

Observations on the nesting of White-capped Dipper (*Cinclus leucocephalus*) in Ecuador

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Abstract

Though the nest of White-capped Dipper was briefly described in 1939, a detailed description of the nest and eggs has not been published. Here I provide observations on 11 nests throughout Ecuador. The nest is a mossy ball with the internal egg cup thickly lined with dead bamboo leaves, and is easily confused with nests of the Olive Finch (*Lysurus castaneiceps*). White-capped Dippers have a nesting season which coincides with the drier months in northeastern Ecuador.

Keywords: *Cinclus leucocephalus*, egg, nest, nest site, White-capped Dipper.

Resumen

Aunque la primera descripción parcial del nido del Cinco Gorri blanco proviene del este de Ecuador de un nido encontrado en 1939, hasta ahora no hay una descripción formal del nido y los huevos. Aquí presento observaciones sobre 11 nidos encontrados en Ecuador. El nido es una bola de musgos con una copa interna forrada de hojas secas de bambú, y es fácilmente confundido con el nido del Pinzón Oliváceo (*Lysurus castaneiceps*). Aparentemente, el Cinco Gorri blanco anida principalmente durante los meses más secos en el este de Ecuador.

Palabras clave: Cinco Gorri blanco, *Cinclus leucocephalus*, huevo, nido, sitio de anidación.

The White-capped Dipper (*Cinclus leucocephalus*) (Fig. 1) belongs to a small family of semi-aquatic birds encompassing only five species (Tyler & Omerod 1994, Brewer 2001). Two are Old World species, one is from North America, and two inhabit South America (Omerod & Tyler 2005). The White-capped Dipper is distributed along the South American Andes (100–3900 m) from Venezuela and Colombia south to Bolivia (Hilty & Brown 1989, Hilty 2003). It is found along larger, fast-flowing streams, where it forages on boulders and rocks in turbulent waters (Ridgely & Greenfield 2001). The first nest description for this species, while lacking in details, was from Baños in eastern Ecuador. This nest was observed at a distance and described as a cup “open from above” (Skutch 1972). Vuilleumier & Ewert (1978) describe nests from Venezuela as being built “entirely of moss,” though it is unclear how closely they inspected the nests. Subsequently, Hilty (2003) described the nest only as a “domed nest” containing a two-egg clutch. Tyler & Omerod (1994) briefly describe another nest

from Ecuador, but do not provide a date or locality. To date, no complete description of the nest and eggs has been published, and here I rectify this with observations of 11 nests from various localities in Ecuador.

I found nests opportunistically, and these records do not properly represent breeding seasons. From one site, however, Yanayacu Biological Station & Center for Creative Studies (00°35'S, 77°53'W), I made enough observations to provide a better idea of seasonality. I found additional nests at Tandayapa, Pichincha Province, in the west (00°00'N, 78°41'W), and Tapichalaca Biological Reserve, Zamora-Chinchipe Province, in the southeast (04°30'S, 79°10'W). In all, I discovered 11 nests on/at the stages, dates, and locations given in Table 1. I did not monitor nests closely, and thus cannot present data on fledging success. I recorded nest measurements to the nearest 0.5 cm. and egg measurements to the nearest 0.1 mm.



Figure 1. Adult White-capped Dipper (*Cinclus leucocephalus*) near Tandayapa, Pichincha Province, northwestern Ecuador, 1500 m. (Photo: Eliot Miller).

Nest sites and habitat. All nests were directly adjacent to fast-flowing mountain streams in areas where the water was bordered by tall, wet rock faces (or concrete bridge supports). All were situated on these rock faces, wedged into vertical crevices, on sheltered ledges, or in small

cavities (Fig. 2). Mean nest height (above the water) was 2.2 ± 0.9 m. ($n = 8$; range = 1.2-3.5 m.). Forest around nest sites varied from primary, wet montane forest (Yanayacu and Tapichalaca), to fairly scrubby, drier, disturbed second growth (Tandayapa).



Figure 2. Nest site of White-capped Dipper (*Cinclus leucocephalus*) near Tapichalaca, Zamora-Chinchipe Province, southeastern Ecuador, 1800 m. (Photo: H. F. Greeney).

Nest architecture. All nests were bulky, globular structures, built mostly of humid moss and rootlets, with centrally located side entrances. The egg cup (e.g., not the entire interior) was thickly lined with *Chusquea* bamboo leaves and other strips of pale leaf material (Fig. 3 and 4). I measured three completed and accessible nests, one each from Tandayapa, Tapichalaca, and Yanayacu. Mean outer dimensions (cm. \pm SD) were 21.7 ± 2.9 tall by 23.7 ± 2.5 wide by 20.0 ± 1.0 front-to-back. Mean dimensions of nest entrances were 6.2 ± 0.8 wide by 4.8 ± 0.3 high, with a depth (measured from exterior lip to internal lip) of 5.3 ± 0.8 . Internal nest chambers

measured 11.5 ± 1.8 wide by 12.3 ± 1.5 tall. Inside this chamber were thickly lined egg cups with mean inner dimensions of 7.7 ± 1.5 in diameter by 4.7 ± 0.6 deep. Nests were built by first stuffing moss into irregularities in the substrate rock, creating a ring of moss which was then added to until a completed ball was formed. Nest walls varied in thickness depending on the shape and size of the crevice or niche where the nest was lodged. Once the external, mossy portion of the nest was completed, overlapping layers of tightly compacted bamboo leaves were added to create the cup.



