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Source: The Pan-Pacific Entomologist, 96(3) : 197-209

Published By: Pacific Coast Entomological Society

URL: https://doi.org/10.3956/2020-96.3.197

THE PAN-PACIFIC ENTOMOLOGIST
96(3):197–209, (2020)

# A new genus with six new species of Edrotini (Coleoptera Tenebrionidae: Pimeliinae) from the Baja California Peninsula, Mexico

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*Abstract. Vizcainyx* **gen. nov**., and six new species (*V. andrewsi* **sp. nov.**, *V. australis* **sp. nov.**, *V. browni* **sp. nov.**, *V. clarki* **sp. nov.**, *V. insularis* **sp. nov.**, *V. peninsularis* **sp. nov.**) in the tribe Edrotini are described from Baja California and Baja California Sur, Mexico. Three of the six species occur on islands: two are island endemics and the third is found both on islands and the adjacent mainland. A key to the species and distribution map are provided.

*Keywords.* Sonora, island endemic, Sea of Cortez, Vizcaino Desert, *Vizcainyx*.

## Introduction

Biological explorations of the Sea of Cortéz and the peninsula of Baja California by the California Academy of Sciences started in 1888. Unfortunately, many of the specimens collected in these early expeditions were lost in the earthquake and fire of 1906. Expeditions were restarted in 1921 (see Lindsay 1983). Despite a number of historical publications by F. E. Blaisdell and others on the Tenebrionidae of Baja California (see especially Blaisdell 1923, 1943), many based on numerous expeditions to both the mainland and islands around the peninsula, no representatives of this new genus were described. In recent years, detailed studies were made especially of the islands in the Sea of Cortéz, resulting in the first comprehensive examination of these islands (Case & Cody 1983). However, this book did not have any chapters dedicated to invertebrates.

During the years 1998–2000, extensive faunal and floral studies were made in the Gulf of California (Sea of Cortéz) which led to the second book *A New Island Biogeography of the Sea of Cortéz* (Case et al. 2002). This book contained two major studies on invertebrates, including one specific to Tenebrionidae (Sanchez-Pinero & Aalbu 2002). This study, which included the use of non-toxic, propylene glycol long duration traps, led to a number of recent species descriptions (Aalbu et al. 2015, 2018; Pape et al. 2007) on previously existing genera.

The Edrotini fauna found on the Baja California Peninsula is particularly rich, with 18 genera and 68 species known to occur across the peninsula (Bousquet et al. 2018). During the 1998–2000 survey, as well as a general assessment of the fauna of Mexico (Aalbu et al. 2002), a number of new species of Tenebrionidae and a new genus was discovered. Here we describe this new genus, which includes six new species.

## Methods and Materials

For this revision, material was borrowed from the following individuals and institutions. These persons (in parentheses) are gratefully acknowledged for loan of their materials:

CASC – California Academy of Sciences, Entomology, San Francisco, California, U.S.A. (Christopher Grinter)

CDFA – California Department of Food & Agriculture, Sacramento, California, U.S.A. (Alexey Tishechkin)

CIDA – College of Idaho, Museum of Natural History, Caldwell, Idaho, U.S.A. (William H. Clark)

RLAC – Rolf L. Aalbu Collection, El Dorado Hills, California, U.S.A. (personal collection)

Measurements were taken from the front of head to apex of abdomen using digital calipers or an optical micrometer attached to a Leica MZ16 APO stereomicroscope. Images of specimens or characters were taken using a Passport Imaging system (www.visionarydigital.com). Montaged images were assembled using Zerene Stacker (zerenesystems.com/stacker/), and backgrounds were cleaned up in Adobe Photoshop CS6.

Visits to the islands in the Gulf of California were partially supported by the San Diego Museum of Natural History, The National Geographic Society, The Earthwatch Institute, and the University of California, Davis, Department of Ecology.

Specimens were collected under permit #D00750-1592. The acronym PGPT on labels indicates "collected in propylene glycol pitfall trap".

## *Vizcainyx*, **gen nov.**

*Type Species. Vizcainyx andrewsi* Aalbu & Smith

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs testaceus, Length: male 4.2–7.2 mm, female 4.9–6.9 mm.

Head. Prognathous, somewhat deflexed, greatest width between eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes large, produced, rounded. Cranial surface variable. Labrum visible, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, bifid to trifid, superior margin with stout angular, hollow cusp. Mentum very large, hexagonal surface flat with two fine setae laterally. Labial palps, submentum very small. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna long, slender, last four segments extending beyond pronotum, last three segments more setose.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, surface variable. Complete lateral margin present fine. Anterior, posterior margins visible from above. Prosternal area with pronotal process declivous behind coxae. Femora, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures usually much larger than pronotal punctures, becoming obsolete before apex. Epipleura almost evenly narrow, reaching apex. Femora, tibiae, tarsi long, slender. Tarsi with scattered stiff spine-like setae.

