

## Catalogue of American Amphibians and Reptiles.

Henderson, R.W. 1993. *Corallus annulatus*.*Corallus annulatus* (Cope)

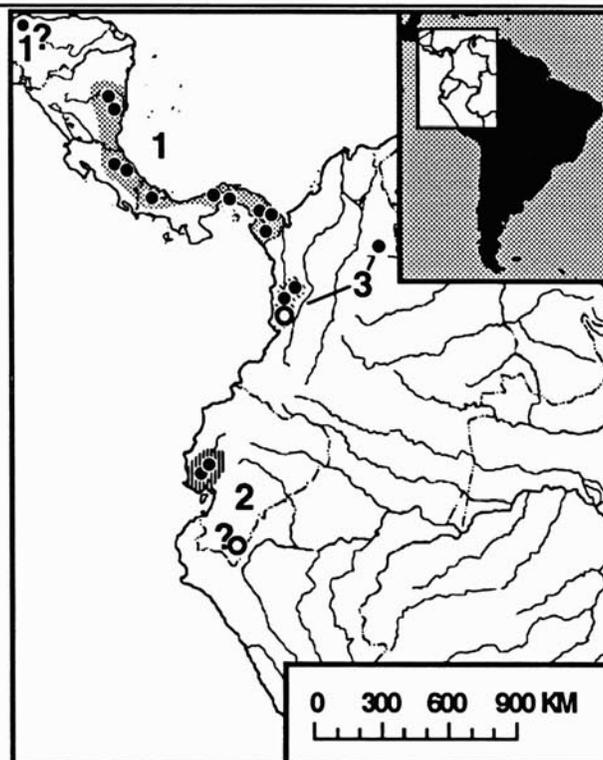
*Xipbosoma annulatum* Cope, 1876:129. Type-locality, "Costa Rica".  
Holotype, National Museum of Natural History (USNM) 32480,  
collected by W.M. Gabb, date of collection unknown, female,  
638 mm SVL (examined by author).

*Corallus annulatus*: Boulenger, 1893:102.

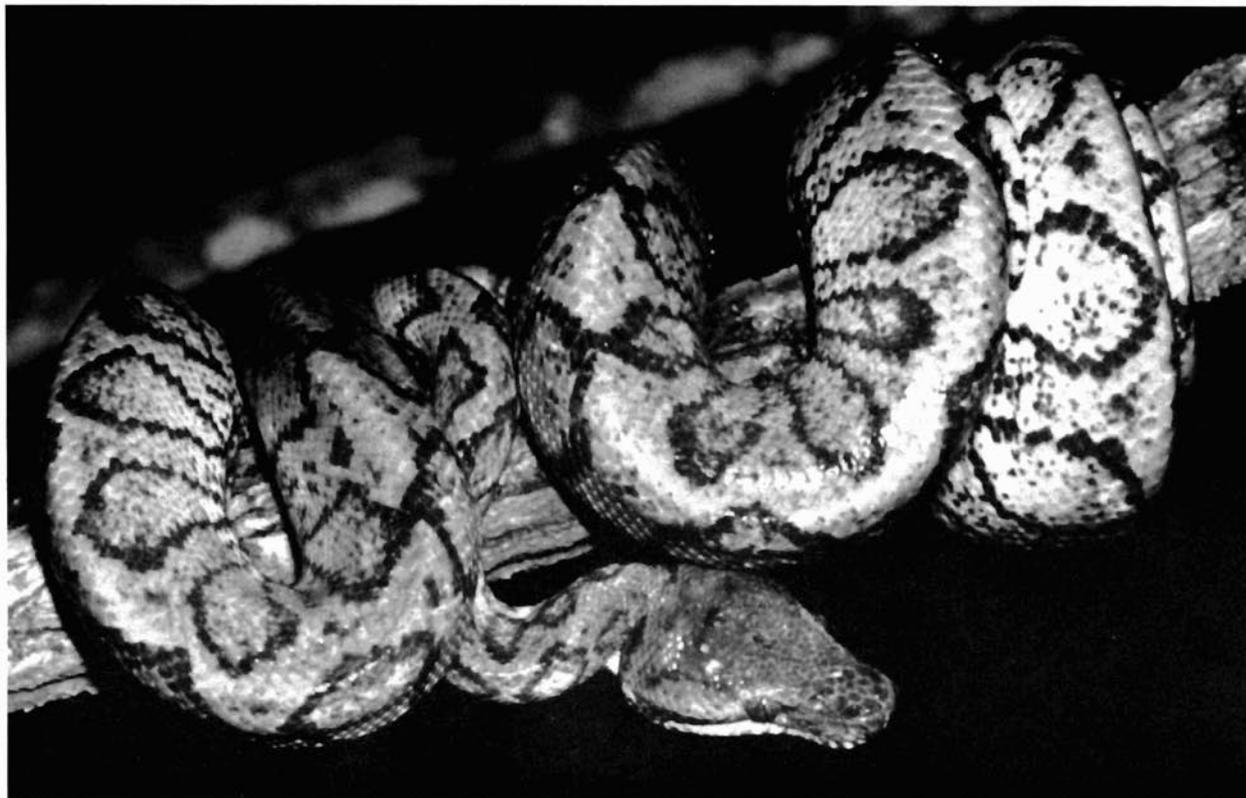
• **Content.** Three poorly defined subspecies are currently recognized: *annulatus*, *blombergi*, and *colombianus* (but see subspecific accounts and Remarks).

