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STUDIES ON NEOTROPICAL COLUBRINAE

II. SOME NEW SPECIES AND SUBSPECIES OF *EUDRYAS* FITZINGER,
WITH AN ANNOTATED LIST OF THE FORMS OF
EUDRYAS BODDAERTII (SENTZEN)

BY L. C. STUART

IN the course of making a taxonomic revision of the genus *Eudryas* Fitzinger, I have found it necessary to break up the long standing form *Drymobius boddaertii* (Sentzen) into a number of well-defined geographical races. It has been obvious to students of neotropical racers that the synonymy of this form has been overcrowded with names applied to color phases of immature specimens (*e.g.*, *rappii* Günther) and to local variations in the proportionate size of head scales. It is, therefore, with some hesitancy that I add to this confusion in synonymy, but, despite the fact that—often at a considerable stretch of the imagination—an attempt has been made to use as many old names as possible, I find some distinct forms which seem to have escaped the vigilant eyes of the older school of “species describers.”

In the following is presented a short annotated list of the races into which I have split *Eudryas boddaertii*, and a description of five new forms.

The following is a list of the forms which I now recognize:

1. *E. b. boddaertii* (Sentzen). This typical form is widely distributed throughout Venezuela, the Guianas, northern Brazil, Bolivia, Peru, Ecuador, southern and central Colombia, and Trinidad.

2. *E. b. quinquelineatus* (Steindachner). A very poorly understood race ranging through southern and western Venezuela, eastern and parts of northern Colombia, and northwestern Brazil.

3. *E. b. pulchriceps* (Cope). A questionable subspecies occupying a very small region in western Ecuador in the region of Guayaquil.

4. *E. b. dunni* sp. nov. Known only from Tobago, B. W. I.

5. *E. b. bruesi* (Barbour). A distinct species limited to the Grenadines, B. W. I.

6. *E. b. ruthveni* sp. nov. A mountain form restricted to the Sierra Nevada de Santa Marta, Colombia.

7. *E. b. alternatus* (Bocourt). The Middle American counterpart of the typical South American form. Ranging widely through Central America from Panama to Honduras.

8. *E. b. gaigeae* subsp. nov. A rather distinct subspecies known only from Chiriqui Province, Panama.

9. *E. b. dorsalis* (Bocourt). A very distinct race occurring in the highlands of southern Guatemala.

10. *E. b. laevis* (Fischer). A poorly understood subspecies found only in the Coban region of Guatemala.

11. *E. b. melanolomus* (Cope). A readily recognizable form widespread throughout Yucatan.

12. *E. b. mexicanus* subsp. nov. The northern offshoot of *E. b. laevis* occurring only in eastern and southern Mexico.

13. *E. b. slevini* sp. nov. A distinct form known only from the Tres Marias Islands, Mexico.

In selecting names for the above forms I have recognized all island forms as distinct species. In the mainland races specific rank has been given to those forms only in which I have observed overlapping. So closely related is the entire group, that I have considered the remaining forms subspecies in anticipation of intergrades from the zoologically unex-

