around the sloughs, but only young leopard frogs were observed on the floodplain away from standing water.

Blackbirds readily took and swallowed whole young leopard frogs that plowing operations disturbed in the field. The birds also pursued any adult mice that were flushed by the tractor, but both species always managed to out-distance the blackbirds, and no captures were observed. On the other hand, the blackbirds readily caught and ate nestling and juvenile voles that were present along the ridge portion of the field. As the disk would expose the voles, the blackbirds would hastily hop about, striking at the fleeing animals with their beaks. Very young voles, estimated to be from 10–14 days old and weighing up to 12 g, were easily captured and swallowed whole. Larger subadults were incapacitated by incessant pecking and then eviscerated. As adult voles were exposed, they would run distances of 3 to 5 m and then flatten themselves out on the loose soil or burrow underground. At times as many as three to four blackbirds would pursue these adults, but no captures were observed. Several times fleeing adult females had suckling young plucked from their mammae.

Following the blackbird flock and occasionally mixing with it were two to three Common Crows (*Corvus brachyrhynchos*). These were feeding mainly on the insects and annelids, as well as on the remains of the young voles that had been killed but not entirely eaten by the blackbirds. Several times the crows were observed to displace blackbirds from a freshly killed subadult vole. The cowbirds in the flock were not observed to feed on the mammals or amphibians.

Blackbird social systems, particularly that of the Redwing (Orians, Ecol. Monogr., 31:285–312, 1961) are thought to have developed in response to their food resources being distributed in a patchy manner. It follows that under these circumstances, these birds would tend to be opportunistic generalists (after Schoener, Ann. Rev. Ecol. Syst., 2:369–404, 1971), capitalizing on high-energy-content food when available. The facility and frequency with which both the Red-winged and Brewer's Blackbirds took the amphibians and young mammals suggest that this prey is perhaps not uncommon food, being captured and eaten whenever available.—LARRY E. BEASLEY, *Department of Zoology, University of Illinois, Urbana, Illinois 61801, and* STEVEN W. CAROTHERS, *Museum of Northern Arizona, Harold S. Colton Research Center, Flagstaff, Arizona 86001.* *Accepted 11 July 1974.*

Notes on birds at swarms of army ants in the highlands of Colombia.—Birds at army ant raids in the neotropical lowlands have been mentioned by numerous authors and studied extensively by Willis (Living Bird, 5:187, 1966; Univ. Calif. Publ. Zool., 79, 1967; Amer. Ornithol. Union Monog., 10, 1972). In cooler highland forests, one of the most important ants followed by birds, *Eciton burchelli*, becomes increasingly scarce, and the birds that depend upon it are seldom found above 1,000 m elevation (Willis, Univ. Calif. Publ. Zool., op. cit.:6). The only other ant species commonly followed by birds, *Labidus praedator*, swarms less predictably, but it may be more important to highland birds as it ranges to higher elevations. The biology of this ant has not been studied.

As a result of the decreased importance of army ants and of ant-following birds at higher elevations, little has been reported about the highland birds that may take occasional advantage of this unpredictable food source. I have observations at seven swarms of small black ants, presumably *L. praedator*, made between elevations of 980 and 1,250 m in the Anchicaya Valley (3° 32′ N, 76° 48′ W), on the Pacific slope of the Western Andes, Colombia. During these observations I saw five species of birds not previously

TABLE 1

OCCURRENCE AND NUMERS OF BIRDS AT HIGHLAND ANT SWARMS IN THE ANCHICAYA VALLEY, COLOMBIA, 1972 AND 1973[1]

Species	Number of birds per swarm					
	19 Nov 1972 (1,250 m, 13:00)	19 Dec 1972 (980 m, 12:30)	20 Dec 1972 (980 m, 16:30)	14 Mar 1973 (1,050 m, 10:00)	25 May 1973 (980 m, 16:00)	26 May 1973 (900 m, 09:30)
Thamnophilus unicolor	2					
Myrmeciza exsul						1
Myrmeciza laemosticta				1		
Myrmeciza immaculata		1	1	1	3(2♀)	2(♂♀)
Gymnopithys bicolor					1	
Scytalopus femoralis		1		1		
Thryothorus spadix		1	1		3	
Microbates cinereiventris		1	2			
Tangara florida					1	
Tangara icterocephala					10	
Bangsia edwardsi	2					
Totals	4	4	4	3	18	3