• **Definition.** Maximum SVL is at least 1335 mm (Panamá). The general habitus is with a large chunky head, long anterior maxillary teeth, labials with deep pits, slender neck, a laterally compressed body, and a strongly prehensile tail. Dorsal scales at midbody are in 50-57 rows. Ventrals are 251-269 and subcaudals are 76-88. Supralabials are 12-14; infralabials are 15-18; and scales between supraorbitals 7-10. The number of loreals is usually 3 (rarely 4); supraloreals 3-5; infraloreals 2-7; loreals+infraloreals 6-12; circumorbital scales 12-16; and nasals are usually not in contact. The available sample size is inadequate to determine if any scale characters are sexually dimorphic.

The dorsal ground color occurs in variable shades of brown, but predominantly red-brown (or occasionally taupe to khaki) in Central America and northern Colombia, to milk chocolate- or dark chocolate-brown in snakes from Ecuador. Snakes from southern Central America undergo an ontogenetic color change from from vivid brick-red or burnt orange to more subdued shades of brown; whether or not snakes from Ecuador undergo an ontogenetic change in dorsal coloration is currently unknown. The primary element in the dorsal pattern is a fairly well-defined rhomboid marking anteriorly which deteriorates anteroposteriorly, at midbody having a rhomboid-like shape with rounded edges, frequently larger on the top half than on the bottom half, or sometimes ovoid at midbody. Posteriorly, the shapes once again become more diamond-like, but not as well-



**Map.** Distribution of *Corallus annulatus*. Large open circles indicate published type-localities. The type-locality of *C. a. annulatus* is "Costa Rica" and therefore not designated on the map. Solid circles indicate other localities. The type-locality of *C. a. blombergi* is in question and is therefore left outside of the indicated range of that subspecies. The specific locality of specimens from Honduras is in question. Designation of specimens as *C. a. colombianus* is based primarily on geography.