Abdomen widest at middle, punctate behind coxae, rest of abdomen usually impunctate. Meso-metasternum evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal process rounded apically between meso-metacoxae. Males with or without small setose patch at middle of first abdominal ventrite.

Reproductive structures. Male aedeagus long, thin, slightly sinuate in shape, with tegmen ventral; median lobe free, strongly curved upward apically when extruded;

basal piece about as long as parameres. Female with ovipositor only slightly sclerotized, paraproct about 2.3× as long as coxites, with scattered setae, more apically; gonostyle 1/3 as long as coxites, more sclerotized.

*Etymology*. The genus *Vizcainyx* comes from a combination of the Vizcaino Peninsula and the letters yx in combination, an unusual combination reflecting the uncommonly collected nature of the genus.

*Comments.* This genus is similar to *Eschatomoxys* Blaisdell, 1935 and *Micromes* Casey, 1907, both of which also occur in the general area of northern to mid Baja California. In general, *Eschatomoxys* is larger (average width 3.6–5.1 mm, average length 9.0–10.6 mm), with longer legs and antennae, while *Micromes* is smaller (average width 1.5 mm, average length 3.0 mm), with shorter legs and antennae than *Vizcainyx* (average width 3.1–3.2 mm, average length 5.8–6.5 mm). *Micromes* species are also setose and have the pronotum much broader than the head with the pronotal sides explanate. In both *Vizcainyx* and *Eschatomoxys*, the pronotum is only slightly broader than the head and the pronotal sides not explanate. Other *s*pecific differences include: (1) In *Eschatomoxys* and in *Micromes* the anterior aspect of the clypeus is always broadly evenly triangular, with the sides straight to slight convex. In *Vizcainyx,* the anterior protruding aspect of the clypeus is always restricted to the medial area with the anterior border narrowly convex. In one species of *Vizcainyx*, there is a central spine on the convex border. (2). In *Eschatomoxys* the eyes are small with the surface nearly flat to only slightly convex, while in *Vizcainyx,* the eyes are larger, and the surface is always convex. In *Micromes,* the eyes are small in diameter but convex and protruding outwards. When the width of the head is measured from above at the eyes, the percent of the width between the eyes in *Vizcainyx and Micromes* is less than 80%, while the percent of the eye width is over 20%. In *Eschatomoxys*, the width between the eyes is always more than 80%, but the width of the eye is less than 20%. (3) In *Vizcainyx,* as well as in *Micromes,* the length of the second antennal segment is always subequal to smaller than the maximum width of the eyes, while in *Eschatomoxys,* the second segment of the antennae is always longer to much longer than the maximum width of the eyes. Both *Vizcainyx* and *Eschatomoxys* often occur on the same small islands in Bahia de Los Angeles (see Pape et al. 2007). Three of the six species of *Vizcainyx* occur on islands: two are island endemics and the third is found both on islands and the adjacent mainland.

### *Vizcainyx andrewsi* Aalbu & Smith, **sp. nov.**
(Figs. A & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs testaceus. Length: male 4.2–5.7 mm, female 4.9–6.0 mm Width: male 3.0 mm, female 3.2 mm.

Head. Prognathous, somewhat deflexed, greatest width across eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly, then slightly convex but centrally truncate apically. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes moderate in size, produced, rounded. Cranial surface set with fine punctures, separated from one another by about three or more diameters of a puncture. Labrum visible, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, bifid, superior margin with stout angular, hollowed out cusp. Maxillary palpus long and thin, apical segment narrowly spoon shaped with an acute, truncate apex. Mentum very large, hexagonal surface flat with two fine setae laterally. Labial

palps, submentum very small, submentum inverted triangular in shape. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna long, slender, third segment longest, last four segments extending beyond pronotum, last three segments more setose.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest at middle; surface set with shallow fine punctures dorsally, most separated by two puncture diameters. Complete lateral margin present fine. Anterior, posterior margins visible from above. Anterolateral angle not produced, truncate. Prosternal area evenly punctate, pronotal process declivous behind coxae. Femora, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete at elytral declination. Epipleura almost evenly narrow, reaching apex.

Abdomen. Ovoid in form, widest at middle, punctate behind coxae, rest of abdomen impunctate. Meso-metasternum evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal process rounded apically between meso-metacoxae. Males with small setose patch at middle of first abdominal ventrite.

