

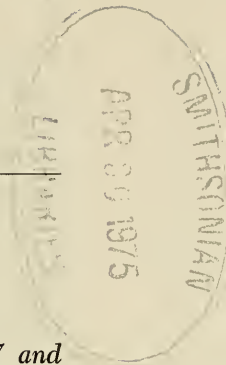
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PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTONA RECONSIDERATION OF SOME CUBAN
TROPIDOPHIS (SERPENTES, BOIDAE)

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The most recent treatment of the small Cuban members of the boid genus *Tropidophis* is that of Schwartz and Marsh (1960). They recognized four species of these multispotted boas: *pardalis* Gundlach, 1840; *maculatus* Bibron, 1840; *pilsbryi* Bailey, 1937; *nigriventris* Bailey, 1937. In addition to these species, Cuba also is inhabited by other, either larger or quite differently patterned, *Tropidophis*: *melanurus* Schlegel, 1837; *semicinctus* Gundlach and Peters, 1865; *wrighti* Stull, 1938, *feicki* Schwartz, 1957. Schwartz and Marsh (1960: 72-74) also discussed four questionable Cuban specimens in American collections; one of these they assigned to *Tropidophis canus* Cope (a species that is otherwise Bahamian; the presumed Cuban specimen may be mislabeled as to provenance). The three remaining snakes Schwartz and Marsh considered representative of *Tropidophis haetianus* Cope, a widespread Hispaniolan species which had not been previously reported from Cuba. Thus, Cuba has at least nine species of *Tropidophis*, whereas no other Antillean island with these small boas (Hispaniola, Jamaica, Cayman Islands, Navassa Island, Bahama Islands, Caicos Islands) has more than one species.

Through the efforts of the junior author, specimens from various collections in Cuba have gradually been assembled in the Instituto de Zoología (IZ), Academia de Ciencias de Cuba. As this material accumulated, Garrido felt that addi-



tional specimens of one of the less well-known smaller boids (*T. pilsbryi*) was included among material previously identified as the widespread *T. pardalis*. In addition, there was a specimen which could not be easily identified as any known taxon. These specimens were sent to Schwartz, who borrowed pertinent material of this complex from the following collections: American Museum of Natural History (AMNH), Academy of Natural Sciences of Philadelphia (ANSP), Cleveland Museum of Natural History (CMNH), Museum of Comparative Zoology (MCZ), Museum of Zoology, University of Michigan (UMMZ), and National Museum of Natural History (USNM). These specimens, the IZ material, and specimens given to Schwartz by George R. Zug, now in the Albert Schwartz Field Series, comprise the suite of snakes examined. We wish to thank Richard G. Zweifel, George W. Foley, Edmond V. Malnate, William E. Scheele, Patricia Helwig, Ernest E. Williams, Arnold G. Kluge, George R. Zug, and Ronald I. Crombie for the loans of specimens, Fred G. Thompson for pointing out to the senior author the existence of the CMNH specimen, and Pastor Alayo for collecting specimens for the junior author. Our concepts of *T. pardalis* have been greatly influenced by the series of 44 snakes from Marianao, Habana Province, taken by Bruce B. Collette. This is the longest series of any of these small boids from a single locality.

To summarize distributional data (Fig. 1) on the three species considered in the present paper: *T. pardalis* occurs throughout the Isla de Pinos and Cuba (but is known from only one locality—San Germán in Oriente Province); *T. pilsbryi* is known from a series of localities in and near the Sierra de Trinidad in Las Villas Province, and from Oriente Province (Cayo del Rey, Miranda; Guantánamo); *T. nigri-ventris* occurs in the lowlands near the Sierra de Trinidad and in eastern Camagüey Province (Martí; 24 km SW Camagüey). Theoretically, all three species should occur syntopically, since their ranges are apparently to some extent sympatric. However, *T. pardalis* and *T. pilsbryi* are known sympatrically only from Soledad, Las Villas Province, and *T. pardalis* and *T.*