**Figure 1.** *Corallus annulatus* from Estación Biológica, La Selva, Heredia, Costa Rica. Photo © David L. Hardy, Sr.

defined as immediately posterior to the head. The main elements of the dorsal pattern may be conjoined at or near the dorsal midline. The central area of the dorsal elements is colored similarly to the dorsal ground color in Central American and Colombian snakes and may include a small whitish blotch in the ventralmost portion of the element; in material from Ecuador the central blotch area is conspicuously paler than the dorsal ground color. Of 36–46 dorsal body blotches, those at midbody are 8–13 scales wide in Central American snakes and 6–9 scales wide in specimens from Ecuador. Stripes on the head are variable in definition and number as follows: 2 postorbital stripes + 1 central stripe on the top of the head, 2 postorbital stripes, 1 postorbital stripe + one central stripe on the top of the head, or 1 postorbital stripe. The stripes may be solid and well-defined, broken-up, or comprised of fine stippling and faint relative to the ground color. The underside of the head is usually lightly stippled along the infralabials and gulars, occasionally immaculate, or rarely heavily stippled on infralabials and gulars; stippling is usually absent from the central gulars around the mental groove. The ventral ground color is extremely variable, being white, pale dingy yellow, yellow-tan, pale beige, pale copper, pale red-brown, or taupe. The pattern on the venter is some shade of brown (frequently taupe) and usually consists of dots, flecks, and smudges, sometimes occurring on the entire ventral surface of the body, or restricted to the posterior portion of the body. Subcaudals always have some flecks or smudges in some shade of brown (frequently taupe).

• **Diagnosis.** *Corallus annulatus* is most easily confused with *C. enydris*. In *C. annulatus* the nasals are usually not in contact and subcaudals are 79–87; in *C. enydris* the nasals are usually in contact and subcaudals are 99–141. In *C. caninus* dorsal scales at midbody are in 63–77 rows and in *C. cropanii* they are in <35 rows; in *C. annulatus*, midbody dorsal scale rows are 50–57.

• **Descriptions.** No thorough description exists for the species, but Rendahl and Vestergren (1941) and Peters (1957) provided descriptions and discussion of characters used in diagnosing subspecies. By country, publications with descriptions of varying usefulness are: Nicaragua, Gaige et al. (1937); Costa Rica, Cope (1876), Taylor (1951); Panamá, Rendahl and Vestergren (1941); Colombia, Amaral (1928), Rendahl and Vestergren (1940, 1941), Pérez-Santos and Moreno (1988); Ecuador, Rendahl and Vestergren (1941), Peters (1957), Pérez-Santos and Moreno (1991).

• **Illustrations.** Black and white photographs are in Oliver (1958), Murphy et al. (1978), and Blody and Mehaffey (1989); color photographs appear in Schmidt and Inger (1957), Campbell and Lamar (1989), and Ross and Marzec (1990). Line drawings of diagnostic scale characters appear in Rendahl and Vestergren (1940, 1941), Peters and Orejas-Miranda (1970, 1986), and Pérez-Santos and Moreno (1991). A drawing illustrating constricting behavior appears in Willard (1977).

• **Distribution.** *Corallus annulatus* occurs from northern Honduras to southern Ecuador west of the Andes (see Remarks). The known distribution is disjunct, with large hiatuses occurring between northern Honduras and southeastern Nicaragua, and between western Colombia (area of the Río San Juan) and western Ecuador. Altitudinal distribution is from at or near sea level to at least 400 m above sea level.

• **Fossil Record.** None.

• **Pertinent Literature.** Although little is known about the natural history of this species, the following topics have been addressed: cranial characters (Kluge, 1991); diel activity (Duellman, 1989, 1990); habitat (Pérez-Santos and Moreno, 1988; Duellman, 1989, 1990; Rand and Myers, 1990); diet (Duellman, 1989, 1990; Rand and Myers, 1990); constricting behavior (Willard, 1977); defensive behavior (Greene, 1988); relative abundance (Dunn, 1949); phylogeny (Kluge, 1991); captive behavior and maintenance (Murphy et al., 1978; Blody and Mehaffey, 1989); and reproduction (Murphy et al., 1978; Ross and Marzec, 1990).

• **Etymology.** The name *annulatus* is from the Latin meaning "ringed," possibly in reference to the irregular ring-shaped markings on the dorsum; the name *blombergi* is a patronym for the explorer Rolf Blomberg; and the name *colombianus* refers to the country of Colombia.

## 1. *Corallus annulatus annulatus* (Cope)

*Xiphosoma annulatum* Cope, 1876:129. See species synonymy.

*Corallus annulatus*: Boulenger, 1893:102.

*[Boa]. annulata annulata*: Rendahl and Vestergren 1941:2. First use of trinomial.

*Corallus a[nnulata]. annulata*: Peters, 1957:2.

