

BILL SEXUAL DICHROMATISM OF YELLOW-BILLED PINTAIL (*ANAS GEORGICA*) AND SPECKLED TEAL (*A. FLAVIROSTRIS*)

Robert E. Wilson¹, Sergio Goldfeder², & Kevin G. McCracken¹

¹Institute of Arctic Biology, Department of Biology and Wildlife, and University of Alaska Museum, University of Alaska Fairbanks, Fairbanks, AK 99775, USA.

E-mails: ftrew1@uaf.edu & fnkgm@uaf.edu

²Coordinación de Conservación de la Biodiversidad, Secretaría de Ambiente y Desarrollo Sustentable, San Martín 459, 1004 Buenos Aires, Argentina.

E-mail: sgoldfeder@medioambiente.gov.ar

La coloración del pico puede determinar el sexo del Pato maicero (*Anas georgica*) y del Pato barcino (*A. flavirostris*).

Key words: Argentina, bill morphology, Yellow-billed Pintail, *Anas georgica*, Speckled Teal, *Anas flavirostris*, sexual dichromatism.

The sexes of Yellow-billed Pintail (*Anas georgica*) and Speckled Teal (*A. flavirostris*) are similar in plumage with the females being primarily duller and not as strongly marked on the breast and undersides as males (Phillips 1922-1926, Johnsgard 1978, Madge & Burn 1986). However, little attention has been given to bare parts, especially bill coloration. This is probably due to the fact that bare part colors quickly fade after specimens are collected, and consequently, are not apparent in museum collections. Previously published morphological descriptions only cite that female bills are a duller yellow in Speckled Teal (Johnsgard 1978, Madge & Burn 1986) or show no difference in Yellow-billed Pintail (Phillips 1922-26, Madge & Burn 1986). After examining a series of recently collected voucher specimens from southern Argentina, we report previously unpublished differences

in bill coloration that can be used to determine the sex of these species.

We collected 20 adult Yellow-billed Pintails (9 females, 11 males) and 20 adult Speckled Teal (8 females, 12 males) from the provinces of Chubut and Santa Cruz in Argentina between 17 October and 10 November 2003. Bill coloration patterns were examined for each specimen promptly after collection before the bill colors faded. The ovaries or testes of each specimen were examined to verify sex.

Sexes of both species could be distinguished consistently with 100% accuracy using bill colors and patterns. Yellow-billed Pintail could be sexed using the coloration of the lower mandible. The gapes in both males and females were yellow, whereas the rest of the lower mandible was black in 100% of males and light grey with black on the very tip