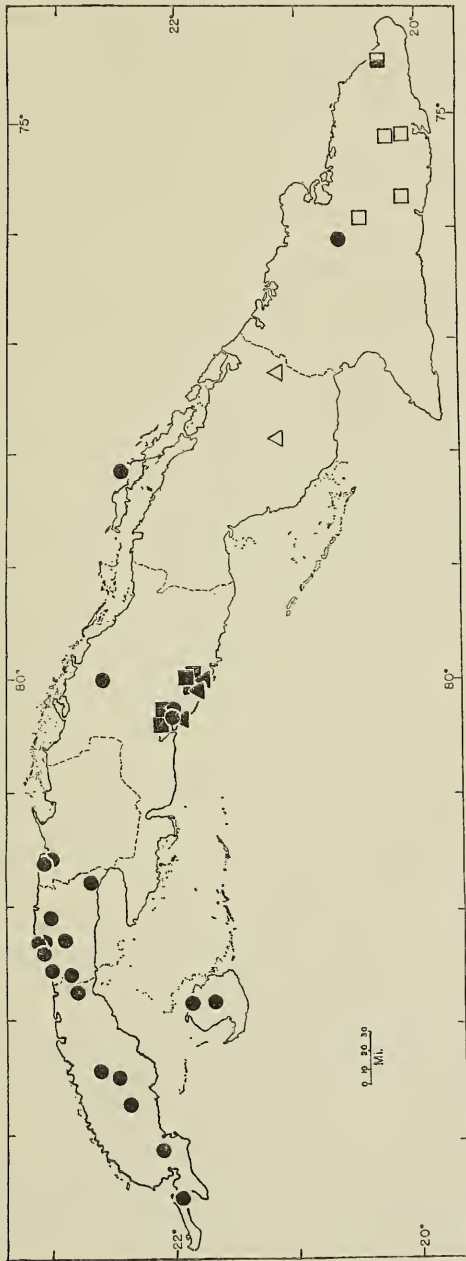


FIG. 1. Cuba, showing the distribution of three species of *Tropidophis*. Solid circles, *T. pardalis*. Squares: *T. pilsbryi*; open squares, *T. p. pilsbryi*; solid squares, *T. p. galacelidus*; semi-solid square, "*T. p. galacelidus*" from La Asunción. Triangles: *T. nigriventris*; open triangles, *T. n. nigriventris*; solid triangles, *T. n. hardyi*.

nigriventris also occur together at Soledad. In both these cases, actual syntopy requires confirmation.

Schwartz and Marsh (1960) discussed the variation in these small boas; we will not repeat their detailed discussion. Briefly, the three species may be distinguished as follows: *T. pardalis* usually has 6 rows of blotches around the body, is small in size (maximum total length 315 mm in males, 303 mm in females), lacks prominent pale occipital spots, has dorsal scales usually smooth, modally 2/2 postoculars, and modally 23 scale rows at midbody; *T. nigriventris* usually has 8 rows of blotches around the body, is large in size (maximum total length in males about 351 mm, 367 mm in females), lacks prominent pale occipital spots but may have an extensively dark venter, has dorsal scales smooth, modally 2/2 postoculars, modally 23 scales at midbody, and has the head notably smaller when compared to that of *T. pardalis*; *T. pilsbryi* has either 8 (Oriente) or 10 (Las Villas) rows of blotches around the body, is large (judging from females) in size (maximum total length in males 213 mm, in females 374 mm), has a prominent pair of pale occipital spots at times fused into a complete pale occipital collar, has keeled dorsal scales, modally 3/3 postoculars, and modally 25 scales at midbody. From these brief diagnoses, one can readily observe that *T. pilsbryi* differs conspicuously in having pale occipital spots or a pale collar, a feature which is absent in *T. nigriventris* but which occurs as a variant in Isla de Pinos and western Cuban *T. pardalis*, where the spots may be present but are never so prominent and contrasting as are those of *T. pilsbryi*.