• **Diagnosis.** *Corallus a. annulatus* was characterized by Rendahl and Vestergren (1940, 1941) by the presence of one pair of internasals, anterior lateral internasals in contact, and posterior lateral internasals separated by a single median scale. These characters are of dubious diagnostic value. The number of supralorals, a character suggested by Peters (1957) as possibly having some diagnostic value, is also too variable to be useful. See the Diagnosis for *C. a. blombergi*.

## 2. *Corallus annulatus blombergi* (Rendahl and Vestergren)

*Boa annulata blombergi* Rendahl and Vestergren, 1941:2. Type-locality, "Eastern Ecuador, Río Zamora". Holotype, Naturhistorisches Riksmuseet, Stockholm (NRS) 3141, collector and date of collection unknown, sex unknown, 1320 mm SVL (not examined by author).

*Corallus annulata blombergi*: Peters, 1957:2.

• **Diagnosis.** *Corallus a. blombergi* was characterized by Rendahl and Vestergren (1941) by the presence of one pair of internasals and two lateral internasals separated by two median scales arranged one behind the other. This character is variable and of little diagnostic value. This subspecies is better diagnosed by dorsal ground color and pattern, and by several other scale characters. Dorsal ground color is usually milk chocolate brown to rich dark brown (opposed to beige or red-brown in Central American and Colombian snakes). Dorsal blotches are 7–9 scales wide at midbody, each with a central area that is paler than the dorsal ground color (as opposed to dorsal blotches 8–12 scales wide at midbody, each with a central area that is more or less the same shade as the dorsal ground color). *Corallus a. blombergi* has 6 loreals + sublanceals as opposed to 6–12 in Central American and Colombian specimens.

## 3. *Corallus annulatus colombianus* (Rendahl and Vestergren)

*Boa annulata colombiana* Rendahl and Vestergren, 1940:2. Type-locality, "Colombia, Chocó, Cabeceras, coastal district of the Río San Juan." Holotype, Naturhistorisches Riksmuseet, Stockholm (NRS) 3117, collected by G. Gerring in 1939, sex unknown, 805



Figure 2. *Corallus annulatus* from Ecuador (American Museum of Natural History [AMNH] 73252).

mm SVL (not examined by author).

• **Diagnosis.** *Corallus a. colombianus* was characterized by Rendahl and Vestergren (1940, 1941) by the presence of one pair of internasals and a pair of large lateral internasals in contact anteriorly, but separated posteriorly by a single median internasal. This character is of dubious value, but so few specimens of *C. a. colombianus* are available, the presence of characters of greater diagnostic value cannot be determined. *Corallus a. colombianus* in all likelihood should be placed in synonymy with *C. a. annulatus*.

• **Remarks.** Questionable locality data are associated with some specimens of *C. annulatus*: 1) The specimens from near Cofradia, in the Sierra de Omoa, Honduras raise some doubts because they originated with a commercial collector in Honduras. That they were collected in Honduras is not disputed, but exactly where is in doubt. *Corallus annulatus* has been collected at 300–400 m elevation in Panamá, but most other specimens are from lowland, coastal localities. The Sierra de Omoa approaches the Caribbean coast of Honduras, and the specimens may have originated from a more coastal locality. 2) Although other specimens of *C. annulatus* have been collected in Ecuador, the holotype of *C. a. blombergi* is the only specimen from Ecuador recorded from east of the Andes (Rendahl and Vestergren, 1941). The collector of *C. a. blombergi* did have specimens from the Guayaquil area (west of the Andes) in the collection along with material from eastern Ecuador, from which area *C. annulatus* is known. 3) The record of *C. annulatus* from Leticia, Amazonas, Colombia published by Pérez-Santos and Moreno (1988) is based on two misidentified *C. enydris*.

The diagnostic characters (size, number, and arrangement of scales on the snout) used to differentiate subspecies of *C. annulatus* by Rendahl and Vestergren (1941) are too variable to be reliable.

Kluge (1991), using character states of the splenial and coronoid, suggested that *C. annulatus* is comprised of more than one species.

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