mate when she emerges from the nest. This behavior presumably is kept at a low intensity as a result of the passive response of the female. Following such dives and when diving is not exhibited, the male often closely follows the female as she flys from the nest area.

Other birds may be pursued more vigorously. A female Black-headed Grosbeak (*Pheucticus melanocephalus*) was chased as she flew near the flycatcher's nest, as was a Wied's Crested Flycatcher (*Myiarchus tyrannulus*) and an intruding sulphur-belly.

DEVELOPMENT OF YOUNG

The young sometimes hatched at irregularly staggered intervals, suggesting that incubation began before the clutches were complete. All young hatched were reared at three of the four nests studied closely. At nest one the last-hatched died at two to three days of age, apparently of starvation (table 2).

Newly hatched nestlings possess long down growing from the capital, humeral, alar, spinal, and femoral feather tracts. At hatching the skin is bright pink; it soon attains a grayish cast. Down appears to be black at hatching and to become lighter in 24 hr. However, this apparent color change may be caused by thinning of the down as the bird grows rather than by fading. Quills of the alar and caudal tracts are visible even on newly hatched nestlings.

By three days the mandibles have darkened, as has the skin, which dorsally is almost black. By seven days the eyes are opening and quills protrude from the major feather tracts. By ten days the culmen is about 40 per cent adult size, and the tarsus is fully grown. The calls of the day-old nestlings were similar to the distress calls of domestic chicks; at 12 days these were interspersed with adult-like "*she-u*" calls. Fledging took place when the young were 18 days old at a nest that had not been disturbed the preceding three days. It occurred at 16 or 17 days in the three other nests.

At fledging the young could fly only short distances. One fledgling perched two feet up did not move as I approached. This bird had defecated more than 40 times from this perch, indicating that movement was infrequent at this stage.

SUMMARY

The Sulphur-bellied Flycatcher (*Myiodynastes luteiventris*) arrives in southwestern Arizona in late May or early June. In 1964 egg-laying was completed in four nests by 18 June. The female alone builds the nest and incubates. The nest proper often is constructed atop a loose platform of large twigs and sticks and is composed principally of leaf petioles and pine needles. Incubation lasts 16 days. The young hatch at irregularly staggered intervals. At one nest the last-hatched chick starved. The nestling period is 16–18 days. Recently fledged young fly weakly and may remain at one perch for long periods.

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FURTHER NOTES ON COSTA RICAN BIRDS

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Recently Orians and Paulson (1969) published a series of observations, mostly sight records of Costa Rican birds. Some of these sight records were of species, specimens of which they knew had been collected (via a copy of my field catalogue that had been supplied them); in fact, some of these birds were collected while we were all in the field together. Unfortunately they did not avail themselves of these data, and did not include notes on the specimens or on certain additional species of interest, thus necessitating this note. These specimens were collected 4 February–15 March 1967 when I was in Costa Rica as a temporary staff member of the Organization for Tropical Studies. Specimens are deposited in the collection at Cornell University, Ithaca, New York.

Yellow-crowned Night Heron. *Nycticorax violacea.* An adult female was collected and several other individuals were seen along a fresh water stream at Hacienda Taboga (or Taboga, 12 km SW of Cañas, Guanacaste Province) on 9 February. Its stomach was full of insect material. Slud (1964:41) wrote that the population of this species in Costa Rica "consists inferentially of residents and winter visitants." Thus it seems worthwhile to record a definite record of *N. v. violacea* of eastern North America. The depth of the bill at the nostril is 20.7 mm and at the base, 22.0 mm. These measurements fall within the range of *violacea* (18.4–21.91 mm) and outside of the ranges for *N. v. bancrofti* of the Pacific lowlands from México south to El Salvador (23.2–26.4 mm, Huey 1929:167) or *caliginis* of the Pacific coastal areas of Panamá to Equador (22.2–25.1 mm, Wetmore 1946:49).

Least Bittern. *Ixobrychus exilis.* Four adult males were collected from small cattail marshes at Taboga, 11 and 22 February, and several additional birds were seen. All four birds were about the same size (wing chords, 114–115 mm; culmen from nostril, 45–48 mm; weights, 84.6–93.5 g), yet represent two subspecies based on color differences. Three paler birds with

small testes apparently represent North American migrant populations and one darker bird with slightly larger testes measuring 2 × 8 mm probably represents a locally nesting population. These specimens are now being studied in a review of the Mexican and Central American populations.