We are convinced that the three nominal species recognized by Schwartz and Marsh are distinct. Recently gathered specimens of *T. pilsbryi* in the IZ from Las Villas and Oriente Provinces and specimens of *T. nigriventris* previously unstudied in the USNM from Las Villas Province, as well as reconsideration of one of the questionable specimens (USNM 137084) and other material formerly available to Schwartz and Marsh, all help to amplify the variation in these two species. In addition, a single snake (IZ 1246) from El Babiney north of Monte Líbano, Oriente Province, is of interest. In the following descriptions, we admit that we may have over-

simplified a complex problem by electing to name new taxa as subspecies rather than species, since in both cases the ranges as presently known seem broadly disjunct, and the taxa involved are completely separable from each other. However, it seems presently preferable to follow this philosophy rather than name these taxa as new species. Still, the hiatuses and other complexities in distribution might suggest specific, rather than subspecific, status.

Bailey (1937:42) named *Tropidophis maculatus pilsbryi* from three specimens from widely separated localities: Cayo del Rey near Miranda (type-locality) and Guantánamo, both in Oriente Province, and Mina Carlota in the Sierra de Trinidad in Las Villas Province. The holotype (ANSP 20822) has 164 ventral scales (as counted by the method proposed by Dowling, 1951) and the Guantánamo specimen (MCZ 9884) has 166 ventrals; the Mina Carlota snake (UMMZ 65043), on the other hand, has 178 ventrals. In addition, the two Oriente snakes have 8 rows of blotches around the body, whereas the Las Villas snake has 10 rows. Four recently taken specimens from these two general areas plus two previously secured snakes confirm these differences, and accordingly we name the Las Villas populations as follows:

***Tropidophis pilsbryi galacelidus*, new subspecies**

Holotype: IZ 4052, from near Cafetal de Gaviña, Sierra de Trinidad, Las Villas Province, Cuba, taken 9 July 1973 by Pastor Alayo.

Paratypes: IZ 1075, Pico de Potrerillo, Trinidad, Las Villas Province, Cuba, June 1955, P. Alayo; UMMZ 65043, Mina Carlota, Las Villas Province, Cuba, 19 March 1925, E. R. Dunn; USNM 137084, Soledad, Las Villas Province, Cuba, December 1954, J. D. Hardy; CMNH 1021, Guabairo, Las Villas Province, Cuba, 23 March 1941, P. N. Moulthrop.

Definition: A subspecies of *T. pilsbryi* characterized by a greater number of ventral scales (177–183 versus 160–166 in *T. p. pilsbryi*), 10 rows of blotches around body at midbody, more blotches (44–50; $\bar{x} = 47.8$) in the paramedian series than in the nominate subspecies (36–47; $\bar{x} = 39.5$), and 25 or 27 scale rows at midbody (in contrast to 23, 24, or 25 in *T. p. pilsbryi*).

Description of holotype: A male with snout-vent length of 187 mm, tail length 26 mm (total length 213 mm), 177 ventral scales, 35 unpaired subcaudal scales, 10/10 supralabials, 12/12 infralabials, 1/1 preoculars, 3/3 postoculars, dorsal scales keeled and in 25-25-19 rows, 48/44 blotches

in paramedian dorsal blotch rows, arranged in 10 longitudinal series at midbody, parietal scales not in contact. As preserved, dorsal ground color medium gray, blotches black, blotches in paramedian series largest (each encompassing about 4 to 6 scales), ventralmost series on each side confined to ventral scales and first dorsal scale row; a prominent white collar representing fused pair of occipital spots, collar constricted medially and about 8 dorsal scales long at its maximum length; upper surface of head with more or less rectangular darker gray figure, its sides slightly concave, diffuse on snout and abutting against white collar posteriorly; supralabials pale gray; infralabials, chin and throat pale gray, grading to white venter invaded about midbody by lateralmost blotch series so that in some instances blotches slightly join each other; tail tannish yellow above, clear yellow below, with black tip.

