

## A New Species of Colubrid Snake, Genus *Coniophanes*, from Darién, Panama

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*Coniophanes joanae*, n. sp., from cloud forest in eastern Panama, differs from its congeners in coloring and pattern and from all save *C. meridanus*, of Yucatán, in having the anterior and midbody dorsal scales in 17 rows, rather than in 19 to 25 rows.

IN May 1965, with financial support from the National Institutes of Health (GM 12020), I established a three-day camp in cloud forest on Cerro Pirre, Darién Province, eastern Panama. The camp lay at 1440 m elevation and was reached by cutting a trail from the old gold mines of Santa Cruz de Cana (500 m), on the southeastern base of the mountain. Cana itself, a jungle-covered townsite dating from the end of the 16th century, was approached by reopening 50 km of trail from Boca de Cupe, a town to the northeastward, on the Río Tuira; this trail sometimes crossed deteriorated and frequently buried track of the Cana tramroad, which was described by Goldman (1920).

A small snake found on the mountain represents an attractive and distinct new species, which I take pleasure in naming for my wife, Joan Wilson Myers.

*Coniophanes joanae*, n. sp.  
 (Figs. 1, 2)

*Holotype*.—University of Kansas Museum of Natural History 93502 (original number CWM 5097), an adult female taken on 27 May 1965, by Charles W. Myers, on the southeastern slope of Cerro Pirre (also called "Mount Pirri" and "Cerro Cana"), Serranía de Pirre, 1440 m above sea level, Darién, Panama.

*Diagnosis*.—A diminutive *Coniophanes* differing from most of its congeners in having 17 anterior and midbody rows of dorsal scales, and differing from all in the following combination of color and pattern: Brown above with brown supralabials and a light postocular stripe across corner of mouth to nape; a dark line on the 4th scale row and a dark streak on the vertebral and paravertebral rows extending length of body and continuing conspicuously as tail stripes; ventral surfaces orangish brown, mottled with blackish pigment and with a dark transverse

streak at base of each ventral and subcaudal plate.

*Coniophanes meridanus*, of the Yucatán Peninsula, is the only other species of *Coniophanes* with 17 anterior and midbody rows of dorsal scales (from 19 to 25 rows in other species), but has light temporal stripes, a nape collar, an inconspicuously striped body and tail, and lacks a light stripe across the corner of the mouth.

*Description of holotype*.—Sexually mature (oviducts enlarged, ovarian eggs 3 mm in length), small, moderately stout snake; head short and barely distinct from neck; tail short. Head length (snout to base of 1st ventral) 12 mm; greatest head width (between 6th supralabials) 8 mm; head width/head length ratio 0.667. Total length (preserved) 365 mm; tail length 80 mm (tip missing); tail/total length ratio 0.219. Dorsal scales smooth, lacking apical pits or anal ridges, in 17-17-15 rows, reducing by loss of paravertebral rows above level of 81st ventral on left and 79th ventral on right. Ventrals 131 (Dowling system) plus half-ventral immediately before anal plate; anal plate divided; subcaudals in 47 pairs, a few possibly missing owing to breakage at tail-tip. Head scutellation of generalized colubrid type; rostral low, more than twice as wide as high, only upper edge visible from above; internasals about as wide as long, greater than one-half length of prefrontals; prefrontals as wide as long, not extending back to line between anterior edges of eyes, each in contact with an internasal, nasal, loreal, preocular, supraocular, and frontal; frontal slightly hexagonal (small anterior apex), twice as long as broad and about one and one-half times longer than its distance to snout tip; supraoculars twice as long as wide, narrowed in front, not projecting over eyes; parietals about one and one-half times longer than wide; interparietal suture slightly more than three-fourths length of frontal and longer



Fig. 1. *Coniophanes joanae* (holotype). Head at upper right is about life size. (From kodachromes by Curt R. Schneider.)

than distance from frontal to snout; nasal longer than high, single with vertical groove below (left side) or above (right side) nostril; loreal pentagonal with dorsal apex, higher than long; preoculars 1, high; postoculars 2, lower three-fourths size of upper; temporals 1 + 2, upper plate in 2nd row as long as primary temporal and one-third longer than lower plate; supralabials 7, 1st-2nd touching loreal, 3rd-4th touching eye, 4th-6th large; infralabials 9/8, first pair in contact behind mental, 1st-4th (left) or 1st-3rd (right) bordering anterior genials, 4th-5th (left) or 3rd-4th (right) bordering posterior genials, 5th (left) or 4th (right) largest; posterior genials about one and one-

half times longer than anterior, which have dividing suture slightly shorter than between posterior genials; no preventrals, but 14 gular scales within confines of first ventral, first dorsal scale rows, and posterior genials.