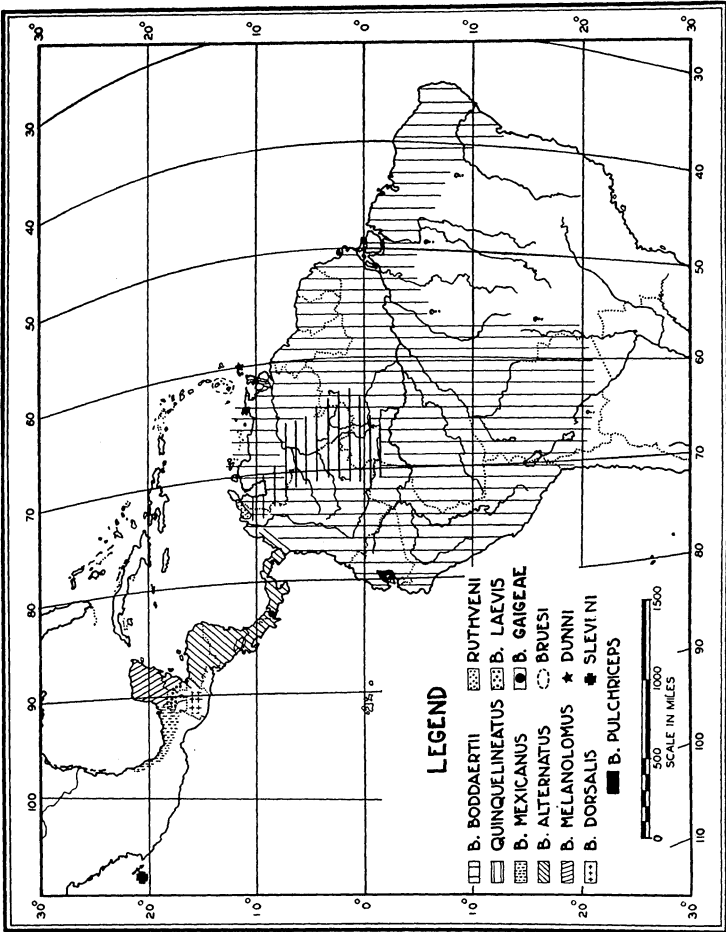


FIG. 1

plored intergrading region. Figure 1 shows the distribution of the forms noted above.

Eudryas ruthveni, sp. nov.

Type.—Museum of Zoology, University of Michigan, No. 54954. An adult male collected by Alexander G. Ruthven, June 22, 1920.

Type locality.—The slopes of San Lorenzo in the Sierra Nevada de Santa Marta, Colombia, at an altitude of 5500 feet.

Description of type.—Head scutellation normal. Rostral broader than high; visible from above. Internasal suture shorter than prefrontal suture. Frontal equal to its distance from the tip of the snout; shorter than parietals. Nasal divided. Loreal twice as long as high. Supralabials 9, fourth, fifth, and sixth entering the orbit. Infralabials 10/9; 5 on one side and 6 on the other in contact with anterior chin shields which are shorter than posterior ones. One prae- and two postoculars, the lower one smaller than the upper. Temporals 2 + 2 + 2. Dorsals with two apical pits, 17 in number anteriorly, 15 posteriorly. Ventrals 190, subcaudals 116. Anal divided. Maxillary teeth 21. Total length 941 mm., tail 274 mm.

The dorsal ground color of this form in life is olive-brown, but, due to the loss of the *stratum corneum* in preservation, the color is a grey-blue. A light lateral stripe appears on the fourth and fifth scale rows, narrowly edged above and below by a darker line. Another lateral stripe is present on the first and second scale rows, but it is not dark-edged. Both stripes fade out in the mid-body region. Many of the lateral scales in the anterior part of the body have a narrow, black, posterior border, and posteriorly all the scales have this darker edging. The head is olive-brown (*stratum corneum* intact). A slightly darker smudge extends from the nostril, through the orbit, and across the temporals. Supralabials, infralabials, chin, and throat a dingy white. Belly and underside of tail a similar color, but infringed upon laterally by the ground color of the dorsum.

Remarks.—I have records of this species from the Santa Martas in the region of Santa Marta and from Palomina.

With reference to this form Ruthven states the following:

A common ground snake in the wet forest on San Lorenzo; generally distributed above 2,200 feet, below this altitude only seen in ravines in the dry forest. At Valencia found in the flood plain forest.¹

It is interesting to note that the specimen taken at Valencia is not this species, but *E. quinquelineatus* (Stein.). There are records of specimens in the British Museum (Natural History) from Cienaga at the base of the Santa Martas, and these also prove to be *quinquelineatus*. *E. ruthveni* appears to be a mountain form ranging at altitudes over 2,000 feet. In as much as no intergrading material has been seen, I believe that this form is entitled to full specific rank.

Specimens from the Museum of Zoology and the Museum of Comparative Zoology show the following ranges in scutellation: ventrals 181–199, subcaudals 114–121. The form is readily distinguishable from *E. quinquelineatus* and *E. b. boddaertii* by its coloration and greater number of subcaudals.

I have named this species for Dr. Alexander G. Ruthven of the University of Michigan, whose work in the Sierra Nevada de Santa Marta has proven a lasting contribution to zoogeography and herpetology.

Paratypes of this species are as follows: Museum of Zoology, Nos. 54949–53, 54955, 55674, and 45591–97; Museum of Comparative Zoology, Nos. 6521, 6544–47, 6554–55, 6575, and 6577.

Eudryas dunni, sp. nov.

Type.—Museum of Comparative Zoology, Harvard University, No. 12071. An adult male.

Type locality.—Tobago Island, B. W. I.