Variation: The series of *T. p. galacelidus* consists of the holotypic male and four females ranging in total length from 183 mm to 459 mm, in tail length from 22 mm to 54 mm. One specimen (IZ 1075) is decapitated, but its collector stated that there was a white nuchal pattern, and the ventral count of the specimen (178+) as well as the size of the dorsal blotches and the presence of 10 rows at midbody assures us that this individual is indeed assigned to this taxon. In the entire series, ventrals range from 177 to 183, subcaudals from 29 to 35; supralabials either 10 or 11, and infralabials either 11 or 12; parietal scales not in contact in any specimen; preoculars 1/1 and postoculars 3/3 in all snakes; dorsal scales regularly keeled above vent, less prominently so elsewhere on body; scale rows behind head usually 25 (one with 27), at midbody 25 (three specimens) or 27 (two), and anterior to vent 19 (one with 20). The blotches are arranged in 10 longitudinal series in all individuals, and the paramedian blotch series vary between 44 and 50 ($\bar{x} = 47.9$); the dorsal surface of the tail has from 4 to 9 blotches and is pale ventrally in all specimens except USNM 137084, whose tail is incomplete. In color and pattern the paratypes resemble the holotype except that in IZ 1075 the dorsal pattern is less obvious, and in USNM 137084 and CMNH 1021 the dorsal color is more brown and the blotches darker brown but not especially conspicuous. Large individuals have scattered pale scales associated with at least the paramedian blotch rows.

Comparisons: The two subspecies of *T. pilsbryi* are easily distinguished on the basis of number of ventral scales (177–183 in *galacelidus*, 160–166 in *pilsbryi*), presence of 8 rows of blotches in *pilsbryi* and 10 in *galacelidus*, and a higher number and mean of paramedian blotches in *galacelidus* (44–50; $\bar{x} = 47.9$) than in *pilsbryi* (36–47; $\bar{x} = 39.5$). In addition, *galacelidus* has either 25 or 27 scale rows at midbody, whereas in *pilsbryi* midbody scales are 23, 24, or 25. Both subspecies have a prominent pair of pale occipital blotches or a collar. The blotches are fused in two *galacelidus* (UMMZ 65053, IZ 4052) and in two *pilsbryi* (MCZ 9884, USNM 12361). Like *galacelidus*, specimens of *pilsbryi* lack

parietal contact. Two *pilsbryi* (IZ 1076-77) have 3/2 postoculars, a condition not observed in *galacelidus*.

Remarks: USNM 137084 is one of the four specimens which Schwartz and Marsh were unable to locate taxonomically. They stated (1960:73) that this snake had occipital spots, and thus might well have been considered *T. pilsbryi*. However, the spots are less well defined than in all other *T. pilsbryi*, and the size of the snake (total length 374 mm) in comparison with other *T. pilsbryi* available to them (maximum 183 mm), combined to obscure its affinities. The even larger CMNH specimen (total length 459 mm) also has obscure occipital spots. We imagine that these spots become more obscure with age (and increasing size), but they are nevertheless a constant feature (albeit faint in large adults) of *T. pilsbryi*.

The distribution of *T. p. galacelidus* centers in the Sierra de Trinidad in Las Villas Province. Three specimens (from Mina Carlota, Pico de Potrerillo, and Cafetal de Gaviña) are all from within this range, and the specimen from Soledad is from near the foot of the Sierra de Trinidad and may well have been taken within the mountains themselves. Guabairo also is near the base of this range.

Comparisons of *T. p. galacelidus* with *T. pardalis* and *T. nigriventris* will be made below in the present paper. The name *galacelidus* is from the Greek for "milk" and "spot," in allusion to the white occipital markings.

Tropidophis p. pilsbryi is now known from four localities in Oriente Province, of which one is vaguely "eastern Cuba." The closest approximation of the two subspecies is about 440 kilometers, across all of Camagüey Province and well into Oriente Province. Whether the species occurs in this hiatus remains unknown. In Oriente, *T. p. pilsbryi* seems to be widely distributed, from Miranda east to Guantánamo, but the localities whence this subspecies is known may also be forested uplands as appears to be the case with *T. p. galacelidus*.

