

A CHECKLIST OF THE IGUANAS OF THE WORLD (IGUANIDAE; IGUANINAE)

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IGUANA TAXONOMY WORKING GROUP (ITWG)

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Preface.—In an attempt to keep the community up to date on literature concerning iguana taxonomy, we are providing this short review of papers published since our 2016 Checklist (ITWG 2016) and 2019 Supplement (ITWG 2019) that have taxonomic and/or conservation implications. We encourage users to inform us of similar works that we may have missed or those that appear in the future. It is our intent to publish an updated peer-reviewed Checklist, fully incorporating the information provided here, in a future version.

Iguana Taxonomy Working Group (ITWG). 2016. A checklist of the iguanas of the world (Iguanidae; Iguaninae). Pp. 4–46 In: *Iguanas: Biology, Systematics, and Conservation*. Iverson, J.B., T.D. Grant, C.R. Knapp, and S.A. Pasachnik (Eds.). *Herpetological Conservation and Biology* 11(Monograph 6).

Iguana Taxonomy Working Group (ITWG). 2019. Supplement to the 2016 checklist of the iguanas of the world (Iguanidae; Iguaninae).

<https://www.iucn-iscg.org/species/iguana-taxonomy/>

CTENOSAURA WIEGMANN [SPINY-TAILED IGUANAS]

Zarza E., V.H. Reynoso, C.M.A. Faria, and B.C. Emerson. 2019. Introgressive hybridization in a Spiny-tailed Iguana, *Ctenosaura pectinata*, and its implications for taxonomy and conservation. PeerJ 7:e6744.
<https://doi.org/10.7717/peerj.6744>

Comment: The authors propose resurrecting *Ctenosaura brachylopha*, first proposed by Bailey (1928), for an endemic *Ctenosaura* species from central-western México inhabiting the northern end of the range of populations formerly referred to *C. pectinata*. Recognition of *C. brachylopha* is based on concordant geographic distributions between mtDNA clades and microsatellite clusters, despite gene flow between this species and *C. pectinata*. Additionally, the authors cite Bailey's (1928) previous morphological distinctions that include a higher number of proximal spinose tail whorls separated by three intercalary whorls and a discontinuous middorsal crest over the sacrum (to which the specific epithet refers), although they noted that these differences need to be tested using modern statistical comparisons. By contrast, populations of *C. pectinata* from farther south in western México show various levels of discordance between mtDNA haplotypes and microsatellite loci distributions. The study also found a similar concordance of genetic signals corroborating recognition of *C. acanthura* as a separate species from *C. pectinata*. The ITWG has adopted these taxonomic conclusions and recommends the common name Sinaloan Spiny-tailed Iguanas for *C. brachylopha*.

IGUANA LAURENTI [GREEN IGUANAS]

Breuil, M. 2013. Caractérisation morphologique de l'iguane commun *Iguana iguana* (Linnaeus, 1758), de l'iguane des Petites Antilles *Iguana delicatissima* Laurenti, 1768 et de leurs hybrides. Bulletin de la Société Herpétologique de France 147:309–346. Available from <https://www.researchgate.net/profile/Michel-Breuil> [English translation by the International Reptile Conservation Foundation, 2016. https://ircf.org/wp-content/uploads/2016/06/Breuil_Article_Trans_Rel_062316.pdf]

Comment: The author describes morphological variation within *Iguana*, paying particular attention to characters that can be used in the field to identify hybrids between Lesser Antillean Iguanas (*Iguana delicatissima*) and Common Green Iguanas (*Iguana iguana*). The paper suggests that such hybrids can indeed be recognized. Towards this purpose, morphological characteristics (including head meristics and qualitative traits, such as coloration) were collected from an unstated number of individuals and compared to data from native and invasive Common Green Iguanas within the Lesser Antilles, as well as museum specimens collected from French Guiana and data available in the literature. No analyses are conducted, sample sizes are unstated, and variance is not quantified, but traits are described verbally by population. Based on these morphological data, along with a

previously-published mtDNA phylogeny (Malone and Davis 2004), the author proposes recognition of the Central American populations of *Iguana iguana* as a separate subspecies (*I. iguana rhinolopha*) from those of northern South America (*I. iguana iguana*); taxa that had previously been unified by Lazell (1973). The ITWG is adopting the proposed recognition of *I. iguana iguana*, with the common name Amazonian Green Iguanas and *I. iguana rhinolopha*, with the common name Mesoamerican Green Iguanas, despite the fact that the boundary between the two taxa, within or near the Isthmus of Panamá, is presently poorly defined.