Reproductive Structures. Male aedeagus long, thin, slightly sinuate in shape, with tegmen ventral; median lobe free, strongly curved upward apically when extruded; basal piece about as long as parameres. Female with ovipositor only slightly sclerotized, paraproct about 2.3× as long as coxites, with scattered setae, more apically; gonostyle 1/3 as long as coxites, more sclerotized.

*Type Specimens.* Holotype: Male, MEXICO, Baja Calif., Punta Que Malo, PGPT, V-14\VI-23-1999, 28°56'64", 113°28'14", F. Piñero #D00750-1592; Tenebrionid Base, Aaron D. Smith Catalog Number 16098. Holotype deposited CASC. Allotype: Female, same data except Catalog number 16099. Allotype deposited RLAC. Paratypes: MEXICO, Baja Calif., Punta Que Malo, PGPT, V-14\VI-23-1999, 28°56'64", 113°28'14", F. Piñero #D00750-1592 (42) RLAC; MEXICO, Baja Calif., Isla Ventana PGPT, V-15/VII-5-1999, Area D : SE valley near cross, F. Piñero #D00750-1592 (1) RLAC; MEXICO, Baja Calif., Isla Cabeza PGPT, V=15\VII-5-1999, Area D: valley south top, F. Piñero #D00750-1592 (1) RLAC; same except Area C, mid top of island, (1) RLAC; same except Area E, mid north top, (1) RLAC; MEXICO, Baja Calif., Isla Smith PGPT, V13-14\VII-8-1999, Area F midway up volcano, F. Piñero #D00750-1592 (6) RLAC; same except Area H arroyo near sand area, (1) RLAC; MEXICO, Baja Calif., Isla Ventana, XII-29-1998, F. Sanchez-Piñero #D00750-1592 (1) RLAC; Baja Calif., Isla Bota, VII-17-1997, F. Sanchez-Piñero #D00750-1592 (1) RLAC; Baja Calif., peninsula near Bahia de Los Angeles X-26-1994 (1) RLAC. Paratypes deposited CASC, ADSC, RLAC, CDFA.

*Distribution*. (Fig. 7), This species is restricted to several closely related islands in the Bahia de Los Angeles, Gulf of California. It is also found on the mainland on an isolated elevated promontory, directly south of these islands. This unnamed area, with capes Punta Rosa and Punta Que Malo, was likely insular until recent times (plate II, also see Case et al. 1983, 2002).

*Etymology*. This species is named in honor of Dr. Fred Andrews, a longtime friend, colleague and mentor who accompanied one of us (RLA) on numerous trips to Baja California.

*Diagnostic Combination*. Anterior lateral genal margins rounded; clypeus with apex convex but centrally truncate; cranial surface set with fine punctures, separated from one another by about three or more diameters of a puncture; mandibles bifid. Antenna with 3rd segment longest, last four segments extending beyond pronotum, last three

segments more setose. Pronotum widest at middle, surface set with shallow fine punctures dorsally, most separated by two puncture diameters. Anterolateral angle not produced, truncate. Femora, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete at elytral declination. Males with small setose elongate patch at middle of first abdominal ventrite, length 1/3 length of second sternite.

*Vizcainyx australis* Aalbu & Smith, **sp. nov.**
(Figs. B & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs testaceus. Length: male 7.4 mm, female 6.9 mm Width: male 3.8 mm, female 3.6 mm.