We have deliberately not designated as a paratype a *T. p. galacelidus* (IZ) from La Asunción, Baracoa, Oriente Province. This specimen is a young female (snout-vent length 144 mm) with a pair of pale occipital spots, 177 ventrals, 29 subcaudals, 10/10 supralabials, 11/12 infralabials, lack of parietal contact, 1/1 preoculars, 3/3 postoculars, smooth dorsal scales in 25-27-19 rows, and 8 rows of dark blotches with 38/35 blotches in the paramedian series. In every way, this specimen agrees with our concepts of *T. p. galacelidus* and not with adjacent *T. p. pilsbryi*. The geographic hiatus between this specimen and the nearest *T. p. galacelidus* is about 575 km, yet *T. p. pilsbryi* is known from a locality only about 70 km distant. There is no question that the locality of this specimen is correct. We would have no reluctance in assigning this snake to *T. p. galacelidus* were it not for the extensive geographic gap between it and that subspecies and the proximity of the range of *T. p. pilsbryi*. The gap between La Asunción and Trinidad encompasses much of Las Villas Province, all of Camagüey Province, and almost all of Oriente Province;

this of itself is in no way prohibitive, but the absence of specimens from this entire region makes the subspecific status of the La Asunción snake problematical. The absence of *T. pilsbryi* from much of the intervening region is by no means affirmed, and the species may persist there in suitably forested situations. On the other hand, it is possible that there is another isolated population, differing in some details from both *T. p. pilsbryi* and *T. p. galacelidus*, in extreme northeastern Oriente Province. Still another possibility is that *T. p. pilsbryi* and *T. p. galacelidus* are distinct species, a possibility that we are presently unwilling to accept.

Specimens of T. p. pilsbryi examined: CUBA, ORIENTE PROVINCE, Cayo del Rey, near Miranda (ANSP 20822, holotype); Santa Faz, near San Vicente (IZ 1076-77); Guantánamo (MCZ 9884); "eastern Cuba" (USNM 12361).

In the introduction to the present paper we mentioned a single questionable specimen from El Babiney, Hoyo del Río Guaso, to the north of Monte Líbano, hydroelectric plant, road to Las Ninfas, Guantánamo, Oriente Province. This snake (IZ 1246) is from the Ramsden collection and was collected 17 February 1921. It is indeed a puzzling snake. It is a male with a snout-vent length of 310 mm, tail 40 mm. There are 165 ventral scales and 26 subcaudals, 1/1 preoculars, 3/3 postoculars, parietals not in contact, the dorsals are smooth, and the scale row formula is 25-23-19. The dorsal blotches are in 8 rows and there are 41/40 paramedian blotches on the body and 5 on the tail. The number of ventral scales (167) eliminates *pardalis* (ventrals 136-155) and *maculatus* (189-208) from consideration. The ventral number falls within the range of *nigriventris* from Las Villas Province (153-172) but not from adjacent Camagüey Province (144-150). The ventral count does fall within the parameters of *T. p. pilsbryi* and the snake agrees with our concept of that taxon except that it now lacks any clear-cut indication of pale occipital blotches. The occipital area is no paler than the balance of the dorsal ground color; but this region is clear and unmarked, suggesting that in life the occipital area may well have been pale. A label in Ramsden's writing identifies the snake as *T. maculatus*, but it surely is not that species; perhaps a factor which caused Ramsden's assignment of this snake to *T. maculatus* is that that species does not occur further east in Cuba than Habana Province. It is possible that Ramsden, who lived in Oriente, had never seen specimens of *T. maculatus* and, realizing that this specimen was different from any other local *Tropidophis*, considered it *maculatus*.

