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Two New Species of Crotalid Snakes from Mexico

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ABSTRACT: Two new rattlesnakes from México are described: *Crotalus semicornutus* from Mojárachic, Chihuahua, related to the *lepidus* group, and *Crotalus transversus* from the Ajusco Mountains, near Tres Cumbres, Morelos (elevation about 10,000 ft.). The latter species may belong in the *triseriatus* group as defined by Gloyd.

TWO species of the genus *Crotalus*, one from the high plateau region of southern México, the other from southwestern Chihuahua, are described as new.

Crotalus transversus sp. nov.

Type. Edward H. Taylor—Hobart M. Smith Coll. No. 30001; collected about 55 km. SW México (city), near Tres Marias (Tres Cumbres), Morelos, elevation about 10,000 ft., Aug., 1942, by E. Powell.

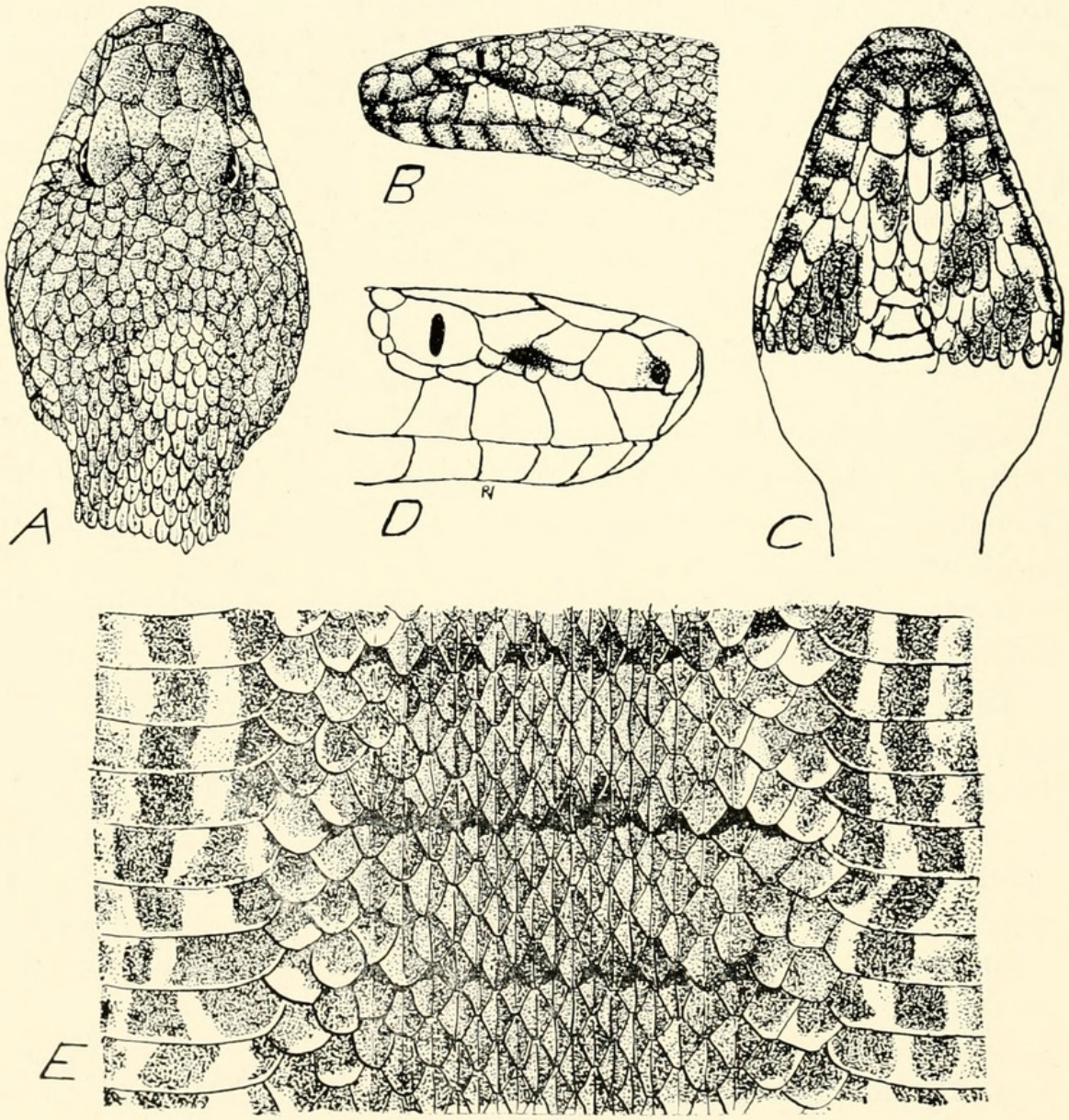
Paratype. EHT-HMS, No. 15879, purchased. México, exact locality uncertain (probably Ajusco range, Morelos).

