

Catalogue of American Amphibians and Reptiles.

McCranie, J.R. and L.D. Wilson. 1992. *Rhadinaea godmani*.

***Rhadinaea godmani* (Günther)**

Dromicus Godmani Günther, 1865:94 (misspelling of *godmani* fide Myers, 1974:122). Type-locality, "Dueñas (Guatemala) [Departamento de Sacatepéquez]." Lectotype, British Museum (Natural History) (BMNH) 1946.1.9.17, an adult male collected by Osbert Salvin and Frederick DuCane Godman, date of collection not given, designated by Myers, 1974:122-123 (not examined by authors).

Rhadinaea godmanii: Cope, 1875:139 (the specific name was considered an unjustified emendation, fide Myers, 1974:122).

Dromicus godmanii: Cope, 1875:139.

Henicognathus Godmanii: Bocourt, 1886:631.

Rhadinaea godmani: Cope, 1887:80 (first actual usage of this combination, but the specific name was considered a misspelling by Myers, 1974:122, 130).

Henicognathus godmani: Boulenger, 1887:16.

Coronella godmani: Günther, 1893:110 (considered by Myers, 1974:122, 130, to be the first justified emendation of the original spelling of the specific name; however, this distinction probably belongs to Boulenger, 1887, if the earlier spellings are unjustified emendations, as believed by Myers, 1974:122, 130).

Rhadinaea godmani: Boulenger, 1894:179 (considered by Myers, 1974:122, as the first accepted correction of the original spelling used in this combination).

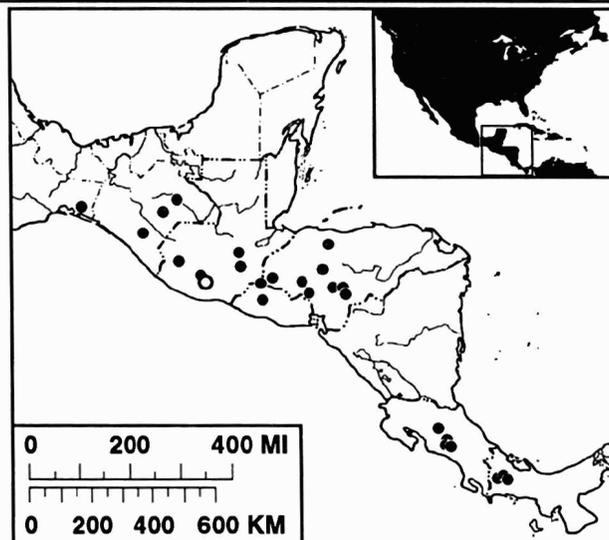
Liopbis godmani: Amaral, 1930:172.

Rhadinaea zilchi Mertens, 1952a:92. Type-locality, "Ufer der Laguna de las Ninfas (= Laguna de Apaneca), Vulkan de La Lagunita 1630 m H., Dept. Sonsonate, El Salvador." Holotype, Natur-Museum und Forschungs-Institut Senckenberg (SMF) 43175, an adult male collected by Adolf Zilch on 7 September 1951 (not examined by authors).

Rhadinaea godmani zilchi: Mertens, 1952b:134.

[*Rhadinaea godmani godmani*]: Mertens, 1952b:134 (by inference).

Rhadinaea altamontana Taylor, 1954:740. Type-locality, "at the edge of the Costa Rican National Forest Reserve, Pan-American Highway, Talamanca Range, [Province Cartago], Costa Rica. Elevation between 7000-8000 ft." Holotype, University of Kansas Museum of Natural History (KU) 30962, an adult male collected



Map. The large open circle marks the type-locality; solid circles indicate other records, some of which may represent more than one locality.

by Edward H. Taylor and Jack Reark in August 1951 (Duellman and Berg, 1962:203) (not examined by authors).

Rhadinaea altamontanus: Taylor, 1954:679 (*lapsus*).

Rhadinaea binfordi Rossman, 1965:4. Type-locality, "from cloud forest (4,900 feet) 12 air mi. NNE Zanatepec, Oaxaca." Holotype, Louisiana State University Museum of Zoology (LSUMZ) 7565, an adult female collected by L.C. Binford on 3 April 1964 (not examined by authors).

• **Content.** The species is monotypic.

• **Definition.** *Rhadinaea godmani* is a medium-small species (males to 568 mm TL, females to 544 mm) of the *godmani* group with 21 smooth dorsal scale rows throughout the body. The body pattern is highly geographically variable. The ground color is pale brown to brown to rust red and is transversed by varying patterns of striping.