Description of type.—Head scutellation normal. Rostral broader than high; visible from above. Internasal suture shorter than prefrontal suture. Frontal equal to its distance

¹ Ruthven, A. G., *Univ. Mich. Mus. Zool. Misc. Pub.*, 8, 1922: 65.

from the tip of the snout; shorter than the parietals. Nasal divided. Loreal twice as long as high. Supralabials 10/9, fourth, fifth, and sixth entering the orbit. Infralabials 9/11; 5 on one side and 6 on the other in contact with the anterior chin shields, which are shorter than the posterior ones. One prae- and two postoculars, the lower one smaller than the upper. Temporals 3 + 2 + 2/4 + 2. Dorsals 17 anteriorly, 15 posteriorly. Scales with two apical pits. Ventrals 184, subcaudals 119. Anal divided. Maxillary teeth 21. Total length 892 mm., tail length 337 mm.

Coloration in alcohol variable owing to loss of *stratum corneum* over most of body. Where this layer is visible the dorsal ground color is olive-brown; when lost the coloration is a dull grey. The ground color extends upon the ventrals for about one-quarter of the distance on either side. A light line on the fourth and fifth scale rows anteriorly, on the fourth only posteriorly. A portion of the first row of scales lighter, giving the appearance of another lateral line. Top of head olive-brown (*stratum corneum* present). Sides of head slightly darker owing to an indistinct smudge extending from the nostril, through the eye and across the temporals, slightly infringing upon the supralabials. Supralabials, infralabials, chin, throat, belly, and underside of tail cream.

Remarks.—Only two specimens of this species are available, both of which are deposited in the Museum of Comparative Zoology (the type No. 12071 and a paratype No. 12072). The range in scutellation is: ventrals 184–196, subcaudals 119–122, total abdominals 303–318. The form may readily be separated from *E. b. boddaertii* (Sentzen) by the high number of subcaudals, and from *E. bruesi* (Barbour) by its coloration. This species represents an intergrade between the two above forms in that it is similar to the former in coloration and to the latter in scutellation. I find myself unable to consider it a typical intergrade, however, because its characters are distinct and show no confusing overlapping between *E. b. boddaertii* and *E. bruesi*. The species is apparently limited to Tobago Island.

I name this form for my friend Dr. Emmett Reid Dunn of Haverford College, whose work has contributed so much to our knowledge of neotropical herpetology.

Eudryas boddaertii gaigeae, subsp. nov.

Type.—Museum of Zoology, University of Michigan, No. 57917. An adult female, collected by Mrs. Helen T. Gaige, March 29, 1923.

Type locality.—Wright's Ranch, Boquete, Chiriqui Province, Panama; altitude, about 4000 feet.

Description of type.—Head scutellation normal. Rostral broader than high; visible from above. Internasal suture shorter than prefrontal suture. Frontal equal to its distance from the tip of the snout; shorter than parietals. Nasal divided. Loreal twice as long as high. Supralabials 9, fourth, fifth, and sixth entering the orbit. Infralabials 9/10; 5 in contact with anterior chin shields, which are shorter than the posterior ones. One prae- and two postoculars, the lower one smaller than the upper. Temporals $2 + 2/3 + 2$. Dorsals 17 anteriorly, 15 posteriorly. Scales with two apical pits. Ventrals 185, subcaudals 100. Anal divided. Maxillary teeth 20. Total length 908 mm., tail length 249 mm.

In life, according to the field notes of the collector, the ground color of the dorsum is a brownish tan. A lighter stripe occupies the fourth and fifth scale rows laterally. This is bordered above and below by a narrow dark line, the one situated on the upper half of the fifth scale row and the other on the lower half of the fourth scale row. The third scale row is colored as the mid-dorsal region. Another light stripe occupies the first and second scale rows, and is also bordered above and below by darker lines, one on the lower half of the first row of scales and the other on the upper half of the second scale row. This striping fades out near the vent. Some of the dorsal scales are flecked with black; large irregular black blotches are apparent on parts of the dorsum.

The head is olive-brown above. A very dark stripe extends from the nostril, through the eye, and across the lower temporals. The labials are a brownish grey with black posterior

borders. The chin and throat are yellowish white, slightly flecked with black. The belly and underside of the tail are white, barely infringed upon by the ground color of the dorsum. In life the eye is red. Due to the loss of the *stratum corneum*, the original brownish ground color has been replaced largely by a bluish grey.

Remarks.—Some specimens in the Museum of Zoology from the same region as the type are more heavily mottled with black, especially in the region of the head. Twelve other specimens show the scutellation range as follows: ventrals 168–186, subcaudals 96–108, total 271–287.

This form has been given subspecific rank because, unlike *E. ruthveni*, it does not appear to be limited by any physical feature of the land, and it is quite probable that intergrades with *E. b. alternatus* will be found after more extensive collecting.

The form is named for Mrs. Helen T. Gaige of the Museum of Zoology, University of Michigan, to whom I am indebted for the aid and encouragement which she has given me during my studies at that institution.

