160 NOTES

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Elevation of Anolis vanidicus rejectus Garrido and Schwartz (Sauria: Iguanidae) to Species Status and Designation of Anolis mimus Schwartz and Thomas as a Synonym

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The Cuban Anolis fauna consists of about 60 species, nearly all of which are endemic to the island (Powell et al., 1996). Among these are about a dozen small species that occur in grass and bush habitats and are placed in four species groups: alutaceus, clivicola, cy-

anopleurus, and spectrum (Burnell and Hedges, 1990). The spectrum group contains two species, A. spectrum and A. vanidicus. The first species occurs in western Cuba whereas the second species occurs as two isolated subspecies: one in central Cuba (A. v. vanidicus) and the other in eastern Cuba (A. v. rejectus). In this paper, we reassess the taxonomic status of A. v. rejectus and another Cuban species, A. mimus.

Garrido and Schwartz (1972) reviewed the taxonomic history of A. spectrum and described A. vanidicus and its two subspecies. The eastern subspecies A. v. rejectus was described from a single female, collected on the northern outskirts of Santiago de Cuba, which had been reported as A. spectrum (Schwartz and Ogren, 1956:98). The name rejectus was used in allusion to the remark by Ruibal (1964:509) that 'Schwartz and Ogren (1956) record spectrum from Santiago de Cuba. This is probably in error.' The locality is about 470 km from the known range of the nominate race, and the single specimen of A. v. rejectus differs from A. v. vanidicus in several aspects. Besides being near the upper extreme in several scale counts, the one major diagnostic difference noted was that its shoulder count of dorsals and laterals (34) was much higher than the corresponding count (15-26) in A. v. vanidicus (N = 87). Additionally, A. v. rejectus was described as being more brown than the olive-green or brownishgreen of A. v. vanidicus. If additional specimens had been available at the time with the same differences, A. v. rejectus would have been described as a separate species.

When Garrido (1975, 1980) proposed the subgenus *Macroleptura* to group all of the grass anoles, bush anoles, and twig anoles, he divided them into four groups. A diagnostic character of the *spectrumvanidicus* complex was that the supraciliary scales are in full contact with the supraorbital semicircles, a character not found yet in any other Cuban taxa. He assumed that *A. v. rejectus* also had this character but was unable to examine the holotype (and only known specimen at that time) located in the Charleston Museum (South Carolina). Recently we examined that specime and made comparisons with similar species described since 1972.

The holotype of *A. v. rejectus* does not have the superciliaries in full contact with the supraorbital semicircles, as does *A. v. vanidicus* and *A. spectrum*. Instead, it possesses a very distinct row of small scales between them - a characteristic of species in the *cyanopleurus-cupeyalensis* complex. We suspected the lizard could be the same form as *Anolis mimus*, the latter being known from nearby in the same province (Cordillera de la Gran Piedra), although at higher elevations. The name *Anolis mimus* (Schwartz and Thomas, 1975; Powell et al., 1996) replaced *Anolis montanus* Garrido (1975), pre-occupied by the subspecies *A. oculatus montanus* from Dominica.

Recently, Ansel Fong donated seven anoles to the collection of the Museo Natural de Historia Natural de Cuba (Havana). These specimens were collected at La Gran Piedra (Ansel Fong, private collection, AFG 858-859, 862, 970-971) and from Santiago de Cuba (AFG 575-576). Additionally, Fong and Nils Navarro (Holguín) secured a series of specimens assigned to *A. mimus* in the nearby Sierra de Boniato (uncataloged). Af-

NOTES 161

ter comparing topotypes of *A.mimus* with the two specimens from Santiago de Cuba and the holotype of *A. v. rejectus*, we found they all represent the same species and that it differs from *A. vanidicus*. Because *A. v. rejectus* was described prior to *A. mimus*, the former name has priority. Therefore, the species should be called,

ANOLIS REJECTUS, NEW STATUS

Anolis vanidicus rejectus Garrido and Schwartz, 1972: 517; type-locality, 2 mi. (3.2 km) N Santiago de Cuba, Oriente Province (now province of Santiago de Cuba); holotype, Charleston Museum 55.1.63.

Anolis cupeyalensis montanus Garrido, 1975:24; typelocality, La Gran Piedra, Santiago de Cuba, Oriente Province, Cuba; holotype, IZ 3917.

Anolis montanus Garrido, 1975:55.

Anolis mimus Schwartz and Thomas, 1975:93.

