

A NEW SPECIES OF *ELEUTHERODACTYLUS* FROM EASTERN MEXICO

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ABSTRACT. — A new species of the *Eleutherodactylus rhodopis*-group (Salientia: Leptodactylidae) is described from Volcan San Martin Pajapan, Veracruz, Mexico. The frog appears most closely related to *E. mardougalli* of Oaxaca and Chiapas, Mexico. It is presumed endemic to the Los Tuxtlas Range of Veracruz, Mexico.

The most poorly understood complex of the genus *Eleutherodactylus* (Salientia: Leptodactylidae) is the *E. rhodopis* group, heretofore represented by eight Mexican species. This group is characterized by: toe and finger tips not bulbous or expanded, no extensive webbing between toes, vomerine teeth present, inguinal gland lacking, and no post-ocular dermal folds. Six species occur in the Los Tuxtlas Range of Veracruz, Mexico, and two of the six are known only from Volcan San Martin (Shannon and Werler, 1955:370 and 375). The present paper describes a third presumed endemic species of the *E. rhodopis* group from Volcan San Martin. This new form is based on a single specimen in the University of Illinois Museum of Natural History (UIMNH).

Eleutherodactylus werleri, new species

Holotype. — University of Illinois Museum of Natural History No. 42987, an adult male, collected by John Werler on the east slope of Volcan San Martin Pajapan at 4,000 feet elevation, Veracruz, Mexico, September, 1954. Field number 1817.

Diagnosis. — An *Eleutherodactylus* of the *E. rhodopis* group, separable from all species of the genus by the following combination of characters: tympanum nearly as large as eye, circular in outline, very distinct; tarsus with a weak but complete fold; head broader than body; no dorsal ridges except for a partial dorsolateral fold; toes with a vestige of a web; no supernumerary tubercles; large vomerine tooth bosses present; snout in lateral view sloping, not truncate or projecting over lip; side of head uniformly dark; dorsum much lighter, tan, with numerous paired markings; toe tips not dilated or bulbous; inguinal gland lacking.

Description of the holotype. — Adult male; head slightly broader than long (18.4 mm x 17.7 mm); snout very elongate; eyes small, width of eyelid smaller than interorbital distance; tympanum very large (Fig. 1), circular, its horizontal diameter nearly equal to length of eye; eye to nostril distance greater than length of eye; tip of snout (in lateral view) sloping; canthus rostralis sharp; loreal region slightly concave, sloping sharply to lip; supra- and post-tympanic fold present, although supra-tympanic portion not prominent; a few glandular-like warts at angles of jaws.

Tongue oval, free for slightly less than one-half length of tongue, notched behind; vomerine tooth bosses triangular in outline, 5-7 vomerine teeth on bosses (right and left, respectively); choanae very large, approximately two and one-half to three times size of a vomerine tooth boss; vomerine tooth bosses between and a little posterior to choanae; choanae completely visible when roof of mouth is viewed from directly below; no vocal sac or vocal slits in mouth.

Head much broader than body; body relatively slender; skin of dorsum and venter smooth; dorsolateral folds present in form of rows of tubercles from supra- and posttympanic fold extending about