Figure 3. Nest of White-capped Dipper (*Cinclus leucocephalus*) near Tapichalaca, Zamora-Chinchipe Province, southeastern Ecuador, 2200 m. (Photo: H. F. Greeney).

Eggs. Clutch size was one egg at one nest at Yanayacu and two eggs at one nest near Tandayapa. Two additional nests, one at Yanayacu and one at Tapichalaca, contained only a single nestling each. All eggs were immaculate white with mean dimensions (n = 3) of 27.2 ± 1.5 by 18.0 ± 0.7 mm.

Seasonality. While it is premature to attempt to access seasonality at a regional or country-level, most breeding of White-capped Dipper occurs from August to December in northeastern Ecuador. This roughly corresponds with the drier months in this region

(Greeney *et al.* 2006). For a species which nests and forages in close association with mountain streams, breeding during the drier months would make sense in order to avoid rainy season floods which might affect foraging efficiency and/or destroy nests.

Conclusions. While Skutch's (1972) description implied an open cup nest, the nest, eggs, and nest sites of White-capped Dipper are similar to those of its congeners (Tyler & Omerod 1994, Omerod & Tyler 2005). One interesting note is that the nest architecture and nest site selection of White-capped Dipper are quite similar to

those of the Olive Finch (*Lysurus castaneiceps*) (Greeney & Gelis 2006, Schulenberg & Gill 1987), with which this species is sometimes sympatric in Ecuador (HFG pers. obs.). Both species build bulky, mossy nests, with bamboo linings (Fig. 4) and both place nests in crevices on rocks or banks (but see exceptions in Greeney & Gelis 2006). While sample sizes are low for both of these species, future investigations into competition for nesting sites in areas of sympatry may provide interesting insights into their nesting ecology. For those working in the field on these two species, it is

important to note that the Olive Finch has a greater diversity in nest sites and also has nest lining around the entire inside of the chamber (Greeney & Gelis 2006; Fig. 4). It is also important to note the variation in coloration of Olive Finch eggs, ranging from pure white (Schulenberg & Gill 1987) like those of White-capped Dipper, to fairly heavily maculated (Greeney & Gelis 2006). Along with similarities in nest architecture, overlapping egg coloration between the two species could easily lead to misidentification of nests without confirmation by adult presence.

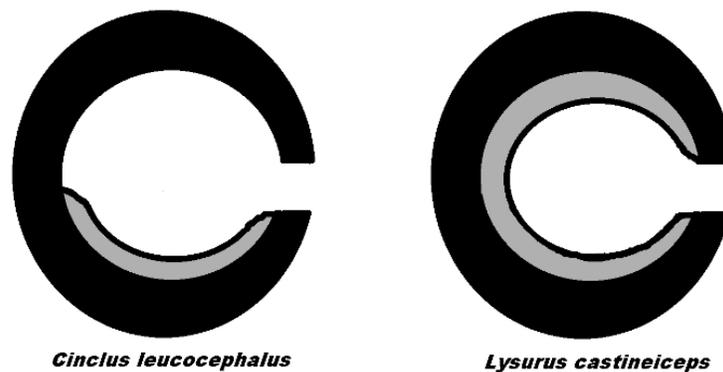


Figure 4. A comparison of the architectural design of White-capped Dipper (left) and Olive Finch (right). Note that the inner lining (grey) of dry leaves only covers the bottom portion of the chamber in the dipper nest.

Table 1. Nesting dates, locations, and stages of nests of White-capped Dipper (*Cinclus leucocephalus*) in Ecuador.

Nests of White-capped Dippers (<i>Cinclus leucocephalus</i>) in Ecuador		
Date	Location	Stage
15 September 2001	Yanayacu	Incubation
6 October 2001	Yanayacu	Construction
8 December 2001	Yanayacu	Active nest/unknown stage
27 September 2002	Yanayacu	Construction
2 October 2002	Yanayacu	Nestling
9 October 2004	Tapichalaca	Active nest/unknown stage
26 November 2004	Tapichalaca	Nestling
25 September 2005	Yanayacu	Construction
25 September 2005	Yanayacu	Construction
5 August 2006	Tandayapa	Construction
5 August 2006	Tandayapa	Incubation

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