Figure 1. *Rhadinaea godmani* (KU 219983) from Honduras: Departamento de Yoro; 2.5 airline km NNE La Fortuna.

A dark middorsal stripe is present, which in some instances may overlap onto the paravertebral rows and in others may be diffuse and/or disjunct. A dark lateral stripe or line is generally present. The position and width of this marking varies slightly. If the lateral stripe is present, it at least occurs on some portion of row 5 and may extend through row 4 onto the upper portion of row 3. In some specimens, supplementary lines may be present in the lateral and/or dorsolateral fields. The venter is usually bright golden yellow, paler in juveniles. The head is dark brown or rust red dorsally, with or without a pair of pale parietal dots. A pale tan to yellow collar is usually present immediately behind the head, but may be broken into spots by intrusion of the middorsal dark stripe and perhaps other lateral lines. An oblique, black-bordered pale bar is usually present, extending posteriorly from the eye to the corner of the mouth. The chin is white to pale yellow. Scale counts are 7-9 (usually 8) supralabials, 1 preocular (rarely 2), 2 postoculars (rarely 1), and usually 1+2 temporals. Ventrals and subcaudals range from 156-186 (156-177 in males, 168-186 in females) and 71 to 95 (78-95 in males, 71-81 in females), respectively.

• **Diagnosis.** *Rhadinaea godmani* can be distinguished from all other members of the genus in having 21 scale rows throughout the body. Confusion arises only with some specimens of the closely related *R. bempsteadae*, in which a few specimens have 21 scale rows at midbody (but 19 at the neck and vent, as usually is the case throughout the body in this species). A Mexican specimen of *R. godmani* has 19-21-17 scale rows (Myers, 1974). See Pertinent Literature for further comments on the *bempsteadae-godmani* relationships.

• **Descriptions.** Myers (1974) provided a detailed description of the scutellation, color pattern, maxillary teeth, and hemipenis, including geographical variation in each of these characters, based on 48 specimens examined. Wilson et al. (1986) described the scutellation of and further color pattern variation in six additional specimens; the scalation data on these specimens also were included by Wilson and Meyer (1985) in their description of the species. Mertens (1952a, 1952c) described the scutellation and color pattern in two specimens not examined by Myers (1974).

• **Illustrations.** Myers (1974) presented a photograph of an adult female with her freshly-laid eggs, and Mertens (1952c) included a photograph of the holotype of *R. zilchi*. Myers (1974) also included photographs of the head and neck of two specimens, six drawings showing middorsal pattern variation, and a drawing of the hemipenis. Rossman (1965) provided a photograph of the head and neck of the holotype of *R. binfordi*. Günther (1893) included drawings of the entire body and a dorsal view of the head and neck of one of the syntypes. Bocourt (1886) and Taylor (1954) presented drawings of the dorsal, lateral, and ventral views of the head and neck (Taylor's drawings represent the holotype of *R. altamontana*). Stuart and Bailey (1941) included an erroneous diagrammatic representation of the dorsal pattern (the dark lateral stripe is shown to occupy the wrong scale rows).

• **Distribution.** *Rhadinaea godmani* occurs in disjunct montane habitats from southeastern Oaxaca, México, to western Panamá from 1000-2650 m. The species occurs principally in pine-oak forests within the Premontane Moist Forest formation (= Subtropical Moist Forest formation of Holdridge, 1967) and cloud forests within the Lower Montane Wet Forest and Lower Montane Moist Forest formations of Holdridge (1967) in the north and in humid lower montane and premontane seasonal forests in Costa Rica and Panamá. The species has been collected from underneath logs, boards, oak and pine trimmings, and rocks (Myers, 1974; Slevin, 1939; Stuart, 1951; Taylor, 1954; Uzzell and Starrett, 1958). Most of the 15 Honduran specimens taken by us were found underneath logs. A single specimen was also found in each of the following situations: underneath a rock (Wilson and Meyer, 1972), underneath a mat of pine needles, and crossing a dirt road at dusk.

• **Fossil Record.** None.