We had ourselves at first considered that IZ 1246 was another Cuban specimen of *T. haetianus* Cope, but the scale counts and other characteristics eliminate that species from consideration. It seems most likely that this is a peculiarly patterned *T. pilsbryi* or one whose pale occipital blotches have faded during preservation. Another possibility which should not be dismissed is that it represents still another species of

dwarf boa from eastern Cuba, but militating against this is the fact that adult specimens of *T. pilsbryi galacelidus* have the occipital blotches obscured, but much more obvious than in this individual; all specimens of the nominate subspecies have the occipital blotches very prominent, and a maximally sized specimen has a snout-vent length of 181 mm, thus is much smaller than IZ 1246.

Tropidophis pardalis is a widespread Cuban species that occurs throughout Cuba (with the exception of most of Oriente Province, where it is known only from San Germán) and the Isla de Pinos. It presents a uniformity of pattern, size and scale counts throughout much of its range, except that some Pinar del Río and Isla de Pinos specimens show indications of pale occipital spots. We now have counts on 106 *T. pardalis*. The ventral scales vary between 136 (Habana Province) and 155 (Isla de Pinos); the largest male has a total length of 315 mm (Isla de Pinos) and the largest female 303 mm (Habana Province). The rows of dark body blotches are modally 6, with 8 rows occurring occasionally in extreme western snakes. Dorsal scale rows at midbody are either 23 (mode) or 25. In general aspect, then, *T. pardalis* is a small snake with 6 rows of large and conspicuous blotches and usually 23 scale rows at midbody.

There remain eight snakes in the USNM and the AMNH which are from the area between Soledad and Trinidad in extreme southern Las Villas Province. Of them, Schwartz and Marsh examined two (AMNH 77784, UMMZ 76109—both from Soledad) and considered them *T. pardalis*. These two specimens, however, have relatively high ventral counts (153, 155) for that taxon. The additional six specimens agree with these two snakes in large size and in having even higher scale counts (161–172), and we group them together.

We feel confident that these eight snakes represent a new taxon, distinct at some level from *T. pardalis*. The options are these: 1) the extreme southern coast of Las Villas Province is inhabited by a local subspecies of *T. pardalis* which is large and has high ventral counts, 2) these snakes represent a species distinct from not only *T. pardalis* but all other Cuban *Tropidophis*, or 3) they are allied to another named species other than *T. pardalis*. We cannot refute or confirm any of these possibilities; specimens of *T. pardalis* from elsewhere in Las Villas Province are very few and from only two localities (La Sierra, N of Vega Alta; Cumanayagua), and these snakes seem typical of *T. pardalis* in size, ventral counts, and pigmental and pattern characteristics. One feature which is dis-

tinctive is the fact that the eight snakes, at both comparable and larger sizes than *T. pardalis*, have relatively smaller heads. Schwartz and Marsh (1960:79) assigned two of these snakes (USNM 138512, USNM 138510) to *T. nigriventris*; however, they commented (p. 70) that the two Las Villas snakes differed from Camagüey material, including the holotype description and the paratype, in not having the venter almost entirely dark, a distinguishing feature of Camagüey *T. nigriventris* and indeed of the species. They stated (*loc. cit.*) that the major differentiating feature of the two species (*T. pardalis* and *T. nigriventris*) "is the much smaller head of *nigriventris*; if specimens of the two taxa are compared, the smaller head of *nigriventris* is immediately apparent." For this reason, we feel most inclined to regard these southern Las Villas snakes as a subspecies of *T. nigriventris*, despite the apparent hiatus between them and the nominate subspecies. Accordingly, in honor of Jerry D. Hardy, who collected the majority of the specimens, we propose the following combination:

***Tropidophis nigriventris hardyi*, new subspecies**

Holotype: USNM 138510, an adult male, from 10 mi. (16 km) W Trinidad, Las Villas Province, Cuba, taken 5–10 September 1956 by J. D. Hardy.

Paratypes: USNM 138511-12, same data as holotype; USNM 140471-72, near Trinidad, Las Villas Province, Cuba, 23–27 June 1957; USNM 137085, Trinidad, Las Villas Province, Cuba, 23 December 1954, J. D. Hardy; UMMZ 76109, Soledad, Las Villas Province, Cuba, 18 July 1933, N. A. Weber; AMNH 77784, Soledad, Las Villas Province, Cuba, 18 July 1957, W. H. Gehrman.