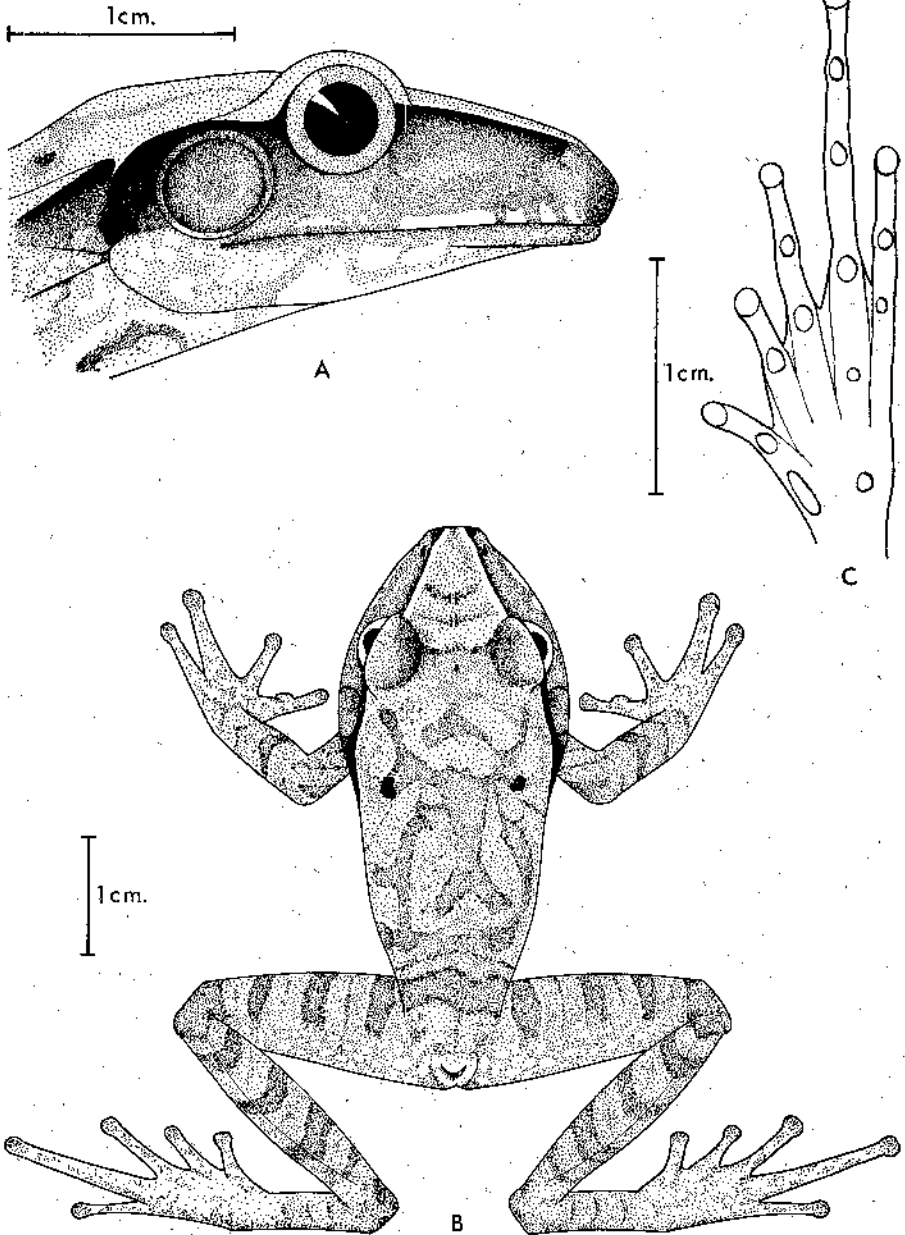


Figure 1.—A, side of head of holotype of *E. werleri*. B, dorsal view of holotype. C, undersurface of foot of holotype. Holotype UIMNH 42987, Volcan San Martin Pajapan, 4000', Veracruz, Mexico.

TABLE 1.—Comparison of species of *Eleutherodactylus rhodopsis* group.

	lateral snout shape	head width	tarsal condition	Tympanum	tympanum size	supernumerary tubercles on sole	toe webbing	outer metatarsal tubercle	side of head
<i>E. beate</i>	rounded	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. dorsoconcolor</i>	rounded	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. dorni</i>	rounded	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. rhodopsis</i> (<i>E. rostralis</i>)	rounded	narrower than body	tubercle	oval	small	present	absent or weak	clearly evident	not uniformly darkened
<i>E. sammartinensis</i>	rounded	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. loki</i>	truncate	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. venustus</i>	rounded	narrower than body	tubercle	oval	small	present	absent	clearly evident	not uniformly darkened
<i>E. macedugalli</i>	sloping	broader than body	fold	oval	large	absent	present	clearly evident	not uniformly darkened
<i>E. lineatus</i>	sloping	broader than body	fold	oval	large	absent	present	clearly evident	not uniformly darkened
<i>E. weveri</i>	very sloping	much broader than body	fold	circular	large	absent	present	clearly evident	not uniformly darkened
								weakly evident	uniformly darkened

one-half the length of body; vague indications of postocular folds; no other dorsal skin folds present; no dark markings on center of back; skin in area of posterior and ventral surfaces of thighs and close to anus, granular; anal opening simple, no flap or large tubercles at opening.

