as singles or flocks up to 16 birds, but most often in pairs. On 4 evenings the size of arriving groups was accurately tabulated. The mean group size for all 4 evenings combined was 2.7 (SD = 1.9, mode = 2). The overall sex ratio was about even, and of 25 twosomes that came in on the evening of 29 Jan., 23 were composed of 1 male and 1 female.

Once on the water there was much interaction and vocalizing so long as any light remained. The calls and displays mentioned below were as described in Johnsgard (1961). The females uttered dog-like hoarse "gack" calls and the males emitted gutteral growls and nasal quack-like calls. Males displayed vigorously, performing "Crest-raising" and "Head-shaking." "Head-shaking" usually, but not always, culminated in the "Head-throw" in which the head is laid over on the back, the bill pointed up, and a "frog-like crrrooooo" is uttered. Johnsgard (1961) stated that sometimes when "Head-shaking" is not followed by the "Head-throw" the male will only lift his head, open his bill, and give a "hollow pop vocalization"; we did not observe this. Johnsgard (1961) also states that the "Head-throw" is directed toward the female as a courtship display. Our impression was that the males were directing it towards one another. During the brief period that the birds were active on the water, male-male chases were very frequent. Although Johnsgard (1961) has reported seeing courtship throughout the winter and spring, courtship intensity is probably lower during midwinter, the time of our observations.

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Clutch Size in Costa Rican House Sparrows.—House sparrows (*Passer domesticus*), although introduced to North America only about 130 years ago, exhibit a marked correlation between clutch size and latitude within the United States (Murphy 1978). European populations exhibit a similar but less marked correlation (Dyer et al. 1977). Whether these relationships are the result of an evolutionary or an acclimative response to differing environmental conditions (i.e., photoperiod, temperature, resource levels, predation rates) is not known. In this note I present data from Costa Rica, where House Sparrows were not discovered until recently (F. G. Stiles, pers. comm.), which support the idea that clutch sizes are smaller in the tropics.

Several small colonies of House Sparrows were found around the Hospital San Juan de Dios, on Avenida Central, in San Jose. I found about 20 nests, from 10 to 30 m, in a large tree at a parking lot across from the hospital. Most nests were among bromeliads; at least 2 were cavity nests. On 17 February 1980, I observed a male and a female sparrow feeding 2 fledglings. This places the start of the breeding season to at least mid-January (assuming Costa Rican sparrows have incubation periods and growth rates similar to temperate sparrows). Sparrows nest in San Jose through October (F. G. Stiles, pers. comm.), and may nest year round.

On 28 February I climbed about 5 m to a nest containing 2 warm eggs. On 8 May 1980, with the aid of a crane from the Instituto Costarricense de Electricidad, I examined 5 nests in the large tree and 2 in another, all within 15 m of the ground. Two were empty, 2 contained clutches of 2 warm eggs, one had one young near fledging, one had 2 nestlings, and one appeared to be a "dump" nest, containing 10 eggs and an incubating female. At Paraiso, in Cartago Province, I found 8 nests in 4 trees in the central park. On 18 March 1980, I examined a cavity nest about 6 m from the ground which contained 2 eggs. I returned on 28 March and observed a female sparrow bringing food to the nest. This suggests that the clutch was complete. In Guanacaste Province I found nests at Cañas, Filadelfia, Santa Cruz, and Nicoya. Sparrows, but no nests, were at Liberia. All nests were within buildings or cavities and relatively inaccessible. At Santa Cruz I examined 2 nests in fixtures on the town's central church on 6 March 1980: one contained one egg, the other contained 3 (warm).

In all, 7 nests contained eggs. Assuming complete clutches, and not including the "dump" nest, mean clutch size was 2.0 ± 0.63 eggs. Inclusion of the "dump" clutch gives a mean of 3.14 ± 3.08 eggs per clutch. The predicted clutch size for this latitude (10°), based on North American data for 9 localities (summarized by Murphy 1978) is 3.30 eggs. Although this is significantly higher than the value disregarding the "dump" nest ($P = .007$, *t*-test, Snedecor and Cochran, 1967:158), the trend is in the correct direction, and the regression for all 10 localities is highly significant ($P < 0.001$). Also, the mean clutch size may be closer to the predicted value if some of the clutches in this study were not complete (which may be the case for the one egg clutch). Data on clutches from the void between latitudes 10° and 30° are necessary for further elucidation.

Considering an average clutch size of 2 eggs, the "clutch" of 10 eggs was extremely large. No such "dump" nests were found among 1682 clutches observed by Lowther (1979). In *Passer moabiticus,* "dump" nests contained as many as 9 eggs; clutch size in this species averages about 4 eggs (Yom-Tov 1980). At the San Jose site, branches with nests from the main and another large tree had been removed during the sparrows' nesting cycle (J. Reynolds, pers. comm.). Such nest destruction probably left a number of ovulating females without nests, which may have prompted them to lay in this or other nests.

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