Diagnosis. A small rattlesnake probably belonging to the *triseriatus* group, but not subspecifically related to any of the known forms. Characterized by 21-19-17 scale rows, upper labials, 8-10, lower labials 9-9. Ventrals, 147; subcaudals, 22-25. Labials separated from the eye by a single row of scales; one scale row only between canthals; upper preocular divided. Brownish with a median light stripe; 34-38 narrow, transverse black stripes on body; 5-7 on tail.*

Description of the type. Head flat, the supraoculars not elevated; rostral visible above, its posterior part rounding; internasals in con-

* There is some difficulty in counting the transverse stripes as many are broken. See figs.

tact, transversely elongate; canthals large, separated from each other by two superimposed intercanthals; a large pair of intersupraoculars, separating the supraoculars anteriorly, three or four small scales separating them posteriorly; occipital scales small, rather irregular. Nasal completely divided, the anterior and posterior parts of nearly equal areas; posterior nasal touching two labials; no loreals; three small scales border lower edge of pit; preoculars divided, the anterior part broadly in contact with posterior nasal, but separated from labial; lower preocular very small; two suboculars, the anterior (lacrymal) scarcely larger than the posterior, both in contact with the labials; three small postoculars. 9 (left), 10 (right), upper labials; 9 lower labials; the 3 anterior touch the enlarged chinshields; first labials in contact medially.



TEXT FIG. 1. *Crotalus transversus* sp. nov. Type. *A*. Dorsal view of head, × 2. *B*. Lateral view of head, × 2. *C*. Ventral view of head, × 2. *D*. Lateral view of head (enlarged). *E*. Dorsal color pattern, enlarged, diagrammatic.

Scale rows, 33 (at 3d ventral), 21, 21, 19, 17; the two outer rows lacking keels; ventrals 147, the first separated from the chinshields by four pairs of small scales; anal single; subcaudals: 1 divided + 12 single + 9 divided = 22; six small rattles.

Color in alcohol. Brownish on sides, the median dorsal region lighter (salmon?); about 45 narrow black, more or less continuous, transverse stripes, on body and tail, which usually reach to the second scale row on the sides of the body; two outer scale rows with numerous small whitish flecks; ventrals with quadrangular dark marks forming irregular lines, the two outer series on each side darker and more distinct than the median. Head dark with an indistinct light stripe across the head at level of the anterior part of supraoculars; lower two-thirds of posterior upper labials whitish; first three labials dark; lower labials and chin spotted with black; the dorsal indefinite light stripe terminates anteriorly just back of occiput in a rounded, darker-edged spot; a black stripe from behind eye to angle of mouth, not bordered above by a light line.