• **Pertinent Literature.** Myers (1974) formally synonymized *R. altamontana* Taylor of Costa Rica, *R. binfordi* Rossman of southern México, and *R. zilchi* Mertens of El Salvador with the Guatemalan *R. godmani* Günther, and presented a thorough review of the species. Wilson and Meyer (1972) reported the first Honduran specimens and

suggested that *altamontana* and *zilchi* were synonymous with *godmani*. Scott (1969) also had implied that *altamontana* was synonymous with *godmani* by including only the latter in the snake fauna of Costa Rica. Mertens (1952c) pointed out that the so-called color pattern difference he used (1952a) to distinguish *zilchi* from *godmani* were not valid, because they were based on erroneous data on *godmani* taken from Stuart and Bailey (1941). Also, the *R. serperaster* with 21 scale rows referred to by Stuart and Bailey (1941) are actually *R. godmani*, as are the specimens identified as *serperaster* by Dunn (1947). Myers (1974) discussed the relationships of the species within the *godmani* group, and Campbell (1982) presented a cladogram hypothesizing the species relationships within the group. Wilson et al. (1986) presented data that they felt showed that *R. bempsteadae* might be conspecific with *R. godmani*, a possibility previously discussed by Myers (1974). Keys to distinguish *R. godmani* from the remaining members of the snake fauna of the countries indicated are in: Mertens (1952c - El Salvador); Savage and Villa (1986 - Costa Rica); Stuart (1963 - Guatemala); Wilson and Meyer (1985 - Honduras). Myers (1974) summarized the available ecological information, and Campbell (1982 - Sierra de las Minas of Guatemala), Johnson (1989 - Nuclear Central American portion of México), and Wilson and Meyer (1985 - Honduras) discussed the vegetational formations in which the species occurs in their respective areas of research. Campbell and Vannini (1989) indicated the distribution of the species by faunal areas in Guatemala. Wilson et al. (1979) cited two localities where *R. godmani* is known to occur syntopically with two other members of the *godmani* group. Villa et al. (1988) listed some of the pertinent literature, and Smith and Smith (1976) the few Mexican references and a few others from adjacent countries. McDowell (1986) and Miller (1968) presented information on the structure of the rectal gland and cochlear duct, respectively. Villa (1983) used the common name Lagartijerita de Godman (Godman's Little Lizard Hunter) for the species.

• **Remarks.** Nothing has been published on the food habits of this species. A single insect pupa and a snake or lizard egg were removed from the stomachs of two Honduran specimens (KU 209344 and KU 214786, respectively). Another Honduran specimen (KU 219983) readily fed on *Eleutherodactylus planirostris* (Cope) in captivity.

Data from six recently-collected Honduran specimens are also included in the Definition section. These are KU 214783 from Cerro Cantagallo, 1840 m, Departamento de Francisco Morazán; KU 209344 from Cerro Uyuca, 1900 m, Departamento de Francisco Morazán; KU 214784, 214786-87, from Zacate Blanco, 2150-2160 m, Departamento de Intibucá; and KU 219983 from 2.5 airline km NNE La Fortuna, 1760 m, Departamento de Yoro. Another recently collected specimen is Universidad Nacional Autónoma de Honduras (UNAH) 2717 from 1.6 km N Cerro San Juanillo, 1980 m, Departamento de Comayagua, Honduras.

• **Etymology.** The specific name honors Frederick DuCane Godman, one of the collectors of the type series.

Literature Cited

- Amaral, A. do. 1930. Estudos sobre ophidios neotropicos. XVIII. Lista remissiva dos ophidios da região neotropical. Mem. Inst. Butantan 4:127-271 [1929].
- Bocourt, M-F. 1866. p. 593-664. In A.H.A. Duméril, M. Bocourt, and F. Mocquard. Études sur les reptiles. In Recherches zoologiques pour servir à l'histoire de la faune de l'Amérique Centrale et du Mexique. Mission scientifique au Mexique et dans l'Amérique Centrale. Troisième Partie, Sect. 1. Imprimerie Nationale, Paris.
- Boulenger, G.A. 1887. Reptilia and Batrachia. Zool. Rec. 23:1-24.
- . 1894. Catalogue of the snakes in the British Museum (Natural History). Volume II., containing the conclusion of the Colubridae Aglyphae. Taylor and Francis, London.
- Campbell, J.A. 1982. The biogeography of the cloud forest herpetofauna of Middle America, with special reference to the Sierra de las Minas of Guatemala. Ph.D. diss., Univ. Kansas, Lawrence.
- and J.P. Vannini. 1989. Distribution of amphibians and reptiles in Guatemala and Belize. Proc. West. Found. Vert. Zool. 4:1-21.
- Cope, E.D. 1875. On the Batrachia and Reptilia of Costa Rica. J. Acad. Nat. Sci. Philadelphia (2)8:93-154.
- . 1887. Catalogue of batrachians and reptiles of Central America and Mexico. Bull. U.S. Natl. Mus. (32):1-98.
- Duellman, W.E. and B. Berg. 1962. Type specimens of amphibians