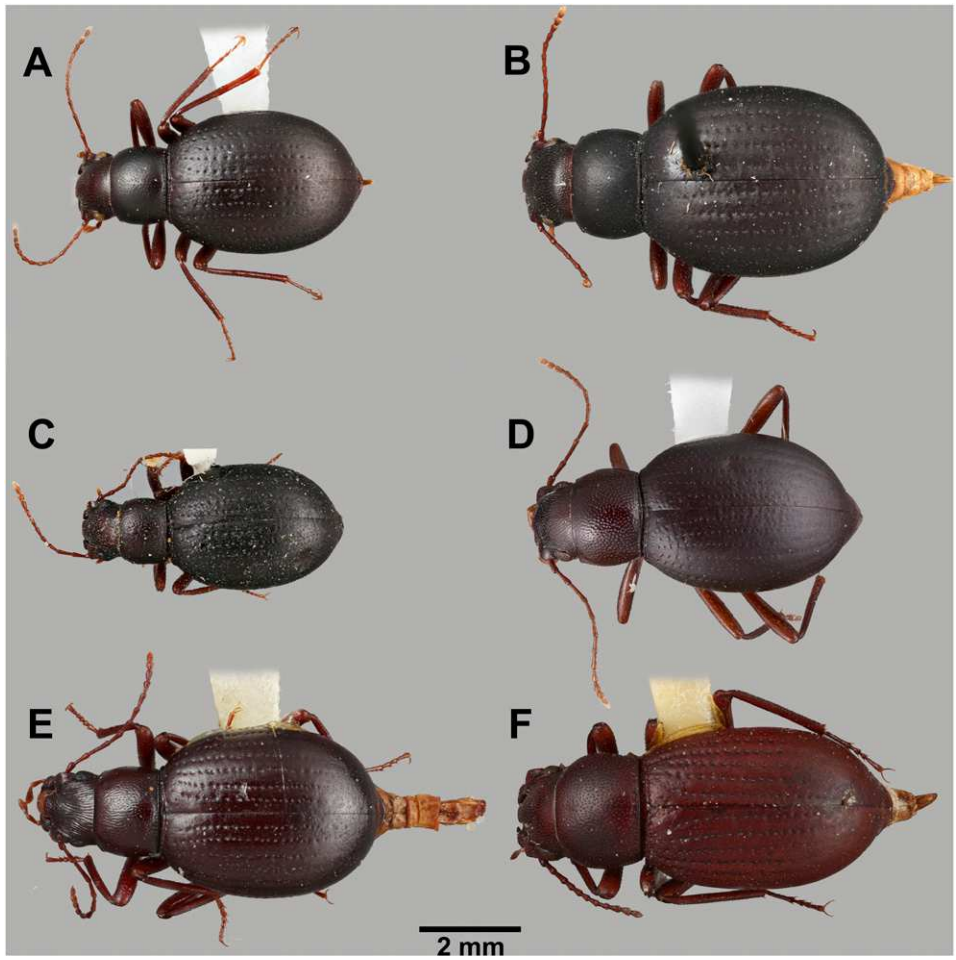
Head. Prognathous, slightly deflexed, greatest width across eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly to lateral teeth, then very slightly convex apically. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes large, produced, rounded. Cranial surface set with large, elongate punctures, separated from one another by less than one puncture diameter. Labrum visible, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, bifid, superior margin with stout angular, hollowed out cusp. Maxillary palpus long and thin, apical segment spoon shaped with an acute, truncate apex. Mentum very large, hexagon al. surface flat with two fine setae laterally. Labial palps, submentum very small. Gula short; Subgena forming acute projection around submentum at base of mentum. Antenna long, slender, 3rd segment longest, last 2–3 segments extending beyond pronotal base, last three segments more setose.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest slightly forward of middle; surface appearing smooth but set with shallow, very fine, almost indistinguishable punctures dorsally, most separated by two puncture diameters. Complete lateral margin present fine. Anterior, lateral, posterior margins visible from above. Anterolateral angle not produced, truncate. Prosternal area unevenly punctate, pronotal process declivous behind coxae. Femora clavate, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures much larger than pronotal punctures, only covering half the elytra, starting a little less than 1/5 distance from base and only to elytral top, then becoming obsolete at elytral declination. Epipleura almost evenly narrow, reaching apex.

Abdomen. Widest at middle, punctate behind coxae, rest of abdomen impunctate. Meso-metasternum evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal process rounded apically between meso-metacoxae. Males with small setose patch at middle of first abdominal ventrite; all abdominal ventrites with single long setae on lateral aspect. Females with scattered abdominal setae. Male genitalia as in *V. andrewsi*.

*Type Specimens.* Holotype: Male, MEXICO: B. Cal. (Sur) Isla San Marcos, III-31-1953, Col by J.P. Figg-Hoblin; Tenebrionid Base Catalog #03286, CASC. Holotype deposited CASC. Allotype: Female, same except Tenebrionid Base Catalog #03453, CASC.

*Diagnostic Combination*. Anterior lateral genal margins rounded, clypeus very slightly convex apically; cranial surface set with large, elongate punctures, separated from one another by less than one puncture diameter; mandibles bifid. Antenna with 3rd segment longest, last 2–3 segments extending beyond pronotal base, last three segments more




Figures A–F (dorsal habitus). A, *V. andrewsi* sp. nov., B. *V. australis* sp. nov., C, *V. browni* sp. nov., D. *V. clarki* sp. nov., E, *V. insularis* sp. nov., F, *V. peninsularis* sp. nov.

setose. Pronotum widest slightly forward of middle; surface appearing smooth but set with shallow, very fine, almost indistinguishable punctures dorsally, most separated by two puncture diameters. Anterolateral angle not produced, truncate. Femora clavate, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae, punctures much larger than pronotal punctures, only covering half the elytra, starting a little less than 1/5 distance from base and only to elytral top, then becoming obsolete at elytral declination. Males with small stellate setose patch at middle of first abdominal ventrite, length less than 1/3 length of second sternite.

*Vizcainyx browni* Aalbu & Smith, **sp. nov.**
(Figs. C & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs rufo-testaceus. Length: male: 5.2 mm. Width: male 2.5 mm.

