

SHORT COMMUNICATIONS

OBSERVATIONS ON TWO RARE COSTA RICAN FINCHES

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Acanthidops bairdi, the Peg-billed Finch, and *Spodiornis rusticus*, the Slaty Finch, are among the least-known of Middle American birds. *Acanthidops* has been found only in the Cordillera Central of Costa Rica. Although widely distributed in the subtropical zone of South America (de Schauensee 1966), *Spodiornis* is known in Central America only from southern México and the Costa Rica-Chiriquí highlands (Eisenmann 1955). Slud (1964) apparently did not encounter either species during his extensive work in Costa Rica, and the only observations he could find of the birds in life were those of Eisenmann on *Spodiornis* and Alfaro on *Acanthidops*, both of which he quotes (Slud 1964:380–381). More recently Orians and Paulson (1969) encountered both species in Costa Rica, but presented few details on habitat or behavior. In view of the paucity of published information on these points, the following observations may be of interest.

On 28 August 1968 we observed a female-plumaged *Acanthidops* at Km. 24 on the motor road up Volcán Irazú. The area, at about 8000 ft elevation, has been mostly cleared to pastures. The bird was seen in a remnant oak grove along a stream. Under the broken canopy the ground cover was largely grass, most of which had been cropped short by cattle. The *Acanthidops* was hopping along the ground in the short grass, feeding on the seeds of *Trisetum* grasses. It periodically made short sallies upward to grasp a tall grass stalk in its beak and pull it down to the ground, where the bird pulled off the seeds, all with the beak; the feet were not used, either for scratching or for holding the grass stalk down. We were impressed by the bird's activity as well as its tameness. It hopped about within 30 ft of us for nearly a minute, allowing close examination. Then a Black-headed Flycatcher, *Empidonax atriceps*, landed on a low perch near the *Acanthidops*. The finch immediately flew at the flycatcher and chased it out of view. During all this, the finch was silent.

The bird was dull grayish-brown in general coloration, lighter below with faint darker streaking. The wings and tail were dusky, with dull buffy wing-bars and edgings to the flight feathers. The head-pattern, while faint, was distinctive: a short, pale supercilary

stripe, and slightly darker cheeks. The best field mark was the peculiarly-shaped, strikingly bicolored bill: the mandible, dull yellowish; the maxilla, black.

The next day (29 August), Hesperheide saw two *Acanthidops* foraging in low shrubs and second growth along the road just below the cone of Volcán Poás. The birds usually kept within 3–5 ft of one another, and they foraged very actively in the dense vegetation, behaving more like foliage-gleaners than finches. The birds were by themselves and moved at a faster rate than flocks of the locally common Sooty-capped Bush-Tanagers (*Chlorospingus pileatus*). Sex of the birds was not determined, and neither details of the foraging behavior nor of food taken could be distinguished.

Stiles met *Acanthidops* again on 14 September 1968 on the crest of the Cordillera de Tilarán above Monteverde, Provincia de Puntarenas. Here, along the continental divide, a combination of high rainfall, strong winds, and frequent clouds and fog have produced a stunted but very lush and thick "elfin forest." The elevation is about 5500 ft, and several species of birds normally restricted to much higher altitudes are found here. These include *Panterpe insignis*, the Fiery-throated Hummingbird; *Margarornis rubiginosus*, the Ruddy Treerunner; *Chlorospingus pileatus*, the Sooty-capped Bush-Tanager, and *Pseliophorus tibialis*, the Yellow-thighed Finch. Several of these species (all have been seen by both of us independently) have not previously been recorded north of the Cordillera Central, as is also the case with *Acanthidops*.

The *Acanthidops*, apparently an adult male, was observed at very close range as it foraged in a small ericaceous flowering tree (probably of the genus *Arctostaphylos*). Nearly every twig of this tree had spikes of the small, pendant, urn-shaped flowers. The bird was actively hopping from twig to twig, and running along the twigs out near the tips of the branches, poking and probing into the flowers like a coerebid. It was not possible to tell whether insects or nectar were being taken. Shortly thereafter Stiles saw another male *Acanthidops* (perhaps the same bird) in another flowering *Arctostaphylos* about 200 yards from the first. The foraging technique appeared similar, with perhaps a greater preponderance of movement along the branches rather than from branch to branch. The bird(s) were silent; only a single individual was seen on each occasion.

The male *Acanthidops* was a fairly uniform slate-

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gray, slightly darker above, with a very faint paler superciliary. Again, the most striking feature was the bill, decidedly long and slender for a finch, with a black maxilla and a bright lemon-yellow mandible.

As noted by Eisenmann (in Slud 1964) and Orians and Paulson (1969), *Spodiornis rusticus* travels in small flocks. On 31 August 1968 Stiles glimpsed what appeared to be a flock of about 10 *Spodiornis* in a pasture on the Steinworth farm at about 6500 ft on the Pacific slope of Volcán Barba. Orians and Paulson (loc. cit.) apparently observed the species in the same area. Stiles returned to the spot on 5 September 1968 and observed a flock of *Spodiornis* at close range for over 20 min.