Eye prominent, about one-half of its area visible from above, not visible at all from below; diameter of eye one and one-half times into distance from anterior edge of eye to tip of snout; pupil round.

Color and pattern in life: Medium brown above; dark brown medial streak starting as indefinite line on common parietal suture and running on vertebral and paravertebral scale rows, taking shape near anal region as blackish-edged dark stripe and continuing to tip of tail; blackish brown lateral line originating on nape and continuing length of body on lower one-half of 4th scale row, becoming slightly more conspicuous posteriorly and continuing sharply along length of tail; brown of lower sides (below lateral line) slightly tinged with orange. Head, including supralabials, brown like body; indistinct grayish brown and blackish brown spotting on supralabials 2 and 3; conspicuous, light orangish postocular stripe starts as small spot (on lower postocular and adjacent part of 4th labial) behind lower edge of eye and slants back and down as series of blackish-bordered, nearly connected dashes, crossing 5th-7th supralabials and last infralabial, and stopping on 3rd dorsal scale row on neck, above level of 2nd ventral. Iris pale orangish tan, darkened by reddish pigment on either side of pupil. Ventral surfaces orangish brown, becoming slightly grayish on blackish-spotted chin, and mottled with blackish brown pigment that is most concentrated

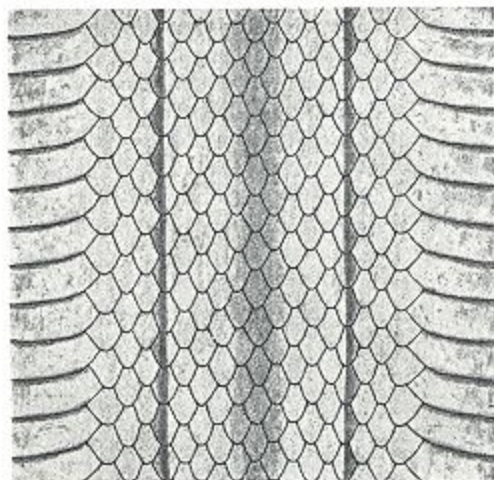


Fig. 2. Midbody pattern of *Coniophanes joanae* (holotype). Drawn on a generalized scale pattern.

along bases of ventral and caudal plates, forming dark transverse lines.

Maxillary bones bearing 14 (left) and 13 (right) teeth (counting sockets), followed by broad diastema and two (1?) enlarged, grooved fangs. (I could not determine to my satisfaction if there is normally one or two fangs in place.) Fangs deeply grooved on basal two-thirds of anterior face, but distal ends laterally compressed and saber-like. Prediastemal teeth recurved and slightly enlarging from front to rear. Ultimate prediastemal tooth lying anterior to level of ectopterygoid process. Length of diastema equal to space occupied by posterior 2-2½ prediastemal sockets.

*Field notes.*—The lower slopes of Cerro Pirre are blanketed with a broad-leaved tropical forest affected by a winter dry season. A small bamboo that grows in the forest on the upper slopes was first noticed at an elevation of 1220 m, where it is especially abundant. Above the level of the first occurrence of bamboo, the forest gradually becomes more moist and by 1400 m cloud forest prevails, with an abundance of bromeliads on the ground and in trees, many tree ferns and palms, cool, damp moss on tree trunks, and frequent mist, with temperatures dropping at least as low as 60° F. This forest was placed in the Upper Tropical Life Zone by Goldman (1920, pl. 17), who visited these slopes in 1912.

I found the holotype in the cloud forest early in the morning when the air temperature was 60° F and before the sun had warmed an occasional patch of forest floor. It was stretched motionless on the ground, presumably having been disturbed in its foraging, and was fairly slow and deliberate in its movements when picked up. That this sluggishness was not due to cold was evident after the specimen had been carried to Panama City, and still moved with the same deliberateness in an air temperature of 80° F; it made no attempt to bite. The tail was somewhat prehensile, being capable of supporting the body weight, and coiling about one's fingers when the snake was held.

*Remarks.*—Many new vertebrates, principally from the 1912 collections of Edward A. Goldman, have been named from Cerro Pirre and Santa Cruz de Cana. According to a few recent maps, and information supplied by my colleague Pedro Galindo, the name "Cerro Pirre" is given also to a more north-

ern peak on the Pirre ridge (Serranía de Pirre); also the name may be applied loosely to the entire ridge, an anticlinal fault block that projects from the Colombian border north to the vicinity of El Real, on the lower Río Tuira. I prefer to retain "Cerro Pirre" (sometimes spelled "Pirri") for the height so named in scientific literature (Goldman, 1920:11-13, map; Terry, 1956:19, map), on a copy of an early 20th century French map of the Cana area, and on certain maps of the American Geographic and National Geographic societies; the name "Cerro Cana" is shown on some maps as a synonym and is the name used by the few people in Darién who know the area. The elevations that I obtained in this area by means of a Lufft pocket altimeter (20-m graduations) differ from those on various maps and those recorded by Goldman (1920:12), who gave 2000 ft (609 m) for Cana and 5300 ft (1616 m) for the summit of Pirre. Major Wallace Murdoch (pers. comm.) obtained an altimeter reading of 1640 ft (503 m) at Cana, which compares with my earlier reading of 500 m; Mr. Pedro Galindo (pers. comm.) estimated the elevation of the general region of my camp from the altimeter in a helicopter and reported good comparison with my reading of 1440 m for the camp (type locality of *Coniophanes joanae*). The summit of Cerro Pirre lies at 1550 m according to my instrument.