Head. Prognathous, slightly deflexed, greatest width across eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly to truncate apex. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes large, produced, rounded. Cranial surface set with large shallow, nearly indistinguishable punctures, separated from one another by less than diameter of a puncture. Labrum visible, large, sub-cordate, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, bifid, superior cusp hollowed out medially. Maxillary palpus long and thin, apical segment broadened, with an acute, truncate apex. Mentum very large, hexagonal surface flat with two fine setae laterally. Labial palps, submentum small, submentum notched medially. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna long, slender, with 3-4 apical segments extending past pronotum, first segment (scape) longer than 3rd segment, last three segments more setose, apical segment twice length of 10th.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest at middle; surface set with shallow almost rugose punctures dorsally, most separated by puncture diameter to contiguous. Complete lateral margin present fine. Anterior and posterior margins visible from above. Anterolateral angle not produced, truncate. Prosternal area almost rugosely punctate, pronotal process declivous behind coxae. Femora long clavate, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete at elytral declination. Epipleura almost evenly narrow, reaching apex.

Abdomen. Ovoid in form, widest at middle, slightly punctate behind coxae, rest of abdomen inpunctate. Meso-metasternum with scattered punctures, evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal segment process rounded apically between meso-metacoxae. Males with small setose patch at middle of first abdominal ventrite. Male genitalia as in *V. andrewsi*.

*Type Specimens.* Holotype: Male, MEXICO: Baja Calif Sur., 13 mi. SW Guillermo Prieto, III-31-1982, Fluor. Black light, M Wasbauer, B and M. Phelps collectors. Tenebrionid Base Catalog #03541, CDFA. Holotype deposited CDFA. Only known from holotype.

*Etymology*. This species is named in honor of Dr. Kirby Brown, a longtime friend, colleague and mentor who in 1999 accompanied one of us (RLA) in a valiant but unsuccessful attempt to collect more of this unique species.

*Diagnostic Combination*. Anterior lateral genal margins rounded; clypeus produced anteriorly to truncate apex; cranial surface set with large shallow, nearly indistinguishable punctures, separated from one another by less than diameter of a puncture; mandibles bifid. Antenna with 3–4 apical segments extending past pronotum, first segment (scape) longer than 3rd segment, apical segment twice length of 10th. Pronotum, widest at middle, surface set with shallow almost rugose punctures dorsally, most separated by puncture diameter to contiguous. Anterolateral angle not produced, truncate. Femora long clavate, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete at elytral declination. Males with small setose elongate patch at middle of first abdominal ventrite, length 1/3 length of second sternite.

*Vizcainyx clarki* Aalbu & Smith, **sp. nov.**
(Figs. D & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs same color. Length: male 6.6 mm. Width: male 3.1 mm