- and reptiles in the Museum of Natural History, The University of Kansas. Univ. Kansas Publ. Mus. Nat. Hist. 15:183-204.
- Dunn, E.R. 1947. Snakes of the Lérica Farm (Chiriqui Volcano, western Panamá). Copeia 1947:153-157.
- Günther, A. 1865. Fourth account of new species of snakes in the collection of the British Museum. Ann. Mag. Nat. Hist. (3)15:89-98.
- . 1893. Reptilia and Batrachia, p.105-112. In F.D. Godman and O. Salvin (eds.), Biologia Centrali-Americana; or, Contributions to the knowledge of the fauna and flora of Mexico and Central America. R.H. Porter and Dulau & Co., London.
- Holdridge, L. R. 1967. Life zone ecology. Rev. ed. Trop. Sci. Center, San José, Costa Rica.
- Johnson, J.D. 1989. A biogeographic analysis of the herpetofauna of northwestern Nuclear Central America. Milwaukee Pub. Mus., Contr. Biol. Geol. (76):1-66.
- McDowell, S. B. 1986. The architecture of the corner of the mouth of colubroid snakes. J. Herpetol. 20:353-407.
- Mertens, R. 1952a. Neues über die Reptilienfauna von El Salvador. Zool. Anz. 148:87-93.
- . 1952b. Weitere neue Reptilien aus El Salvador. Zool. Anz. 149:133-138.
- . 1952c. Die Amphibien und Reptilien von El Salvador, auf Grund der Reisen von R. Mertens und A. Zilch. Abh. senckenb. naturf. Gesell. (487):1-120.
- Miller, M.R. 1968. The cochlear duct of snakes. Proc. California Acad. Sci. 35:425-476.
- Myers, C.W. 1974. The systematics of *Rhadinaea* (Colubridae), a genus of New World snakes. Bull. Amer. Mus. Nat. Hist. 152:1-262.
- Rossman, D.A. 1965. Two new colubrid snakes of the genus *Rhadinaea* from southern Mexico. Occ. Pap. Mus. Zool., Louisiana St. Univ. (32):1-8.
- Savage, J.M. and J. Villa. 1986. Introduction to the herpetofauna of Costa Rica. Introducción a la herpetofauna de Costa Rica. SSAR Contr. Herpetol. (3):viii + 207 p.
- Scott, N.J. Jr. 1969. A zoogeographic analysis of the snakes of Costa Rica. Ph.D. diss., Univ. Southern California, Los Angeles.
- Slevin, J.R. 1939. Notes on a collection of reptiles and amphibians from Guatemala. I. Snakes. Proc. California Acad. Sci. 23:393-414.
- Smith, H.M. and R.B. Smith. 1976. Synopsis of the herpetofauna of Mexico. Volume III. Source analysis and index for Mexican reptiles. John Johnson, North Bennington, Vermont.
- Stuart, L.C. 1951. The herpetofauna of the Guatemalan Plateau, with special reference to its distribution on the southwestern highlands. Contr. Lab. Vert. Biol., Univ. Michigan (49):1-71.
- . 1963. A checklist of the herpetofauna of Guatemala. Misc. Publ. Mus. Zool., Univ. Michigan (122):1-150.
- and J.R. Bailey. 1941. Three new species of the Genus *Rhadinaea* from Guatemala. Occ. Pap. Mus. Zool., Univ. Michigan (442):1-11.
- Taylor, E.H. 1954. Further studies on the serpents of Costa Rica. Univ. Kansas Sci. Bull. 36:673-801.
- Uzzell, T.M. Jr. and P. Starrett. 1958. Snakes from El Salvador. Copeia 1958:339-342.
- Villa, J. 1983. Peces, anfibios y reptiles Nicaraguenses: lista y bibliografía. Nicaraguan fishes, amphibians & reptiles: a checklist and bibliography. Univ. Centroamericana, Managua, Nicaragua.
- , L.D. Wilson, and J.D. Johnson. 1988. Middle American herpetology. A bibliographic checklist. Univ. Missouri Press, Columbia.
- Wilson, L.D., J.R. McCranie, and L. Porras. 1979. *Rhadinaea montecristi* Mertens: an addition to the snake fauna of Honduras. Herpetol. Rev. 10:62.
- and J.R. Meyer. 1972. *Rhadinaea godmani*, an addition to the snake fauna of Honduras. Bull. S. California Acad. Sci. 71:50-52.
- and ———. 1985. The snakes of Honduras. 2nd ed. Milwaukee Pub. Mus., Milwaukee, Wisconsin.
- , L. Porras, and J.R. McCranie. 1986. Distributional and taxonomic comments on some members of the Honduran herpetofauna (sic). Milwaukee Pub. Mus. Contr. Biol. Geol. (66):1-18.

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Primary editor for this account, Harold A. Dundee.

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