Description.—In addition to the original description of the holotype (Garrido and Schwartz, 1972), the following should be added: length of snout to front of orbit, 4.2 mm; dorsal scales (the distance between the tip of the snout and the orbit placed on the back), 10 scales; gular scales (same distance), 13 scales; width of snout at level of the eyes, 3.9 mm; width of snout in front of the eyes, 2.6 mm; in alcohol, the body is covered with small black dots; dorsal scales imbricate and keeled; 5-6 supraciliary scales; one row of scales separating the supraciliaries from the supraorbital semicircles.

Comparisons.—This species falls within the cyanopleurus-cupeyalensis complex and therefore must be compared with those taxa. Anolis cyanopleurus cyanopleurus is a slightly larger lizard confined to the eastern portion of Cuba in Guantánamo Province. It is green (not brown as in A. rejectus) and has a wellmarked dorsal row of enlarged scales (absent in A. rejectus). The subspecies of A. cyanopleurus from Maisi, A. c. orientalis, is less green (although not completely brown) but it also has the distinctive row of enlarged middorsal scales. Anolis fugitivus is found in the eastern portion of Holguín Province and the northern portion of Guantánamo Province. It is very distinctive in life, having a greenish head, a narrow row of about 4-5 enlarged dorsal scales, a beige middorsal stripe, and with a contrasting chocolate brown color on the sides. Also, A. fugitivus has larger dorsal and ventral scales than A. rejectus.

Anolis juangundlachi is from the province of Matanzas, more than 700 km to the east. It is a larger species, with larger scales, a different body pattern, and blue eyes rather than greenish eyes as in *A. rejectus*.

Anolis cupeyalensis requires the closest comparison. Although its range covers the provinces of Holguín and northwestern Guantánamo, its southern distribution has not yet been determined. It is a smaller lizard, with females having a typical striped pattern (pale on dark ground color) on the venter. Ventral scales are bior tricarinated, and the dorsal, ventral, and gular scales are larger than in A. rejectus.

Remarks.—It is not surprising that the single female anole found by Schwartz on the outskirts of Santiago de Cuba belongs to the same species that inhabits the nearby Cordillera de la Gran Piedra and Sierra de Bo-

niato. Although the type-locality is at the low end of the altitudinal range of *A. rejectus* (50-1214 m), all known localities of the species fall within a circumscribed region of Santiago de Cuba Province (Schwartz and Henderson, 1991, as localities for *A. mimus*).

When Garrido and Schwartz (1972) described *A. vanidicus rejectus*, they suggested that the form could also be found in Sierra de Boniato, which proved correct. There also are several localities of this species in the northern part of Santiago de Cuba Province, but a hiatus remains between these northern populations of *A. rejectus* and the southernmost localities of *A. cupeyalensis*. It will be interesting to determine if these areas are occupied by one or both species, or perhaps by an undiscovered species of grass anole.

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LITERATURE CITED

- Burnell, K. L., and S. B. Hedges. 1990. Relationships of West Indian *Anolis* (Sauria: Iguanidae): an approach using slow-evolving protein loci. Carib. J. Sci. 26: 7-30.
- Garrido, O. H. 1975. Distribución y variación del complejo Anolis cyanopleurus (Lacertilia: Iguanidae) en Cuba. Poeyana (143): 1-58.
- Garrido, O. H. 1980. Revisión del complejo *Anolis alutaceus* (Lacertilia: Iguanidae) y descripción de una nueva especie de Cuba. Poeyana (201): 1-41.
- Garrido, O. H., and A. Schwartz. 1972. The Cuban Anolis spectrum complex (Sauria: Iguanidae). Proc. Biol. Soc. Washington 85: 509-522.
- Powell, R., R. W. Henderson, K. Adler, and H. A. Dundee. 1996. An annotated checklist of West Indian amphibians and reptiles. In R. Powell and R. W. Henderson (eds.), Contributions to West Indian Herpetology: A Tribute to Albert Schwartz, pp. 51-93. Soc. Stud. Amphib. Rept., Ithaca, New York.
- Ruibal, R. 1964. An annotated checklist and key to the anoline lizards of Cuba. Bull. Mus. Comp. Zool. 130: 475-520.
- Schwartz, A., and R. W. Henderson. 1991. Amphibians and Reptiles of the West Indies. Univ. Florida Press, Gainesville.
- Schwartz, A., and L.H. Ogren. 1956. A collection of reptiles and amphibians from Cuba with descriptions of two new forms. Herpetologica 12: 91-110.
- Schwartz, A., and R. Thomas. 1975. A check-list of West Indian Amphibians and Reptiles. Carnegie Mus. Nat. Hist. Spec. Publ. (1): 1-216.