Adjoining the pasture on three sides was a tract of thick cloud forest; in the pasture itself many trees had been left standing. The pasture had evidently not been recently grazed, for the grass was thick and as high as 1 ft in many places. The flock of *Spodiornis* foraged in the grass, but always within a few yards of the forest, to which they would quickly retreat if alarmed. They foraged on the ground, and rarely perched more than 3 ft from the ground unless flushed.

The flock, consisting of five males and six or seven birds in female plumage, moved along the edge of the pasture in straggling fashion; the distance between foremost and hindmost birds was usually about 20–30 ft. Individuals at the rear were continually flying forward to the front of the flock, then dropping down to forage. These birds would often land on a slightly elevated perch, such as a stump, log, etc., before dropping down into the grass. Since foraging birds were usually hidden in the tall grass, those individuals on higher perches appeared to serve as "lookouts" for the flock. Often one bird, flying from the rear, would attempt to supplant another on a perch; such low-level aggression usually involved males. The flight was low and direct, with little or no gliding.

The birds were apparently foraging entirely on grass seeds. They hopped along the ground, picking up seeds, or reaching up and pulling down taller grass stalks, and plucking off the seeds. Occasionally a bird would make a short sally upwards, catch and pull down a tall stalk, and pull off the seeds, all with the bill. Stiles did not see the birds scratch, nor were the feet used in holding grass stalks. In general, the foraging behavior closely resembled that of the aforementioned female-plumaged *Acanthidops*. The only note heard was a high, thin, sibilant, colorless *seep!* or *sssp!* This was given by foraging individuals, apparently as a contact and spacing note. In aggressive encounters, a louder and sharper version of the same note was given.

In 20 min the *Spodiornis* flock covered about 110 yards. Then its path intersected that of a mixed-species flock of insectivorous and frugivorous birds at the forest edge. The latter flock contained, among others, *Chlorospingus ophthalmicus*, *Tangara dowii*, *Atlapetes brunneinucha*, and *Pseliophorus tibialis*. An adult *Pseliophorus* suddenly attacked and vigorously chased a male *Spodiornis*, which flew off across the pasture. The rest of the *Spodiornis*, in twos and threes, quickly followed. They were not seen again.

The male *Spodiornis* were dark slate-gray in color, somewhat darker above. The general coloration was more bluish-slate than *Acanthidops*. Two of the males had large patches of brown in the remiges, perhaps remnants of a juvenile plumage. Female-plumaged birds were olive-brown above, paler below with faint darker streaking. The general coloration was darker, richer, and more uniform than that of the female-plumaged *Acanthidops*. The sharply pointed bill was not

conspicuously bicolored; the maxilla was black, the mandible, gray or blackish.

Stomach contents provide further information on the feeding habits of these finches. Hesperheide examined the stomach contents of two *Acanthidops* collected by L. L. Wolf on the Cerro de la Muerte, Cordillera de Talamanca, Cost Rica. Specimen no. 3560, a female taken 1 May 1967, contained remains of at least 39 individuals of 23 species of insects. These included beetles (three individuals of three species, 2–6 mm in length), wasps (eight of seven spp., 3–6 mm), flies (nine of eight, 1.8–8 mm), springtails (Collembola) (14 of three species, two families), Psocoptera (one individual), Lepidoptera (two larvae of different species, 8.5 and 9 mm) and one small spider. Two objects in the stomach were seed remains, one possibly a grass seed endosperm. The contents were in good condition, with no grit or gravel present.

The second *Acanthidops*, no. 3649 of Wolf, was a male taken 7 June 1967. Its stomach contained beetles (five individuals of two species, Scarabaeidae, about 6–7 mm long), flies (two of one species, about 2–3 mm), Lepidoptera (many wing scales and a few wing fragments), and one small arachnid (Phalangidae). The contents were in poor condition, most of the volume being bits of fine gravel up to 2 mm long. Some other material may have been of vegetable origin. In both *Acanthidops* the bulk of the stomach contents was insects. Of the 49-plus individuals, 31 were winged adults, 21 were probably taken on or very near the ground (springtails, scarabs, etc.), and others, including lepidopteran larvae, were probably gleaned from foliage. Plant matter was present in relatively small quantities in both stomachs.

An immature male *Spodiornis* was mist-netted by Stiles and Wolf on 23 August 1969 in thick, scrubby second growth in an area of partly-cleared oak forest at about 10,000 ft on Cerro de la Muerte. No other *Spodiornis* was seen in the area, and the bird was probably a wandering individual. Its stomach was $\frac{2}{3}$ full of fine grit (particles up to 2–3 mm long); the remainder consisted of several seeds, probably of grass, and other vegetable matter.