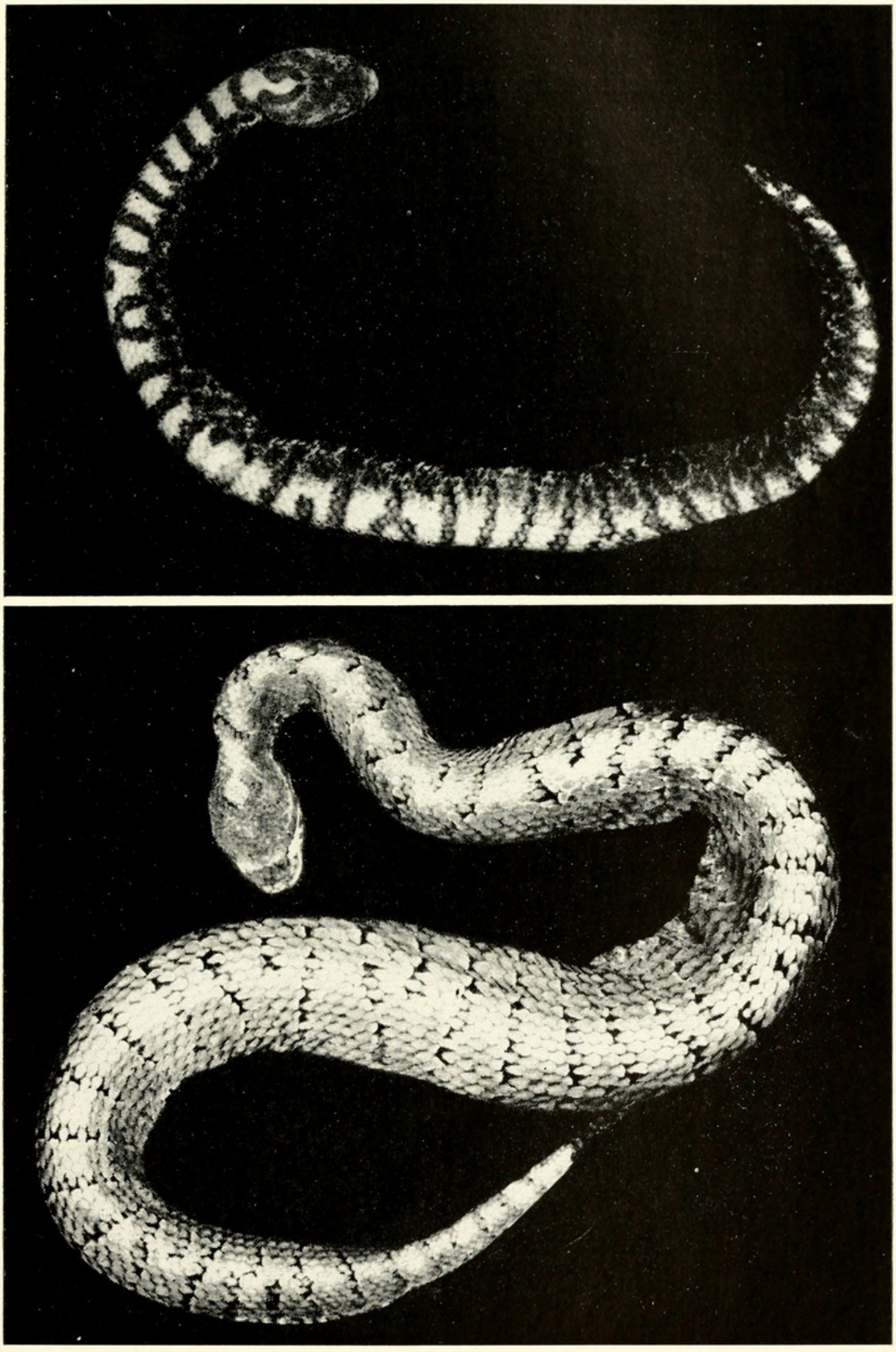
Measurements in mm. Total length, 464; tail, 38; width of head, 19; length of head, 19; length of rattles, 14.

Variation. The paratype is a small specimen from México, and very probably from the Ajusco Mountains between Tres Marias (Tres Cumbres), Morelos, and Cuernavaca. The body is grayish black, but the indefinite dorsal light stripe which terminates in a definite light spot on occiput is present; the body and tail are traversed by 39 narrow dark stripes a little more than two scales wide; a darp spot is present at each end of the stripe, which may touch the stripe, and there is also an indefinite series of small dark spots low on sides, between these latter; the pigment below is largely on the outer sides of the ventrals; the chin is spotted as in the type.

PLATE VI

FIG. A. *Crotalus transversus* sp. nov. Paratype, EHT-HMS No. 15879, México. (Somewhat reduced; actual length, 183 mm.).

FIG. B. *Crotalus transversus* sp. nov. Type, EHT-HMS No. 30001, 55 km. SW México (city) near Tres Cumbres, Morelos. (Somewhat reduced; actual length, 464 mm.).