Breuil, M., B. Vuillaume, D. Schikorski, U. Krauss, M.N. Morton, P. Haynes, J.C. Daltry, E. Corry, G. Gaymes, J. Gaymes, N. Bech, M. Jelić, and F. Grandjean. 2019. A story of nasal horns: two new subspecies of *Iguana* Laurenti, 1768 (Squamata, Iguanidae) in Saint Lucia, St Vincent & the Grenadines, and Grenada (southern Lesser Antilles). *Zootaxa* 4608(2):201–232.
<https://doi.org/10.11646/zootaxa.4608.2.1>

Comment: The authors propose recognizing two new subspecies of *Iguana iguana* in the Lesser Antilles, *I. iguana insularis* and *I. iguana sanctaluciae*. Morphological data from Breuil 2013 are supplemented with qualitative data collected from images gathered from the internet of Common Green Iguanas on the mainland of Central and South America. Morphological data from Breuil (2013) were not well defined and were not subject to statistical analyses, nor are sample sizes given. MtDNA sequence and microsatellite allelic data are reported from Saint Lucia, Union and Palm Islands in the Grenadines, and French Guiana. Qualitative morphological differences and genetic differentiation between the sampled populations are used as support for the taxonomic proposals. Only some of the publicly available genetic data (from Genbank) were used, including a single haplotype from Saint Lucia. Additionally, the authors propose treating the previously recognized subspecies *I. iguana rhinolopha* as a species based on a genetic study in which the clade is referred to as an ESU (Stephen *et al.* 2013). The ITWG is adopting the recognition of *I. iguana insularis* and *I. iguana sanctaluciae*, with the common names Grenadines Green Iguanas and Saint Lucia Green Iguanas, respectively, but is not adopting the recognition of the taxon *I. iguana rhinolopha* as a species.

Breuil, M., D. Schikorski, B. Vuillaume, U. Krauss, M.N. Morton, E. Corry, N. Bech, M. Jelić, and F. Grandjean. 2020. Painted black: *Iguana melanoderma* (Reptilia, Squamata, Iguanidae) a new melanistic endemic species from Saba and Montserrat islands (Lesser Antilles). *ZooKeys* 926(4):95–131.
<https://doi.org/10.3897/zookeys.926.48679>

Comment: The authors propose a new species, *Iguana melanoderma*, for iguanas from the Lesser Antillean islands of Saba and Montserrat, north-eastern Venezuela, Venezuelan coastal islands, Virgin Islands, and St. Croix Bank. Although the publication reports on limited morphological and genetic data, the species

diagnosis does not include any genetic information and only includes qualitative characters (e.g., “huge” and “distinctive”). Microsatellite sample sizes were lower than generally accepted as useful for population genetic analysis, and private alleles are identified without a sufficient sample size. Relevant and publicly available data from across the entire range of Common Green Iguanas were not incorporated, which is problematic for an extremely wide-ranging group with considerable intra- and inter-population variation. Additionally, the authors propose treating the previously recognized subspecies *I. iguana insularis* and *I. iguana sanctaluciae* as the species *Iguana insularis* (with two subspecies) based on a unique nuclear allele reported in Stephen *et al.* (2013), a study that likewise only sampled the South American mainland very sparsely, and their own unpublished data. The ITWG is not adopting the recognition of *I. melanoderma* for the Saba, Montserrat, north-eastern Venezuela, Venezuelan coastal islands, Virgin Islands, and St. Croix Bank populations. Additional information regarding the diagnostic character states and genetic distinctions are needed to assess this taxonomic proposal. Therefore, the ITWG continues to recognize these populations as part of *I. iguana*. The ITWG is adopting the previous subspecific designations of *I. iguana insularis* and *I. iguana sanctaluciae* for the Grenadines and Saint Lucia populations, respectively (see above), but is not adopting the proposal that together they constitute a species, *I. insularis*, separate from *I. iguana*.

Breuil, M., D. Schikorski, B. Vuillaume, U. Krauss, J.C. Daltry, G. Gaymes, J. Gaymes, O. Lepais, N. Bech, M. Jelić, T. Becking, and F. Grandjean. 2022. *Iguana insularis* (Iguanidae) from the southern Lesser Antilles: An endemic lineage endangered by hybridization. *ZooKeys* 926(4):95–131.
<https://doi.org/10.3897/zookeys.1086.76079>

Comment: The authors accept the previously proposed (Breuil *et al.* 2020) recognition of *Iguana insularis* as a species endemic to the countries of Saint Vincent and the Grenadines, and Saint Lucia. This study adds new genetic data from Saint Vincent and 13 previously unsampled islands in the Grenadines, to previous data on iguanas sampled from Saint Lucia, and Palm and Union Islands in the Grenadines (Breuil *et al.* 2019). Most iguanas from the newly sampled Grenadine islands cluster with those from the earlier Grenadine samples, while those from Saint Vincent and some from the northern Grenadine island of Battowia show evidence of substantial introgression from the invasive *I. iguana iguana*. Although the authors prefer that the southern Lesser Antillean island populations be recognized as subspecies of the recently proposed species *I. insularis*, they acknowledge both lineages could be recognized as subspecies of *I. iguana*. The ITWG is not adopting the recognition of the southern Lesser Antillean Grenadines and Saint Lucia populations as subspecies of their own species, *I. insularis*, but instead recognizes them as subspecies of *I. iguana* following Breuil *et al.* (2019).