Pinnated Bittern. *Botaurus pinnatus.* An adult male, testes measuring 11 × 3 mm, was collected in a small cattail marsh at Taboga, 22 February. This is the first specimen from the Pacific coast lowlands of Costa Rica and the second specimen from the country. It will be discussed further in a review of *B. p. caribaeus* based on material collected since the original description (Dickerman 1961).

Black-and-white Owl. *Ciccaba nigrolineata.* A pair of these owls, possibly including the individual mentioned by Orians and Paulson (ibid.) was collected from the same tree at Taboga, 20 February (weights: female, 1179.5 g; male, 1074.7 g). The stomach of the female contained 20 orthoptera and 2 beetle elytra. The testes of the male measured 9 × 6 and 7 × 5 mm.

Long-tailed Hermit. *Phaethornis superciliosus.* A specimen was collected in tropical dry forest 4 mi. NW of Puntarenas junction, adding evidence of its distribution in the heavier forested areas of the Pacific northwestern area of Costa Rica.

Pale-breasted Spinetail. *Synallaxis albescens.* A bird in slightly worn juvenal plumage collected 9 March at Buenos Aires de Térraba, Puntarenas Province, indicates probable dry season nesting in this savannah species. It is possible the bird might have been from a very late nest of the previous season that had long delayed the initiation of its first pre-basic molt, but the small amount of wear in a grassland-inhibiting bird, makes this hypothesis unlikely. Slud (ibid.) does not mention nesting dates for Costa Rica.

Barred Becard. *Pachyramphus versicolor.* A male was collected 10 March, 10 km by road SE of Empalme, 28 km by road NW of Villa Mills, San José Province. This is the first record for the Talamanca Cordillera of Costa Rica, although the species is well known in adjacent Chiriquí, Panamá. Its testes were slightly enlarged, measuring 6 × 4 and 5 × 3 mm. It was collected in little disturbed moist montane forest.

Ochraceous Pewee. *Contopus ochraceus.* A male of this rare endemic pewee was collected 4 March by Larry L. Wolf, Lloyd Kiff, and myself at the same site as the Barred Becard discussed above. This is the first record for the Talamanca Cordillera. Hitherto it has been known only from Irazú and Turrialba volcanoes of the Central Cordillera to the west.

Lesser Elaenia. *Elaenia chiriquensis.* A female was collected 10 March at Buenos Aires at a nest containing a two- to three-day-old young. The nest was exceptionally low, about 2 ft from the ground in a *Bursanima* bush in the open dry savannah.

Skutch (1960:310) reported March 22 as the earliest date for which he had observed nest building. Allowing about a week for nest building, two to four days for laying, and two weeks for incubation, the Buenos Aires nest must have been initiated nearly 45 days earlier than Skutch's record. It should be noted that this is at the height of the dry season.

Nicaraguan Seed-Finch. *Oryzoborus nuttingi.* An adult male, (testes, 9 × 5 mm; weight, 25.7 g) collected by Lloyd Kiff and myself at Tronadora along the eastern edge of Laguna de Arenal 15 February, is the first record of this species for Costa Rica. The species was formerly considered to be restricted to Nicaragua. Several individuals of both sexes were seen in the vicinity in open fields with abundant weeds and low shrubs, or in the extensive border of tall woody reeds along the edge of the lake.

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HERRING GULL ATTACKS EARED GREBE

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On 24 January 1970 we stopped at Bolinas Lagoon about 3 mi. N of Stinson Beach on Highway 1, Marin County, California. At approximately 15:30 one of my companions observed an adult Herring Gull (*Larus argentatus*) attacking an Eared Grebe (*Podiceps caspicus*) 30–50 yards off shore. For the next 15 min we watched through a 30× spotting scope as the Herring Gull grasped the Eared Grebe's neck in its beak and shook the grebe back and forth as if trying to choke it or cause it to regurgitate. Four times the gull relaxed its grip, dropping the grebe into the water. As soon as the grebe hit the water, it dove but these escape attempts were futile because the water was only 4–6 inches deep. The grebe might have been sick or injured before the attack, but judging from its quick, defensive maneuvers, it appeared to be healthy. After the 15-min attack the grebe floated motionless on the surface of the water, surrounded by some of its plucked feathers. At first the gull tried to swallow the dead bird head first. Finding the entire bird too large to swallow, the gull punctured the grebe's abdomen and began to eat entrails.

The literature is heavily sprinkled with reports of gull predation on other birds, lizards, fish, and the like, but the present account appears to be the first recorded instance of predation by a Herring Gull on an adult Eared Grebe.

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