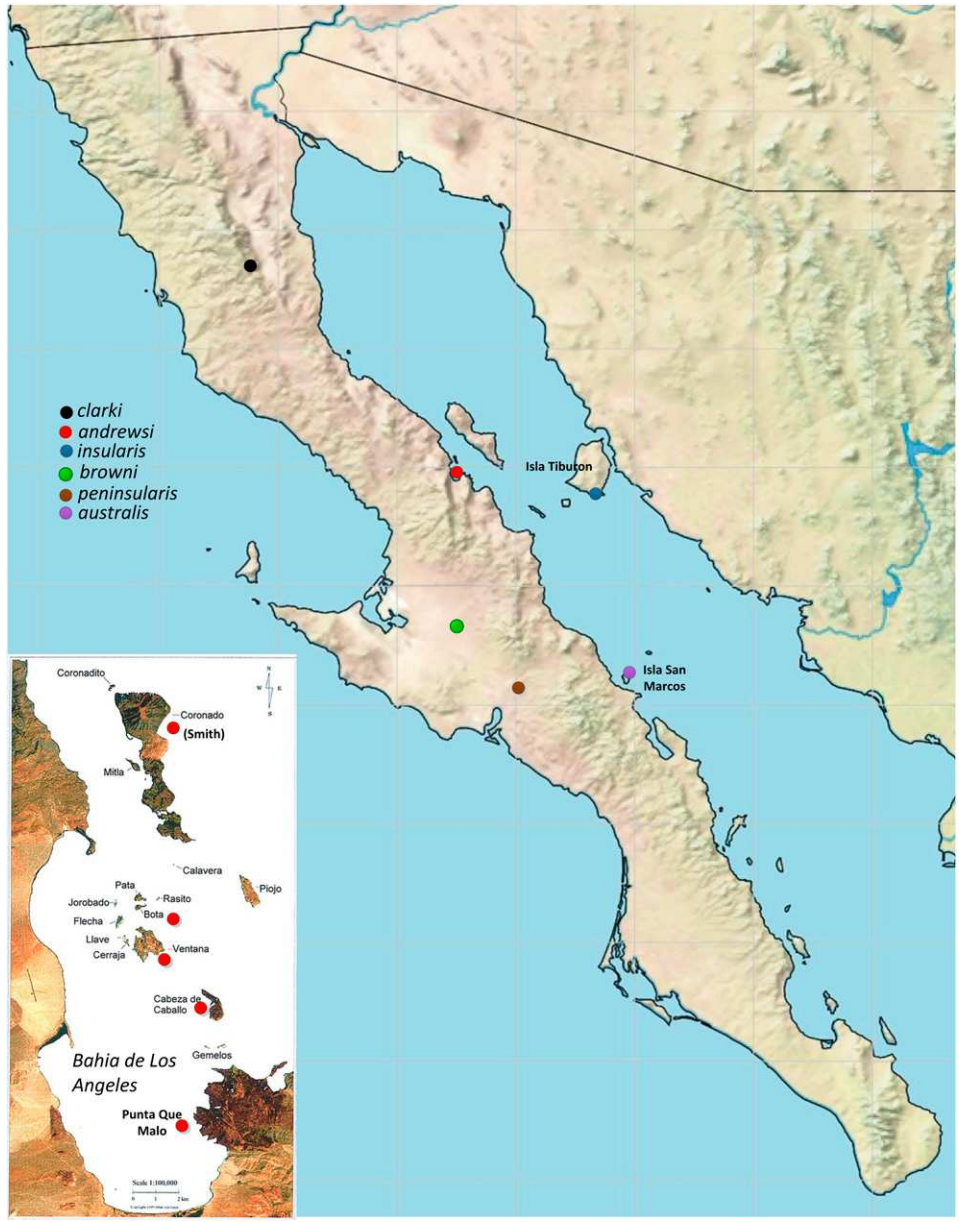



Figure G. Distribution of the genus *Vizcainyx*. Inset, detailed look at islands around Bahia de Los Angeles.

Head. Prognathous, slightly deflexed, greatest width across eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly obliquely to lateral teeth, then coming to a sharp acute apex medially. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes large, produced, rounded. Cranial surface set with elongate, shallow punctures, separated from one another by diameter of a puncture. Labrum visible, narrow then expanded, overlapped by upper mandibular

tooth, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, trifid, superior cusp hollowed out medially then forming a stout angular tooth anteriorly. Maxillary palpus long and thin, apical segment truncate with an acute apex. Mentum very large, hexagonal, surface flat with two fine setae laterally. Labial palps, submentum very small. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna long, slender, with 4–5 apical segments extending past pronotum, 3rd segment longest, last three segments more setose.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest at anterior quarter; surface set with dense, large punctures dorsally, most separated by puncture diameter or less. Complete lateral margin present fine. Anterior and posterior margins visible from above. Anterolateral angle moderately produced. Prosternal area densely punctate, pronotal process declivous behind coxae. Femora, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae with additional smaller punctures in intervals, punctures about the same size as pronotal punctures, becoming obsolete only near apex. Epipleura almost evenly narrow, reaching apex.

Abdomen. Ovoid in form, widest at middle, punctate behind coxae, rest of abdomen impunctate with small scattered setae. Meso-metasternum densely punctate, evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal segment process rounded apically between meso-metacoxae. Males with large setose patch at middle of first abdominal ventrite, size of patch as long and as wide as length of 2$^{nd}$ abdominal segment. Genitalia not examined

*Type Specimens.* Holotype: Male, MEXICO, Baja California Norte, El Berrendo Palm Oasis, ungrazed area, Lat. 30°31.976”N Long. 115°08.019” W., 29 March 2005 to 18 May 2009, Ethylene Glycol Pitfall trap #2, William H. Clark Collector Event #12.103, Tenebrionid Base Catalog #18761, CIDA. Holotype deposited CASC. Only known from holotype.

*Etymology*. This species is named in honor of Dr. William H. Clark, who has made a significant contribution to the knowledge of this peninsula as well being the collector of this unique species.

*Diagnostic Combination*. Anterior lateral genal margins rounded; clypeus coming to a sharp acute apex medially. Cranial surface set with elongate, shallow punctures, separated from one another by diameter of a puncture. Labrum narrow then expanded, overlapped by upper mandibular tooth. Mandibles, trifid, Antenna with 4-5 apical segments extending past pronotum, 3rd segment longest. Pronotum with anterolateral angle slightly produced, widest at anterior quarter; surface set with dense, large punctures dorsally, most separated by puncture diameters or less. Prosternal area densely punctate, pronotal process declivous behind coxae. Femora, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae with additional smaller punctures in intervals, punctures about the same size as pronotal punctures, becoming obsolete only near apex. Males with large setose patch at middle of first abdominal ventrite.