[1] At a swarm on 3 April 1973 (1,050 m, 12:45) I saw no birds.

known to attend ant swarms: Unicolored Antshrike (*Thamnophilus unicolor*), Rufous-vented Tapaculo (*Scytalopus femoralis*), Emerald Tanager (*Tangara florida*), Silver-throated Tanager (*Tangara icterocephala*), and Moss-backed Tanager (*Bangsia edwardsi*). The Unicolored Antshrike, a subtropical species, is to be expected at swarms, as most lowland species of antshrikes attend ant raids. All species seen at swarms are listed in Table 1.

A Rufous-vented Tapaculo was present at two swarms. Scampering among the tangle of vegetation, it foraged around the periphery of the swarm. In each case the more favorable center was occupied by an Immaculate Antbird (*Myrmeciza immaculata*). No supplanting of the tapaculo by the antbird was observed; however, a bolder Sooty-headed Wren (*Thryothorus spadix*) was vigorously supplanted twice on 19 December by a female antbird.

A large ant swarm (approximately 5.5 × 3.0 m), on 25 May 1972, was attended by three Immaculate Antbirds, three Sooty-headed Wrens, a Bicolored Antbird (*Gymnopithys bicolor*), an Emerald Tanager, and ten Silver-throated Tanagers. The tanagers moved excitedly about, 0.3–2.5 m above the swarm, as they called and foraged. Avoiding the larger antbirds, several tanagers lunged after prey, although others did not seem to watch the swarm closely for prey. My presence may have disturbed the activity of the birds, as the tanagers soon dispersed.

This is the first reported instance of any *Tangara* investigating and attending an ant swarm, although certain lowland tanagers (*Habia* and *Eucometis*) are frequent ant-followers (Willis, Auk, 77:150, 1960). Most *Tangara* are highland birds of forest tree-tops or clearing edges; they rarely descend to the ground (I have such records only for Rufous-throated Tanager, *T. rufigula*, and Silver-throated Tanager), although they regularly feed on low fruiting shrubs of heights of 4–6 m. In the Western Andes the large

number of sympatric *Tangara* exhibit considerable specialization of insect foraging behavior (pers. obs.). As their foraging zones seldom contact ant swarms, most *Tangara* probably visit swarms only under unusual circumstances. It is of interest that the Silver-throated Tanager is somewhat less stereotyped in foraging behavior than many *Tangara* species, and it may more frequently encounter unusual food sources such as ant swarms.

On 19 November 1972, I observed another large ant raid (approximately 6.5 × 2.5 m) in wet, foggy forest (1,250 m) between watersheds of the Río Anchicaya and Río Verde. A pair of Uniform Antshrikes was attendant but remained slightly ahead of the swarm. Two Moss-backed Tanagers approached cautiously toward the rear of the swarm, peering intently as they watched the activity. Both birds ate berries at a nearby fruiting melastome (*Miconia majalis*) and then moved directly over the swarm, where one tanager immediately began flycatching and lunging at disturbed insects. The second tanager retired to eat a large fruit from another melastome (*Blakea podagrica*), but later it returned to the swarm and began foraging for disturbed invertebrate prey. Both birds remained at the swarm for about 12 minutes, perching 1–2 m above the swarm and at times fluttering lower (to 0.4 m) to capture prey. Neither bird descended to the ground during any prey capture or attempt.

The Moss-backed Tanager, a locally common endemic of the Pacific Andean slope, normally forages alone or in pairs among the thick mats of vegetation and epiphytes, at middle to upper levels in mossy forest. Occasionally the birds descend low to forage in fruiting shrubs, but they usually do not remain low.

These observations indicate that several highland species make occasional use of ant swarms as a food source. The importance of these ants to most highland birds is likely to be small, as the ants are not numerous and most of the birds which follow them are not professional followers.

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