Paratypes in the Museum of Zoology are as follows: Nos. 57911–16, 57918–22, and 57932.

***Eudryas boddaertii mexicanus*, subsp. nov.**

Type.—British Museum (Natural History), No. A. b. in Boulenger's *Catalogue of Snakes*, Vol. II, p. 12. No register number. An adult male collected by H. Fink.

Type locality.—Zacuapan, Mexico.

Description of type.—Head scutellation normal. Rostral broader than high; visible from above. Internasal suture shorter than the prefrontal suture. Frontal equal to its distance from the tip of the snout; shorter than parietals. Nasal divided. Loreal twice as long as high. Supralabials 9, fourth, fifth, and sixth entering the orbit. Infralabials 10/11; 5 in contact with the anterior chin shields which are shorter than the posterior ones. One prae- and two postoculars, the lower one smaller than the upper. Temporals 2 + 1 + 2. Dorsals with two apical pits, 17 in number anteri-

only, 15 posteriorly. Ventrals 173, subcaudals 116. Anal divided. Maxillary teeth 19. Total length 941 mm., tail 274 mm.

Coloration of type poor, due to fading and softening in alcohol. Most of the *stratum corneum* has been lost. Where present the ground color of the dorsum is olive-brown, where lost it is a greyish blue. Each dorsal scale has a very narrow, black, anterior border. The top and sides of the head are colored as the dorsum in the several conditions. The labials are lighter and tend to have darker borders. A trace of black smudge extending from the nostril, through the eye, and across the supralabials and temporals is present. Chin and throat and the entire undersurfaces are a greenish white with traces of mottlings anteriorly. The ground color of the belly and the undersurface of the tail are widely infringed upon by the dorsal ground color.

Remarks.—This species appears to be limited to the hot, wet coast of eastern Mexico from Tabasco Province northward into Vera Cruz. Specimens from Tabasco show a marked tendency towards intergradation with *E. b. laevis* (Fischer). *E. b. mexicanus* appears to be little more than a faded and stunted (with respect to scutellation) offshoot of *laevis*.

Specimens other than the type show the scutellation ranges to be as follows: ventrals 168–177, subcaudals 106–120. This form is readily distinguishable from *laevis* by the lower number of both ventrals and subcaudals. The total of the ventrals and subcaudals is, therefore, much lower, so that the two forms are separated by a large gap in the total number of abdominal scutes.

I have examined only the type of this subspecies, so that I am unable to designate any paratypes.

Eudryas slevini, sp. nov.

Type.—California Academy of Sciences, No. 58679. An adult male collected by Mr. J. R. Slevin, May 17, 1925.

Type locality.—Maria Madre Island, Las Tres Marias Islands.

Description of type.—Head scutellation normal. Rostral broader than high; visible from above. Internasal suture shorter than prefrontal suture. Frontal equal to its distance from the tip of the snout; shorter than parietals. Nasal divided. Loreal twice as long as high. Supralabials 9, fourth, fifth, and sixth entering the orbit. Infralabials 10; 5 in contact with the anterior chin shields, which are only one half as long as the posterior ones. One prae- and two postoculars, the lower one much smaller than the upper. Temporals $1 + 2 + 2/2 + 2 + 2$. Dorsal scales 17 anteriorly, 15 posteriorly; with two apical pits. Ventrals 187, subcaudals 109. Anal divided. Maxillary teeth 20. Body length 905 mm., tail 360 mm.

Coloration in alcohol, olive-brown above, fading into cream on the belly. Dorsal scales flecked with black and generally with a narrow, black, posterior border. Ventrals olive-brown on the sides, cream in the center; anteriorly mottled with black, posteriorly the mottling fades into flecking. Head olive-brown; labials and chin cream, heavily mottled with black. A dark smudge extends from the nostril through the eye and across the lower temporals.

Remarks.—This form is limited to the Tres Marias Islands. Specimens in the British Museum and in the United States National Museum show the scutellation to range as follows: ventrals 183–192; subcaudals 108–111. The species is readily distinguishable from the Central American form with similar coloration, *E. boddaertii laevis* (Fischer), by the much lower number of subcaudals, and from the Mexican form *E. boddaertii mexicanus*, by the greater number of ventrals. I follow the common trend of taxonomic usage in recognizing this island form as a full species, despite its very close affinity to the mainland forms.

I take pleasure in naming the form after its collector, Mr. J. R. Slevin, of the California Academy of Sciences, to whom I am indebted for the privilege of describing it.

In as much as I have seen but a single specimen of the form, I am unable to designate any paratypes.

