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Bare-necked Umbrellabird (*Cephalopterus glabricollis*) Foraging at an Unusually Large Assemblage of Army Ant-following Birds

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ABSTRACT.—I observed a juvenile male Bare-necked Umbrellabird (*Cephalopterus glabricollis*) forage on arthropods flushed by a large swarm of the army ant *Eciton burchellii* in the Caribbean foothills of Costa Rica. Apparently, this is the first report of this species attending an army ant swarm. At least 60 birds of eight different species were foraging at that swarm, the largest assemblage of army ant-following birds reported in the Neotropics. Received 13 October 2004, accepted 1 July 2005.

The Bare-necked Umbrellabird (*Cephalopterus glabricollis*; Cotingidae) is an elevational migrant endemic to forests of the Caribbean slope of Costa Rica and western Panama (Snow 1982, Ridgely and Gwynne 1989, Stiles and Skutch 1989). Entire populations of this species spend the breeding season (February–July) in the highlands and then migrate to the lowlands, where they remain for at least 6 months (Chaves-Campos et al. 2003). The species feeds on fruit, large arthropods, and small vertebrates (Snow 1982, Ridgely and Gwynne 1989, Stiles and Skutch 1989; JC-C

pers. obs.). The possibility of extinction is high because of recent destruction and/or fragmentation of lowland habitats (Benstead et al. 2004), which may severely reduce the availability of food sources for populations during the nonbreeding season; however, little is known about the diet of this species when it inhabits the lowlands (Chaves-Campos et al. 2003). Documenting food resources could promote conservation strategies designed to protect this species.

On 13 January 1999, from 08:00 to 09:15 CST, in the foothills of the Tilarán Mountains, Costa Rica, I watched a juvenile male Bare-necked Umbrellabird forage over a swarm of army ants (*Eciton burchellii*; see Bolton 1995). The site was located at 400 m above sea level, the lowest elevation where forest still remains on the Caribbean slope of the Tilarán mountain range (see Chaves-Campos et al. 2003 for a description of the site). The bird perched on tree branches 3–4 m above ground, catching large arthropods flushed by a column of ants that climbed the tree trunk above the main swarm. This swarm was particularly large (about 12 m wide) and the assemblage of ant-following birds was noteworthy. Although it was difficult to estimate the numbers of foraging birds due to

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their constant movement. I estimated at least 20 Ocellated Antbirds (*Phaenostictus mcleannani*), 10 Bicolored Antbirds (*Gymnophthys leucaspis*), 10 Spotted Antbirds (*Hylophylax naevioides*), and 10 Plain-brown Woodcreepers (*Dendrocincla fuliginosa*) attending the swarm at the same time. In addition, I recorded a few Northern Barred-Woodcreepers (*Dendrocolaptes sanctithomae*), Rufous Motmots (*Baryphthengus martii*), and White-fronted Nunbirds (*Monasa morphoeus*).

This is the largest assemblage of army ant-following birds reported for the Neotropical area, comparable only with assemblages of African birds at large swarms of *Dorylus* spp. driver ants (E. O. Willis pers. comm.). Large assemblages of army ant-following birds in the Neotropics are usually composed of no more than 20–30 individuals (Oniki 1971, Gochfeld and Tudor 1978, Dobbs and Martin 1998, Wrege et al. 2005; JC-C pers. obs.). The simultaneous presence of 10 or more obligate ant-following birds of the same species at the same swarm also constitutes an extraordinary event (see Swartz 2001, Chaves-Campos 2003, Willson 2004). The observation of a Bare-necked Umbrellabird is unusual as well.

To the best of my knowledge, this is the first report of a Bare-necked Umbrellabird foraging at a swarm of army ants. Members of the family Cotingidae rarely follow army ants, perhaps because they generally do not inhabit, or forage in, the forest understory (Willis 1983, Willis and Oniki 1992). However, Bare-necked Umbrellabirds sometimes eat fruits close to the forest floor (1–3 m above ground; JC-C pers. obs.), suggesting that they might be more inclined to take prey flushed by swarms of army ants than other cotingids (e.g., more so than cock-of-the-rock *Rupicola* spp., which occasionally forage at army ant swarms; E. O. Willis pers. comm.). Thus, the presence of the Bare-necked Umbrellabird at this swarm suggests that it might be an occasional ant follower.

The absence of previous reports regarding Bare-necked Umbrellabirds in association with swarms of army ants could be due to a number of factors: low abundance and small geographic range for this bird species, characteristic elevational migratory behavior, and/

or the lack of research conducted on umbrellabirds during seasons when they inhabit the lowlands. I sampled umbrellabird abundance seven times during 1998–1999 (see Chaves-Campos et al. 2003), and this was the only occasion on which I saw army ants.

I speculate that Bare-necked Umbrellabirds may follow swarms of army ants primarily during the nonbreeding season, when the umbrellabirds are in the lowlands. Army ants seem to flush more insects in the lowlands than in the highlands (JC-C pers. obs.), probably because the abundance and size of their colonies decreases with increasing elevation (Hilty 1974, Gochfeld and Tudor 1978). In addition, they seem to flush more insects during the rainy season (Willis and Oniki 1992)—particularly on trees (Willson 2004)—when Bare-necked Umbrellabirds migrate to the lowlands (Chaves-Campos et al. 2003).

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