There is a single elongate scale between the canthals. The internasals are less elongate; there are three anterior intersupraoculars. The labials are 8-8 above, 9-9 below. The scale formula and ventral count are identical with type; caudals: 22 (single) +3 (divided) =25. There is a single row of scales between labials and eye; no loreal, and only two instead of three small scales below the pit, and two instead of three postoculars. The total length of the specimen is 183 mm.

Remarks. That this form is not a subspecies of *Crotalus triseriatus* seems to be proved by the presence of *C. triseriatus anahuacus* in this immediate locality.

It may be distinguished from forms of *triseriatus* by the reduced number of scale rows, 21 as opposed to 23-25; a single row of scales between eyes and labials; reduced labial count and different squamation in loreal region, and the very distinctive marking and coloration.

Mr. Martín del Campo has recently described a small rattlesnake from the "Lagunas de Cempoala" (Zempoala) [Morelos or México] having a reduced squamation (scale formula 21, 19, 17, and 9 upper and lower labials). However, he describes the dorsal markings as "manchas dorsales, 45; caudales, 8." Since he does not describe the very characteristic color pattern of *transversus*, I conclude that he has correctly placed it as a variety of *Crotalus triseriatus anahuacus* Gloyd.

I am indebted to Dr. W. B. Davis, head of the Department of Fish and Game of the Texas Mechanical and Agricultural College, and Mr. Max Whisenhunt of the same institution, for the privilege of describing this striking new species, and for the gift of the type.

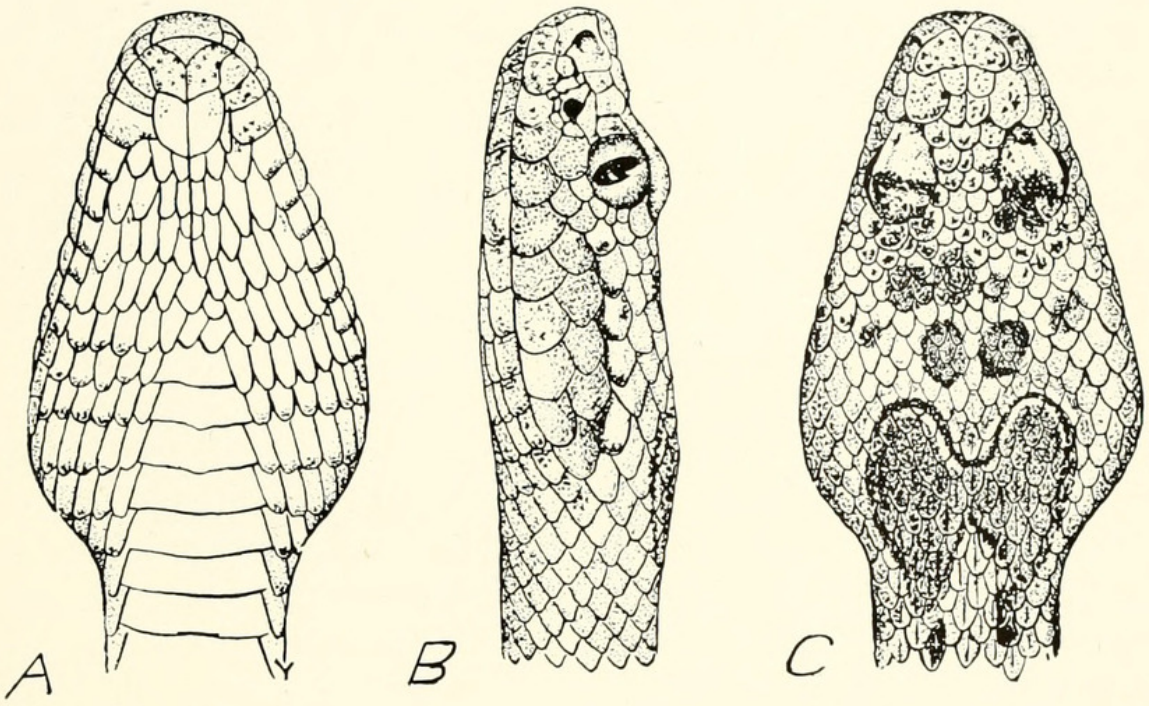
Crotalus semicornutus sp. nov.