No axillary membrane; no ridges on forearm; a single medial carpal tubercle present; a transverse fold at junction of forearm and hand; two large palmar tubercles, subequal in size; subarticular tubercles simple, not divided; vestige of web present between fingers; lateral fringes on fingers 2, 3 and 4; tips of fingers not expanded; transverse groove across tip of each finger; first finger slightly longer than second, shorter than fourth; third finger longest.

Tibiotarsal articulation reaches almost to nostril when leg carried forward; when legs held at right angles to body, heels overlap slightly (3 mm); no outer tarsal fold; inner tarsal fold weak, extending nearly the length of tarsus; inner metatarsal tubercle large, elongate, nearly four times as long as wide; outer metatarsal tubercle small, compressed, nearly indistinguishable from sole except by its darker color; no supernumerary tubercles on sole; subarticular tubercles simple; lateral fringes present on all toes; toes with slight but noticeable web; toe tips not expanded.

Measurements of holotype in millimeters.—snout to vent 43; length of tibia 23.5; width of head 18.4; length of head 17.7; horizontal diameter of tympanum 4.4; length of eye 4.8; distance from eye to nostril 5.7; width of eyelid 4.0; width of interorbital distance 4.8.

Color in alcohol.—Dorsum reddish brown, grayer on sides; side of head dark, almost uniformly black; narrow white-edged labial stripe extending from snout to commissure of jaws.

Specimens examined (all UIMNH).—*E. beatae*: Veracruz-Tequeyutepec 49186-94; Cuantlapam 15829-34. *E. dorsoconcolor*: Veracruz-Tequeyutepec 49195; Coyame 36858, 33912. *E. dunnii*: Veracruz-San Martin 35364-68; Tequeyutepec 15343-97; Oaxaca-Cerro Machin 50081-100; Guatemala-Peten; 14710-32. *E. macdougalli*: Oaxaca-La Gloria 15907 (holotype); between La Gloria and Cerro Azul 40934-41; north of Zanatepec 53086. *E. loati*: Veracruz-Volcan San Martin 35383-86 (paratypes); *E. rhodopsis*: Chiapas-La Esperanza 14656-680; Tonala 37433-37; Rancho San Bartolo 9881-86; Oaxaca-vicinity of La Gloria, Rio Grande, and Cerro Azul 40942-49, 40936-

91; 3 miles W Tapanatepec 39497-518; Veracruz-San Lorenzo, nr. Cordoba 15933; Potrero Viejo 14584; San Andros Tuxtla 15927-29; San Martin 35370-82; Tequeyutepec 15935-36; Coyame 36863-64; near Jalapa 15934; Guatemala, Suchitepequez-E. Naranjo, W Slope Volcan Santa Clara 46216-44; Peten 14585-653. *E. sanmartinensis*: Veracruz-Volcan San Martin 33912, 35369, 35387 (paratypes). *E. venustus*: Veracruz-Cuantlapam 15959; Tequeyutepec 15956-58, 49206-07; Chiapas-Tapachula 15969; Salto de Agua 15971; Oaxaca-km 110, Oaxaca to Tuxtepec road 53085; Guatemala, Suchitepequez-E Naranjo, W Slope Volcan Santa Clara 46357-61.

Comparisons.—Table I presents a comparative chart showing the differences in the several species of *Rheutherodactylus*. *E. werleri* is closest to *E. macdougalli* (Mexico) and *R. lineatus* (Guatemala) as evidenced by similarity in habitus, absence of supernumerary tubercles on sole, tympani size and color. We hesitate at this time to recognize *E. rosstralis* as recognized by Duellman (1963:222) and Stuart (1963:30) in view of the variation which obtains in *E. rhodopsis*. All named forms of the group are tentatively recognized until a comprehensive review of the group proves otherwise.

Etymology.—The new species is named for John Werler, the collector of the type. We wish to thank Dr. Hobart M. Smith for criticizing the manuscript.

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