*Vizcainyx insularis* Aalbu & Smith, **sp. nov.**
(Fig. E & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, apterous. Color uniformly shining rufo-piceous to black, legs rufo-testaceus. Length: female 6.9 mm Width: female 3.4 mm

Head. Prognathous, slightly deflexed, greatest width between eyes. Anterior lateral genal margins rounded, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly to a lateral tooth, then slightly convex but centrally truncate apically with margin bearing teeth. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes large, produced, rounded. Cranial surface strongly channeled, rugose, punctures not distinguishable. Labrum visible, subcordate, flavo-testaceus, setose, apically notched medially. Mandibles thick, robust, bifid (right), somewhat trifid (left), weak superior cusp hollowed out medially, left mandible with small angular tooth. Maxillary palpus long and thin, apical segment obliquely truncate, acute apex. Mentum very large, hexagonal, surface flat with two fine setae laterally. Labial palps, submentum small. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna long, slender, with 4–5 apical segments extending past pronotum, 3rd segment longest, last three segments more setose.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest slightly forward of middle; surface set with shallow, channeled rugose punctures dorsally. Complete lateral margin present fine. Anterior and posterior margins visible from above. Anterolateral angle not produced, truncate. Prosternal area strongly punctate, pronotal process declivous behind coxae. Femora clavate, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete past elytral declination. Epipleura almost evenly narrow, reaching apex.

Abdomen. Ovoid in form, widest at middle, punctate behind coxae, rest of abdomen impunctate. Meso-metasternum evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal process rounded apically between meso-metacoxae.

*Type Specimens.* Holotype: Female, MEXICO, Sonora, SE end of Isla Tiburon. V-5-1952, Col by J.P. Figg-Hoblin; Tenebrionid Base Catalog #16100, CASC. Holotype deposited CASC. Only known from holotype.

*Diagnostic Combination*. Anterior lateral genal margins rounded; clypeus strongly produced anteriorly to a lateral tooth, then slightly convex but centrally truncate apically with margin bearing teeth; cranial surface strongly channeled, rugose, punctures not distinguishable; mandibles bifid (right), trifid (left). Antenna long, slender, with 4–5 apical segments extending past pronotum, 3rd segment longest, last three segments more setose. Pronotum widest slightly forward of middle; surface set with shallow, channeled rugose punctures dorsally; anterolateral angle not produced, truncate. Femora clavate, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete past elytral declination.

### *Vizcainyx peninsularis* Aalbu & Smith, **sp. nov.**
(Figs. F & G)

*Description.* Form with abdomen nearly twice as wide as pronotum, slightly less so in some males, apterous. Color uniformly shining rufo-piceous to black, legs same color. Length: male 5.5–7.2 mm, females 6.0–6.7 mm. Width: male, female, 3.0 mm.

Head. Prognathous, somewhat deflexed, greatest width between eyes. Anterior lateral genal margins rounded but with angulate anterior-exterior angle, converging toward eyes, extending only slightly into eye. Clypeal margin indistinct, clypeus strongly produced anteriorly to lateral right angle, then slightly convex but medially truncate apically. Supraorbital carina distinct, extending posteriorly nearly to base of eyes. Eyes

large, produced, rounded. Cranial surface channeled, rugose with elongate punctures, separated from one another by a puncture distance or less. Labrum visible, flavo-testaceus, setose, apically notched medially, shaped as a truncate triangle. Mandibles thick, robust, trifid, superior cusp with stout angular tooth. Maxillary palpus not long, thin, apical segment spoon shaped with an acute apex. Mentum very large, hexagonal, surface flat with two fine setae laterally. Labial palps, submentum very small, submentum inverted triangular in shape. Gula short; subgena forming acute projection around submentum at base of mentum. Antenna with first segment (scape) subequal to 3rd segment, moderately long, slender, with 11th segment extending beyond pronotum, last three segments more setose, shorter.

Thorax. Pronotum subcylindrical, about as long as head, wider than long, widest at apical third; surface set with shallow fine punctures dorsally, most separated by single puncture diameter. Complete lateral margin present fine. Anterior, posterior margins visible from above. Anterolateral angle not produced, rounded. Prosternal area evenly punctate, pronotal process declivous behind coxae. Femora long clavate, tibiae, tarsi long, slender. Elytra strongly inflated, embracing abdominal venter; surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete before elytral declination, at elytral 1/2. Epipleura almost evenly narrow, reaching apex.