Definition: A subspecies of *T. nigriventris* characterized by high number of ventral scales (153–172 versus 144–150 in *nigriventris*), 6 or 8 (modally 6) rows of blotches around body at midbody, and venter never extensively dark brown to blackish because of greatly enlarged ventrolateral rows of blotches across venter as in nominate subspecies.

Description of holotype: A male with snout-vent length of about 303 mm, tail about 48 mm (total length about 351 mm), 170 ventral scales, 33 unpaired subcaudal scales (tail incomplete), 10/? supralabials, 11/? infralabials, 1/1 preoculars, 2/2 postoculars, dorsal scales smooth and in 21-23-18 rows, 40/41 blotches in paramedian dorsal blotch rows, arranged in 8 (incomplete) rows at midbody, parietal scales not in contact. As preserved, dorsum medium brown with dark blotches darker brown, ventrolateral rows of blotches on each side not expanded midventrally to give basically all-dark venter; top of head dark and patternless; venter

white, chin and throat dark brown; upper labials dark brown, separated by an almost black loreal stripe from brown top of head; tail dark brown above with about 6 dorsal blotches, ventrally with about 13 partially paired or staggered dark blotches on white ground; no indication of any pale occipital markings.

Variation: The series of *T. n. hardyi* consists of three males and five females; the largest male has a snout-vent length of 303 mm (USNM 138510), the largest female 334 mm (USNM 140472). The incomplete tail of the male measures 33 mm, that of the female 21 mm (also incomplete). The ventrals in the entire series range from 153 to 172, and specimens of both sexes with complete tails have subcaudals varying between 31 (male) and 46 (female); one female with an incomplete tail has 48 subcaudals. The supralabials are 9/9 (two snakes), 9/10 (three) and 10/? (one). Infralabials are 9/9 (one snake), 9/10 (one), 10/10 (one), 10/11 (one), 11/11 (one), and 11/? (one). The parietal scales are not in contact except in one snake (USNM 140471). Preoculars are 1/1 in all specimens which can be counted and postoculars are either 2/2 (five specimens), 2/3 (one), or 3/3 (one). Dorsal scales are smooth in all snakes except UMMZ 76109 where they are slightly keeled. Scale rows behind the head are 20, 21, 23 or 24 (mode 21), at midbody 23 or 25 (mode 23—seven snakes), and anterior to vent 18, 19, or 20 (mode 19). The modal dorsal scale row formula is 21-23-19. The blotches are arranged in 6 rows in six specimens and in 8 rows in two; in these latter snakes, the lowermost rows are obsolete, and one of the lateral rows on each side is weakly indicated; paramedian blotches range from 32 to 44 ($\bar{x} = 37.8$); the dorsal surface of the tail has from 4 to 6 dark blotches (the high count is from a snake with an incomplete tail). The dorsal ground color is medium brown to dark brown, and the venter white to pale tan, in all specimens. The rows of blotches are dark brown and conspicuous, although the ventrolateral-most rows may be obsolescent and the median lateral row may also be present (although it is absent completely in all but two snakes). In large snakes the head is conspicuously small, and the same condition is obvious but somewhat less so in smaller individuals. The upper surface of the head is unpatterned, except that at times there is a vague, longitudinal, dark rectangular figure; the supralabials are tan and set off sharply from the dorsal ground color of the head.

