

## **Split *Anthracothorax aurulentus* from *A. dominicus* (Antillean Mango)**

*Anthracothorax dominicus* is a species with two fairly well-differentiated subspecies, *A. d. dominicus* of Hispaniola and *A. d. aurulentus* of Puerto Rico. These two subspecies have differences in color patterns in both sexes. In *A. d. dominicus*, the males have a metallic green throat and otherwise entirely velvet-black underparts, while male *A. d. aurulentus* has green flanks and dark brownish-gray belly, with the black restricted to a patch on the chest (Kirwan et al. 2020). In females, *dominicus* has a purplish base to the tail, while in *aurulentus* this area is largely brownish-gray (Kirwan et al. 2020). Unique amongst *Anthracothorax*, the females are pure white below, with only the young males having the black stripe down the venter that is shown by the mainland *Anthracothorax* species (Kirwan et al. 2020).

The two taxa were long considered separate species (e.g. Ridgway 1911, Wetmore 1916, Cory 1918) until lumped without comment by Peters (1945). Later authors have largely considered the two conspecific (AOU 1983, Raffaele 1989, Bond 1993, Raffaele et al. 1998, Dickinson 2003, Kirwan et al. 2020), until HBW-BirdLife split the two (see details below).

### **New evidence:**

No recent publications.

Under his account for *A. aurulentus*, Ridgway (1911) gave the following differences from *A. dominicus*: "Similar to *A. dominicus* but decidedly smaller; adult male with black of under parts confined to chest and breast, and middle rectrices usually much more coppery bronze; adult female with basal portion of lateral rectrices light grayish, or partly so, instead of more than basal half wholly chestnut-rufous, black of subterminal portion brightly glossed with bluish green, and under parts more extensively and uniformly grayish, the sides without green spotting or inter-mixture."

HBW-Birdlife split *aurulentus* from *dominicus* with the following rationale: "hitherto treated as conspecific with *A. dominicus*, but differs on account of (in male) blue-black not covering all of underparts below throat but just breast to mid-belly, with flanks green and lower central underparts to vent dark brownish-grey (3); (in male) central rectrices bronzy green vs glossy blackish-blue (2); (in female) outer tail dull brownish-grey, shading to darker subterminal tips and white tips vs violaceous-rufous, cutting sharply to blackish broad subterminal tips and white tips (3); markedly smaller size, although bill length virtually identical (effect size for wing  $-4.15$ , tail  $-5.63$ ; score 3). Monotypic."

Terry Chesser and Paul Donald have graciously provided photos of the tails of the females, showing the differences between taxa. Note the more extensive purple coloration at the base of the tail in *dominicus* in the following photo taken by Paul:



However, Terry Chesser noted that 50% of the specimens of female *aurulentus* housed at the USNM (10/20) showed some purple at the bases of the rectrices, although that coloration was usually partially obscured by the vent. A photo of three female *aurulentus* showing that purple coloration is below:



Photos on the Macaulay Library show the differences between the males quite well. Here are photos of male *dominicus*:

<https://macaulaylibrary.org/asset/176320171>

<https://macaulaylibrary.org/asset/176615901>

<https://macaulaylibrary.org/asset/241371311>

<https://macaulaylibrary.org/asset/397356871>

and male *aurulentus*:

<https://macaulaylibrary.org/asset/184585191>

<https://macaulaylibrary.org/asset/184585211>

<https://macaulaylibrary.org/asset/287874871>

<https://macaulaylibrary.org/asset/303680591>

Kirwan et al. (2020) list the following morphometric differences between *aurulentus* and *dominicus*, with the data taken from Arendt et al. (2004). Based on these data, Kirwan et al. (2020) state that “*aurulentus* has shorter wings and tail than nominate *dominicus*, but that bill length is comparable between the two taxa”. It appears, however, that there is some overlap in these measurements.

	Wing length	Tail length	Bill length	Tarsus length	Mass
<b><i>A. d. dominicus</i></b>					
Males	62–72 (64.8 ± 3.4, n = 3)				6.0–8.2 g
Females	59–67 (64.0 ± 2.7, n = 10)	35.3–36.4 (35.9 ± 0.7, n = 3)	18.0–25.3 (24.0 ± 2.1, n = 3)	5.1–7.3 (6.2 ± 1.6, n = 3)	4.0–7.0 g
<b><i>A. d. aurulentus</i></b>					
Males	57.3–69.0 (61.6 ± 2.0, n = 47)	22.7–36.4 (32.0 ± 3.7, n = 47)	21–27 (23.2 ± 1.4, n = 47)	2.3–7.3 (5.4 ± 1.0, n = 47)	4.8–7.2 g
Females	50.7–63.5 (57.9 ± 2.5, n = 60)	22.9–34.7 (32.0 ± 2.0, n = 60)	20.8–27.3 (24.5 ± 1.3, n = 60)	4.4–7.3 (5.6 ± 0.7, n = 60)	4.0–6.4 g

No genetic comparisons have been made between the two taxa, although given the plumage and morphometric differences, there are clearly some genetic differences. McGuire et al. (2014) did include a sample of *A. dominicus*, but unfortunately not of both subspecies. However, that study found *dominicus* sister to *A. viridis* of Puerto Rico, and in turn sister to the *Eulampis* Caribs of the eastern Caribbean (thus rendering *Anthracothorax* paraphyletic). This unfortunately provides no data on the species status of *dominicus* and *aurulentus*. However, the mainland *Anthracothorax* of Central and South America (sister to

the aforementioned clade) provide an interesting comparison. The four species in that group are all differentiated (plumage-wise) based on the relative extent of green and black coloration on the underparts, comparable to the differences in males of *dominicus* and *aurulentus*. However, the taxonomy of those *Anthracothonax* is not clear-cut, with some taxa having been considered conspecific in the recent past (e.g. *prevostii* and *veraguensis*).

It appears that no other studies on the taxonomy of this group have been done, such as differences in song or genetics. The two taxa, like others in the genus, appear to vocalize infrequently, if at all (Kirwan et al. 2020). Thus, differences in plumage and morphometrics (described above) may be more relevant to species limits.

The Working Group on Avian Classification (WGAC) recently considered this issue and voted to consider the two taxa as full species. That decision was based on the differences in size and plumage, described above.

#### **Recommendation:**

We recommend a **YES**. Although more data would be desirable, the published plumage and morphometric data seem to indicate species status. Differences between the two taxa are consistent and diagnostic, and are comparable to species-level differences in other taxa in the genus. However, although the differences of the color patterns are clear, a study of genetic and quantification of plumage differences is desirable. Unfortunately, it does not appear that there is anyone working on this group at the moment. The two taxa are clearly closely related and are (together) distinctive within the genus.

If split, we recommend the following English names, used HBW: Hispaniolan Mango for *dominicus* and Puerto Rican Mango for *aurulentus*. Ridgway (1911) and Cory (1918) used Haitian Mango and Porto Rican Mango, but the HBW names highlight the entire island on which *dominicus* is found, and the Ridgway/Cory name for *aurulentus* is an outdated spelling variant.

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**Date of proposal:** 24 February 2022