Eisenmann (pers. comm.; see also Vuilleumier 1970) has suggested that *Acanthidops* is related to *Diglossa* of the Coerebidae. Certainly its peculiarly shaped bill shows some approach towards *Diglossa* (cf. Vuilleumier 1970). *Acanthidops* shows both finch-like and coerebid-like patterns of foraging behavior, as described above. N. K. Johnson (pers. comm.) notes that, in his experience, arboreal foraging like that of the male at Monteverde is typical of the species. On the other hand, Wolf has seen *Acanthidops* foraging on the ground on the Cerro de la Muerte (pers. comm.). Stomach contents also suggest that a considerable part of the bird's foraging may be terrestrial, but that the species is more insectivorous than *Spodiornis*. The foraging behavior of the female-plumaged *Acanthidops* seen on Irazú was strikingly similar to that of *Spodiornis*, as well as to that of some sparrows. Thus, foraging behavior neither confirms nor denies an *Acanthidops*-*Diglossa* relationship.

Stomach contents suggest that *Acanthidops* is more insectivorous than *Spodiornis*, perhaps as much so as *Diglossa*, although the relative importance of insects and nectar is difficult to estimate for the latter. A specimen of *Diglossa* from the Cerro de la Muerte in March contained 26 insects, of at least 19 species, 14 and 10 of which were flies; six and four were beetles, and the rest, small wasps (3), leafhoppers (2), and a moth larva. Stomachs of hummingbirds from the

same area (Stiles and Hespeneide, unpubl. data) indicate that a major part of the insect food of nectar-feeding species is flies. The food of *Acanthidops* is thus intermediate between that of *Spodiornis* and *Diglossa* since it includes at least some seeds and a fair proportion of flies (12 of 49 insects), in addition to insects such as the springtails, which may not be taken by either of the other two.

As Vuilleumier (1970) suggests, the morphological similarities could reflect convergence as well as relationship—and the same could be said of the similarities in foraging between *Acanthidops* and *Spodiornis*.

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OBSERVATIONS ON COPULATORY BEHAVIOR OF A PAIR OF SCREECH OWLS (*OTUS ASIO*)

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Pre-copulatory and copulatory behavior is rarely described, even though it may differ significantly between species, between individuals, and between mating encounters of the same pair. As for nocturnal species of birds, mating behavior is probably seldom witnessed in the wild, much less recorded. I report here the observation of one instance of the mating behavior of Screech Owls.

At about 22:30 on 15 January 1971 a pair of Screech Owls was called to a tree by a whistled imitation of the species' tremulous "song" (of the "bouncing-ball" rhythm, as described by Peterson (A field guide to western birds. Second ed. Houghton Mifflin Co., Boston, 1961, p. 157). Both sexes responded with a similar call, the female's being higher in pitch. Eventually the female approached her mate, who remained in position, and sat, in contact, beside

THE BRAN-COLORED FLYCATCHER IN GUYANA

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On 4 July 1970, one of us (J.A.D.), obtained a female Bran-colored Flycatcher, *Myiophobus f. fasciatus*, in Guyana, 1 mi. S of Ituni, 600 ft, Berbice County, West Demerara District. This bird was caught in a mist-net set for bats in brushy vegetation at the edge of savannah. De Schauensee (The species of birds of South America with their distribution. 1966, p. 357, and A guide to the birds of South America. 1970, p. 302, both of Livingston Publ. Co., Narberth, Pa.) includes "The Guianas" in the range of this species. However, Snyder (The birds of Guyana. Peabody

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him. The pair remained thus for over 10 min, calling frequently, and nibbling one another around the area of their bills. Suddenly the call of the male changed to a rapid tremulo, consisting of a short phrase followed by a longer one of equal intensity. This call was repeated with more regular and shorter intervals than the earlier "song," and during each interval a short, unbroken tremulo of the female's, at a higher pitch, was interspersed. This "pair-song" terminated when the male suddenly mounted his mate. Coition consumed 1.5-2.0 sec, the male flapping continuously to keep his position, and the pair separated by flying in opposite directions.

About 30 min later the male was back on the same branch and was again approached by the female. Without calling and without the pre-copulatory nibbling of the earlier encounter, he mounted her immediately. His eyes remained closed while he seemed to be attempting to grasp the nape of her neck with his bill. Again they flew to different trees after coition.

This particular pair of owls is resident on the University of Oregon campus and is exceptionally tame, being accustomed to the traffic of students at all hours. Most of the observations were made by flashlight, from distances rarely exceeding 15 ft.

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Museum, Salem, Mass. 1966), although realizing that this species must occur in Guyana because of its presence in neighboring countries, places *M. f. fasciatus* on the hypothetical list for lack of a specimen from there. Thus our specimen (which is now no. 107438 in the collection of the Royal Ontario Museum) is the first from that country, and confirms the suspicions of the above-mentioned authors.

Our bird, in unworn plumage, had a completely ossified skull, no body fat, and weighed 9.8 g. The ovary measured 6 × 3 mm and the largest ovum was 1.5 mm in diameter. This individual has a yellow crown patch rather than an orange one. The orange patch in both sexes is frequently mentioned as a diagnostic species character in the literature (Snyder op. cit., de Schauensee 1970), but apparently yellow patches are more common in both sexes (Haverschmidt, The birds of Surinam. Oliver and Boyd, London, 1968). Thus crown patch color in this species is polymorphic, rather than a sex or age related character.

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