Abdomen. Ovoid in form, widest at middle, punctate behind coxae, rest of abdomen impunctate. Meso-metasternum evenly narrow, about as wide as mesocoxae. Both metasternum and first abdominal process rounded apically between meso-metacoxae. Males lacking small setose patch at middle of first abdominal ventrite. Male, female genitalia as in *V. andrewsi*.

*Type Specimens.* Holotype: Male, MEXICO, Baja Calif. (Sur)., 4 mi. NW Rancho San Juan, 3–4-IV-1961, Allyn G. Smith, under dung, CASC. Holotype deposited CASC. Allotype: Female, same. Allotype deposited CASC. Four additional specimens with same data not designated types deposited CASC, RLAC.

*Diagnostic Combination*. Anterior lateral genal margins rounded but with angulate anterior-exterior angle; clypeus produced anteriorly to lateral teeth, then slightly convex but medially truncate apically; cranial surface channeled, rugose with elongate punctures, separated from one another by a puncture distance or less. Mandibles trifid. Antenna with first segment (scape) longer than 3rd segment, moderately long, slender, with 11th segment extending beyond pronotum, last three segments shorter. Pronotum widest at apical third; surface set with shallow fine punctures dorsally, most separated by single puncture diameter. Anterolateral angle not produced, rounded. Femora long clavate, tibiae, tarsi long, slender. Elytral surface evenly punctate in striae, punctures much larger than pronotal punctures, becoming obsolete at elytral 1/2 before elytral declination. Males lacking small setose patch at middle of first abdominal ventrite.

Key to the known species of *Vizcainyx*

1. Clypeus coming to a sharp acute apex medially; pronotum with anterolateral angle slightly produced; males with large setose patch at middle of first abdominal ventrite, size of patch as long and as wide as length of 2nd abdominal segment …….. *V. clarki* sp. nov.
- Clypeus with apex rounded or truncate; pronotum with anterolateral angle rounded or tuncate; Males: if setal patch is present at middle of first abdominal ventrite, size very small ……..…….... 2

2. Antenna second segment longer than apical segment; mandibles at least with one side weakly trifid …….. 3
- Antenna second segment shorter than apical segment; mandibles bifid …….. 4
3. Antenna with apical segment equal in length to 10th; cranial surface weakly channeled, with few punctures visible near apical surface; mandibles trifid, with superior cusps strongly produced, with stout angular anterior tooth; males lacking small setose patch at middle of first abdominal ventrite …… *V. peninsularis* sp. nov.
- Antenna with apical segment shorter in length to 10th; cranial surface strongly channeled, rugose, punctures barely distinguishable; mandibles bifid (right), somewhat trifid (left), with small angular tooth on upper cusp …….. *V. insularis* sp. nov.
4. Antenna with apical segment equal in length to 9th; central clypeal projection produced anteriorly at medial 1/2; cranial punctures large, elongate, separated from one another by less than one puncture; males with small stellate setose patch at middle of first abdominal ventrite …….. *V. australis* sp. nov.
- Antenna with apical segment much longer in length than 9$^{th}$; males with small setose patch at middle of first abdominal ventrite …… 5
5. Cranial, thoracic punctures fine, separated from one another by about three or more diameters of a puncture …….. *V. andrewsi* sp. nov.
- Head with long narrow sub-rugose punctures, sometimes channeled. Thorax with large shallow punctures …… *V. browni* sp. nov.

## Discussion

This new, rarely collected genus is restricted mainly to the area of central Baja California encompassing parts of Baja California and Baja California Sur. It is also known from a number of islands, and so far two species seem to be island endemics, although in both these cases—Isla San Marcos (5 km distance from mainland Baja California Sur) and Isla Tuburon less than 2 km from mainland Sonora)—the islands seemed to have been first isolated in the Pleistocene (see Gastil et al.1983). The species *V. browni* and *V. peninsularis* seem on a map fairly near each other and in the same region, but while *V. peninsularis* occurs in the rugged area next to the Mesa Las Lagunitas almost surrounded to the south by the Salitrales San Ignacio salt marsh, *V. browni* occurs in the sandy central Desierto de Vizcaino.

## Acknowledgments

Visits to the islands in the Gulf of California were partially supported by the San Diego Museum of Natural History, The National Geographic Society, The Earthwatch Institute, and the University of California, Davis, Department of Ecology. Funding was provided by the NSF ARTS Program (DEB #2009247). We would also like to thank Christopher Grinter and Christina Piotrowski (collection managers of Entomology and Invertebrate Zoology, respectively) at California Academy of Sciences for their help in locating the enigmatic "Rancho San Juan" in Baja California.

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*Received 10 Apr 2020; accepted 8 July 2020 by O. Keller. Publication date 30 Sept 2020*