Comparisons: *Tropidophis n. hardyi* differs from *T. n. nigriventris* in two obvious ways: 1) the number of ventrals in *hardyi* is greater (152–172) than in *nigriventris* (144–150), and 2) *nigriventris* has the ventralmost blotch rows large and expanded, so much so as to render the venter almost totally dark due to random blotch fusions across it. One *hardyi* (AMNH 77784) tends slightly toward this latter condition, but all other specimens do not demonstrate it at all; in fact, the ventralmost rows are often obsolete. The dark venter in nominate *nigriventris* is not ontogenetic, since the condition occurs in snakes with snout-vent

lengths of 162 mm and 184 mm, much smaller than any *hardyi*, in which subspecies the venter never has this hypermelanic condition. There is no problem differentiating *hardyi* from *nigriventris*; what is problematical is whether *hardyi* should be associated with it nomenclaturally. One feature is suggestive: both populations have distinctly smaller heads than, for instance, *T. pardalis*. The larger size of *hardyi* suggests that this subspecies is indeed a larger snake than *nigriventris*, but the samples in each case are small. It is intriguing, however, that all *nigriventris* are small (maximum snout-vent length 227 mm) whereas all *hardyi* are large (minimum snout-vent length 184 mm); the latter subspecies reaches a maximum snout-vent length of 334 mm.

More pertinent than comparisons of *T. n. hardyi* with *T. n. nigriventris* are comparisons of *T. n. hardyi* with *T. pardalis* and *T. pilsbryi*. Of these two species, *T. pardalis* has been taken sympatrically with *T. n. hardyi* at Soledad (USNM 134353), and *T. pilsbryi galacelidus* is also known from Soledad, as well as Guabairo which is within a few kilometers of Soledad. In the Sierra de Trinidad, *T. p. galacelidus* may approach *T. n. hardyi* closely, since the latter seems to be (Trinidad) a lowland snake, whereas the former seems to occur in the more mesic uplands.

Tropidophis n. hardyi differs from *T. p. galacelidus* in lacking pale occipital blotches, in having fewer ventral scales (153–172 versus 177–183), in having 6 (rarely 8) rows of blotches rather than 10, and in having fewer paramedian blotches (32–44 versus 44–50). Both taxa reach about the same size, but there is no difficulty in separating them.

Differentiating between *T. n. hardyi* and *T. pardalis* is more difficult. Ventrals in the long series of *T. pardalis* vary between 136 and 155, whereas this count in *T. n. hardyi* varies between 153 and 172. The high counts of ventrals in *T. pardalis*, however, are not from Las Villas Province, but rather from the Isla de Pinos and Habana Province. The largest male *T. pardalis* has a total length of 315 mm and the largest female 303 mm, in contrast to *T. n. hardyi* males which reach a maximum snout-vent length of about 351 mm and females which reach a total of 367 mm. *Tropidophis pardalis* regularly has 6 longitudinal rows of blotches, whereas *T. n. hardyi* may have 8 but modally 6 rows of blotches. Both *T. pardalis* and *T. n. hardyi* often have 2/2 postoculars. The smaller head of *T. n. hardyi* also tends to distinguish these two taxa. We can do no better than to reiterate our previous comments: we feel certain *T. n. hardyi* is a distinct entity, but whether we correctly associate it with *T. nigriventris* or whether it is indeed a peculiarly local and circumscribed population of *T. pardalis* remains to be determined. So much of central and western Cuba remains unknown as far as these small multispotted boas are concerned that speculation on their relationships is indeed futile.

Finally, comparisons of *T. p. galacelidus* and *T. pardalis* are easily made. The former has a pair of pale occipital spots, whereas the latter

rarely does; and, if present, the spots are much smaller, less contrasting, and less conspicuous than in *T. p. galacelidus*. *Tropidophis p. galacelidus* has 10 rows of small blotches (6 rows of large blotches in *T. pardalis*), a greater number of ventral scales (177–183 versus 136–155 in *T. pardalis*), and (at least females) reaches a much larger size (374 mm) than *T. pardalis* (303 mm). If *T. pardalis* and *T. p. galacelidus* occur syntopically, they should be easily distinguishable on the basis of the above characters.

Specimens of T. n. nigriventris examined: CUBA, CAMAGÜEY PROVINCE, 6 mi. (about 9.6 km) E Martí (UMMZ 70889–holotype; UMMZ 70887); Finca El Porvenir, 24 km SW Camagüey, Loma de Yagua (AMNH 81182–83).

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