Type. EHT-HMS, No. 23014 ♂; collected at Mojárachic, Chihuahua, 1939, by Irving W. Knobloch.

Diagnosis. A small rattlesnake with a single median series of dorsal blotches about five scales wide alternating with less distinct, paired spots; supraocular strongly elevated on its outer edge, much longer than its distance from tip of snout; upper preocular divided, the anterior part bending over edge of canthus, and separated from posterior nasal; a short, dark, light-bordered stripe beginning some distance behind eye and continuing to angle of mouth. One (lacrymal) or two scales between eye and labials; three or four loreals present; a pair of large internasals, in contact; a pair of large can-

thals separated by two pairs of scales; three series of scales between the supraoculars.

Description of the type. Head rather triangular, strongly distinct from neck; snout narrow, rather oval in profile; supraoculars large, strongly elevated on the edge, forming a hornlike ridge; a pair of very large internasals, in contact medially, separated from the supraoculars by large canthal scales, which are themselves separated medially by two pairs of small intercanthals; supraoculars separated



TEXT FIG. 2. *Crotalus semicornutus* sp. nov. Type. *A*. Ventral view of the head, × 2. *B*. Lateral view of head, × 2. *C*. Dorsal view of head, × 2.

by three series of scales anteriorly and by four or five posteriorly; rostral broader than high, the part visible above triangular; nasal scales fused above nostril, sutured below nostril, the anterior part wider and longer than posterior; upper preocular divided, the anterior part largest, turning up over canthus; four loreal scales, the one between the postnasal and the anterior preocular, largest; others small; three scales border the pit, the lower scale separated from the labials by small intercalated scales (left side), or the anterior touching labial (right side); six postocular and subocular scales border posterior and inferior part of eye, the anterior subocular (lacrymal) largest, touching two labials; posterior suboculars separated from labials by one or two scales; 10 (left), or 11 (right) upper labials; mental triangular, its labial border greater than that of rostral; first pair of chinshields bordered by 3 (left) or 4 (right) lower labials; body scales keeled save outer row. Scale formula:

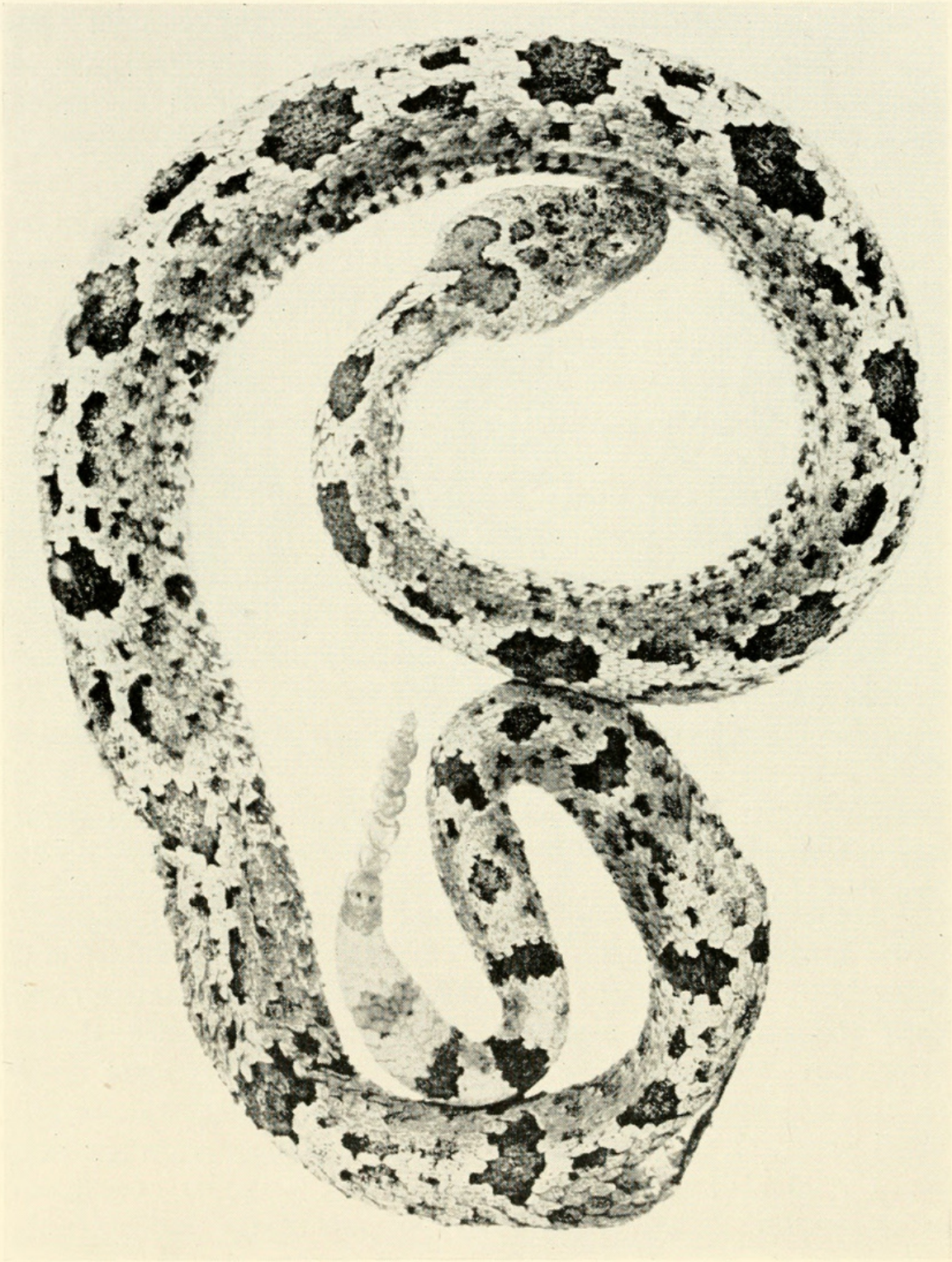


PLATE VII. *Crotalus semicornutus* sp. nov. Type, EHT-HMS No. 23014, Mojárachic, Chihuahua. (Somewhat enlarged; actual length, 493 mm.)

28, 25, 21, 23, 17, 17; ventrals, 167; 16 undivided subcaudals, followed by 3 divided scales; anal single; 13 scales about base of tail; 10 about middle of tail; six rattles present.

Measurement in mm. Total length, 493; tail 37.5; rattle 21.6; width of head, 17; length of head, 20.3; length of supraocular, 6.

Color. The dorsal ground color is pearl gray with the sides somewhat lavender-gray to pinkish salmon (low on side). On body a median series of about 16 very irregularly-edged dark spots, which alternate with smaller, irregular, more or less elongate paired spots (occasionally fused on posterior part of body or broken in two or three parts); an irregular row of dark flecks on the sixth scale row, each covering area equal to one scale; a similar series on the fourth row; still another row of dark flecks on first, second and third rows, the spots irregular and sometimes including parts of three scales, but usually covering a total area of about two whole scales; a pair of nuchal spots present, which are in contact medially; several small black spots on occiput, the anterior pair touching the supraoculars; an elongate dark stripe beginning behind eye is bordered above and behind by a whitish line; labials pinkish salmon, the upper labials heavily pigmented with ashy gray, the lower labials pigmented on their sutures; posterior half of tail somewhat orange above, yellowish below. Ventral surface dirty whitish with the anterior and posterior part of each ventral grayish or blackish, often covering more than half of the outer part of ventrals. Two black spots on the dorsal part of tail and one chestnut spot; ventral surface of posterior part of tail lacking dark markings.

Remarks. The relationship of the species is believed to be with *Crotalus lepidus.* It differs from that species in having a larger supraocular, much longer than its distance from the end of the snout, and in having the supraocular strongly elevated with a keel-like edge, allowing the upper fourth of the eye to be higher than the interorbital level. The color pattern is very different from that of typical specimens of *C. lepidus klauberi* Gloyd or *C. lepidus lepidus* (Kennicott) and the caudal scales are fewer. There is however a similarity in the general squamation; yellowish orange tail coloration and the presence of the pinkish-salmon coloration low on sides.

The specimen comes from an elevation of about 6,000 feet in the Sierra Madre mountains.

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