 14.** *Catalinia ayreyi* sp. n., individuals photographed alive in captivity: a) mating pair of adult male and female paratopotypes; b) female paratopotype, with first-instar litter; c) juvenile.



**Figure 15.** *Catalinia ayreyi* sp. n., habitat and microhabitat at the type locality. **a–b)** overviews; **c)** detail of shelter under a turned rock, with two adult males of the syntopic *Anuroctonus pococki pococki*. Photos courtesy of Andrew Gray.



**Figure 16.** Geographical distribution of *Catalinia andreas* (white symbols), *Catalinia ayreyi* sp. n. (red symbol), *Catalinia castanea* (black symbols), *Catalinia minima* (yellow symbols) and *Catalinia thompsoni* (grey symbols). Symbols with an inner dot indicate the type locality of each species except *Catalinia ayreyi* sp. n. (known from a single collecting site). Small inset on left bottom shows image location in North America.

REMARKS. In the description of the genus, Soleglad et al. (2017: 27, 29) stated that the male telson vesicle lacks a “linear patch”, which presumably refers to the oval patch described herein for *Catalinia ayreyi* sp. n. This patch is present in all adult males of the new species (Figs. 7a, 10a) and in the single adult male of *Catalinia andreas* examined herein (RTO: Sco-0224 from USA, California, San Diego Co., Chariot Canyon, 4.3 miles south of Banner along Highway 78, 30 August 1997, M. E. Soleglad and K. Pinion leg.). Moreover, it is clearly visible in the adult male *Catalinia andreas* photographed by Williams (1980: fig. 77) and seems also distinguishable (but smaller, faint and irregular in shape) in the telson photograph *Catalinia minima* presented by Soleglad et al. (2017: fig. 9). Thus, the generic diagnosis of *Catalinia* must be emended accordingly to “dorsal vesicular patch variable from absent to well-defined in adult males” until its alleged absence in the samples/species not studied by us can be confirmed. As discussed in Teruel et al. (2015), this patch is hypothesized to be a male telson gland with putative sexual function.

Another character that we suggest can be included in the generic diagnosis is the presence of laterobasal aculear serrations (LAS) on the telson. We observed these in *Catalinia ayreyi* sp. n. (Figs. 7b, 8b), and they were previously recorded for *Catalinia andreas*, *C. thompsoni*, and *C. castanea* (Fet et al., 2006: 7, tab. 1). However, no published record exists for *Catalinia minima* and we could not examine any specimens either.

*Catalinia ayreyi* sp. n. is most likely endemic to the Santa Ana Mountains (Fig. 16). Another “micro-vaejovid”

apparently restricted to the same orographic system (*Kovarikia savaryi* Bryson, Graham & Soleglad, 2018) was recently described and thoroughly discussed by Bryson et al. (2018). The only species of the genus that remains currently characterized as having a wide geographical distribution is *Catalinia andreas*. Nevertheless, the specimen herein examined and the photographs presented in some literature sources (e.g., Williams, 1980: fig. 77; Soleglad et al., 2017: fig. 1) show interesting morphological differences amongst specimens that may well correspond to different taxa and the preliminary molecular study of Bryson et al. (2013), also found some geographically-correlated genetic structuring among the sampled populations of *Catalinia andreas*. Thus, this most likely represents a cryptic species complex and deserves a thorough taxonomic revision.

## Acknowledgments

We thank especially Graeme Lowe (Philadelphia, USA) for the careful review of the manuscript, for sharing with us a crucial complement of excellent high-quality images and data of his complete vaejovid collection, and for his opportune help with hemispermaphore description. Andrew Gray and Marcus Bullock helped with previous attempts to locate specimens of the new species described herein. Moreover, the first author’s wife Sheyla Yong accomplished the critical review of the first draft of the text. And last, two anonymous peer-reviewers made valuable comments to improve the manuscript.

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