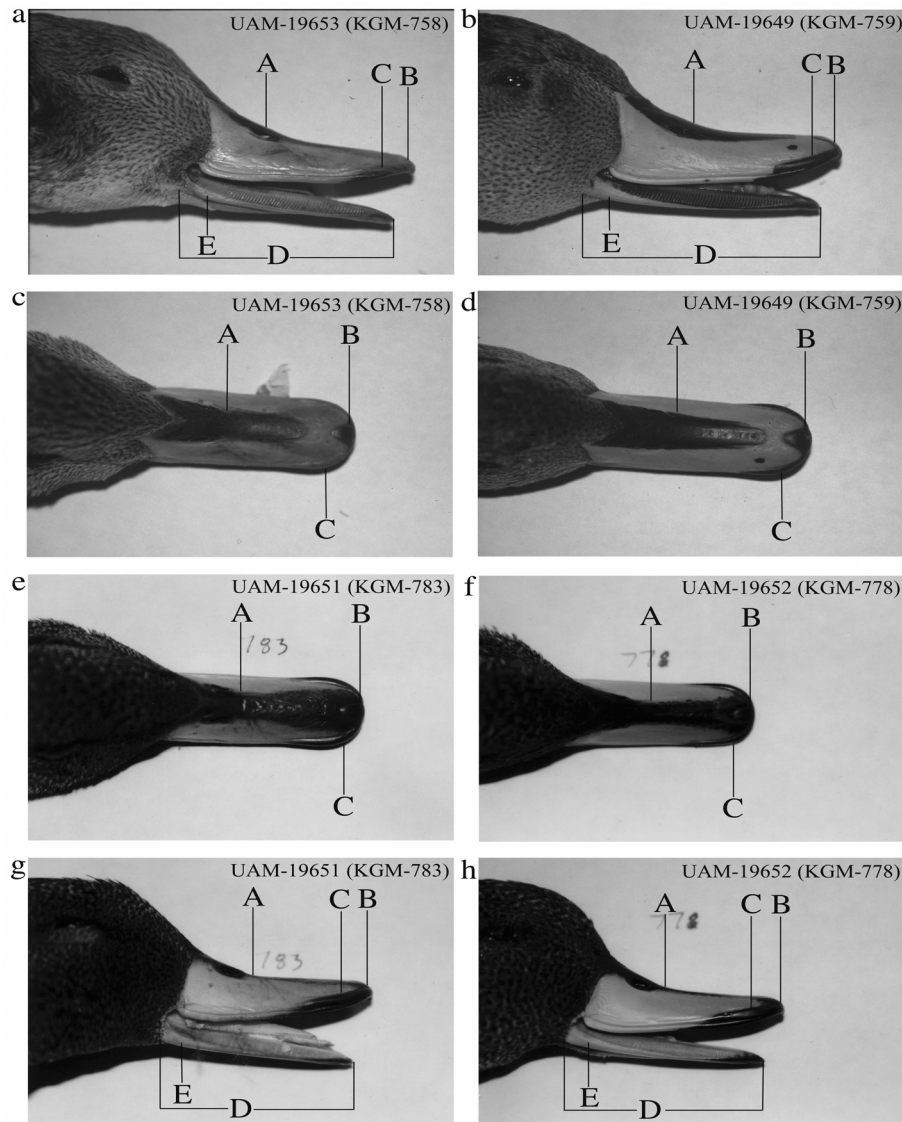


FIG. 1. Female (left) and male (right) bill coloration of Yellow-billed Pintail (a–d) and Speckled Teal (e–h). A, Culmen stripe; B, Nail; C, Leading edge; D, Lower mandible; E, Gape. University of Alaska Museum (UAM) catalog numbers and the collector field catalog numbers are given in the upper right corner of each photo. Color photos of each specimen are archived in the University of Alaska Museum collection database at <http://arctos.database.museum>.

in 100% of females (Figs 1a and 1b). As with previous descriptions, both sexes possessed a black culmen stripe with females slightly

duller yellow on the sides. However, close examination showed sex differences in the culmen stripe (Figs 1c and 1d). The stripe was

solid black in 100% of males. In contrast, the black was not as intense, and brown specks were observed within the culmen stripe in 100% of females. The nail and leading edges near the nail also were black in both sexes, but the intensity and amount of blue around the nail and black on leading edges varied among individuals, as did as the distance between the nail and the culmen stripe.

Differences in bill coloration were less pronounced in Speckled Teal than Yellow-billed Pintail. Speckled Teal bills also possess a black culmen stripe with females slightly duller yellow (Figs 1e and 1f). However, unlike the Yellow-billed Pintail, the culmen stripe surrounds the nail. Small black spots also extend from the nail to the nostrils on both sides of the culmen stripe. In 100% of females, the culmen stripe coloration was less black and in some places appeared almost brown, whereas the culmen stripe of 100% of males always was solid black. Speckled Teal showed no detectable differences in the lower mandible as it was similarly pale grey or cream-colored in both sexes (Figs 1g and 1h).

Based on these differences in bill coloration, individuals can be accurately sexed in hand after collection without the aid of other measurements. These bill differences can provide a quick and easy identification method in the field when time is limited.

ACKNOWLEDGMENTS

We thank Raúl Clarke, Adrian Contreras, Alejandro Gonzalez, Daniel Ramadori, Dirección de Fauna Santa Cruz, Ministerio de la Producción Chubut, and Dirección de Fauna Silvestre – Secretaría de Ambiente y Desarrollo Sustentable de la República Argentina for authorization to collect waterfowl specimens. Expedition costs were funded by the Institute of Arctic Biology at the University of Alaska Fairbanks, Alaska EPSCoR (NSF EPS-0092040), and a grant from the Frank M. Chapman Fund at the American Museum of Natural History to R.E.W.

REFERENCES

- Madge, S., & H. Burn. 1988. Waterfowl: An identification guide to the ducks, geese and swans of the world. Houghton Mifflin, Boston, Massachusetts.
- Phillips, J. C. 1922-26. A natural history of the ducks. Volumes 1-4. Houghton Mifflin, Boston, Massachusetts.
- Johnsgard, P. A. 1978. Ducks, geese, and swans of the world. Univ. of Nebraska Press, Lincoln, Nebraska.

Accepted 7 May 2004.