*Coniophanes* is mainly a genus of Mexico and upper Central America, and only a few species occur to the south (Bailey, 1939). The present description brings to two the number of *Coniophanes* known from Panama. *Coniophanes fissidens* ranges from Mexico to Ecuador; several subspecies have been described, but an attempt to allocate certain Panamanian specimens indicates that a comprehensive survey of variation is needed. This species has 19 or 21 rows of scales anteriorly, a whitish belly with black punctations, and a somewhat variable and weak dorsal pattern. I have seen specimens from the coast of Bocas del Toro, from Barro Colorado Island in the Canal Zone, and from the Serranía del Darién near the Colombian border, and there are records of it from Boquete in the Chiriquí highlands and elsewhere. The Panamanian snake census conducted by the Gorgas Memorial Laboratory and reported by Dunn (1949) indicates that *C. fissidens* occurs in the

Pacific lowlands near Panama City, but probably it avoids the extensive dry savanna country of parts of Pacific Panama. Southern species of *Coniophanes* not occurring in Panama are *C. piceivittis*, which possibly occurs as far south as Costa Rica (Taylor, 1951:142), and *C. dromiciformis*, which is confined to Ecuador and Peru. Two additional names, ascribed to supposed southern *Coniophanes*, can probably be disregarded. *Coniophanes brevifrons*, described from Ecuador, is, according to Dunn and Saxe (1950), a synonym of *C. fissidens andresensis*, which occurs only on San Andrés Island, some distance off the Nicaraguan coast; the name *C. decipiens* (see Taylor, 1951:141) I think belongs to a Costa Rican species of *Rhadinaea* in which some individuals have grooved, rear fangs. The genus *Rhadinaea* undergoes a breakdown of generic characters in lower Central America and northern South America, including certain attributes of dentition and scutellation that distinguish it from *Coniophanes*. I hope eventually to clarify the status of *Rhadinaea* and some allied genera, but meanwhile the "combination" of scale-row reduction and grooved teeth serves conveniently to separate *Coniophanes* from *Rhadinaea*.

The relationships of *Coniophanes joanae* are not clear. It has the low dorsal scale formula of *C. meridanus*, but the two are widely separated geographically and have dissimilar patterns, particularly of the head. The ventral color pattern of *C. joanae* is characteristic of neither *Coniophanes* nor

*Rhadinaea*, and the presence of brown supralabials is unusual in either case. *Coniophanes joanae* has a proximally grooved and distally knife-like maxillary fang; *C. fissidens*, type species of *Coniophanes*, has very similar dentition. Possibly, the eventual examination of the hemipenis of *C. joanae* will help point out its affinities. Its late discovery makes it seem unlikely that *Coniophanes joanae* occupies a large range; the species conceivably may be confined to cool montane habitats of eastern Panama and adjacent parts of Colombia.

#### LITERATURE CITED

- BAILLY, J. R. 1939. A systematic revision of the snakes of the genus *Coniophanes*. Pap. Mich. Acad. Sci. Arts Lett. 24(pt. 2):1-48.
- DUNN, E. R. 1949. Relative abundance of some Panamanian snakes. Ecology 30(1):39-57.
- AND L. H. SAXE, JR. 1950. Results of the Catherwood-Chaplin West Indies Expedition, 1948. Part V. Amphibians and reptiles of San Andrés and Providencia. Proc. Acad. Nat. Sci. Phila. 102:141-165.
- GOLDMAN, E. A. 1920. Mammals of Panama. Smith. Misc. Coll. 69(5):1-309.
- TAYLOR, E. H. 1951. A brief review of the snakes of Costa Rica. Univ. Kans. Sci. Bull. 34(pt. 1):3-188.
- TERRY, R. A. 1956. A geological reconnaissance of Panama. Occ. Pap. Calif. Acad. Sci. No. 23, 91 pp.
- GORGAS MEMORIAL LABORATORY, APARTADO 6991, PANAMÁ, R. DE P., AND MUSEUM OF NATURAL HISTORY, UNIVERSITY OF KANSAS, LAWRENCE 66044.