A snipe nest was found on June 5, and considerable numbers of young birds were seen during the breeding season. In August and early September snipe from individual breeding areas assembled in flocks of 20 to 60 birds in preparation for the fall migration.

Breeding populations of 20 snipe and 12 rails (table 1) were observed on the 10 study areas which constituted a randomized 10 per cent sample of the Yampa River Valley. Projection of these figures indicates total breeding populations of 200 snipe and 120 rails in the valley.—HAL M. BOEKER, *Colorado Cooperative Wildlife Research Unit, Colorado Agriculture and Mechanics College, Fort Collins, Colorado, September 9, 1953.*

Notes on the Nesting of the Kestrel in Japan.—On April 12, 1952, through the courtesy of Mr. Keisuke Kobayashi of Kobe and Mr. Yoshishiro Hosono of Nakano, Mr. Tokuzo Kojima and I were granted the privilege of visiting the only known nesting site in Japan of the Kestrel (*Falco tinnunculus japonensis*). Since very little information has been recorded, either in Japanese or English, on the nesting of this species in Japan, I take this opportunity to present the data obtained from observations made by Mr. Hosono, and personal observations made at the nesting site by Mr. Kojima and myself.

A previous nesting record for Japan of this species is listed in the Catalogue of the Collection of Birds' Eggs in the British Museum (vol. 2, 1902:310) by Eugene W. Oates, as follows: "4 eggs, Yokohama, Japan (H. Pryer) Seebohm Collection." Seebohm, in his Birds of the Japanese Empire (1890: 195), referring, apparently, to this same set, says "Eggs in the Pryer collection resemble those of the common form."

Mr. Kobayashi has in his personal collection three skins of nestlings taken on June 3, 1934, in Yamagata Prefecture, Honshu. According to him the collector is unknown, although advice gained from a friend of the collector indicated that the specimens were taken from a nest situated in a tree.

Kenji Shimomura of Tokyo is credited with having found a nest containing six eggs on April 9, 1942; it was located in an old nesting hole of the Pied Kingfisher (*Ceryle lugubris*) excavated in clay cliffs along a river valley near Kyoboku-mura, Ina-gun, Nagano Prefecture, Honshu. The entrance of the nesting hole measured 15 centimeters in diameter and the hole was approximately 100 centimeters in depth.

These earlier breeding records, as far as I am aware, are the only ones that exist for Japan.

The nesting site which we visited on April 12, 1952, consists of a series of natural cavities and ledges worn in steep, conglomerate cliffs, locally referred to as Ju-san-gake (Thirteen Cliffs), along the Yamese River, approximately one mile northwest of Shinano-mura, Shimotakai-gun, Nagano Prefecture, on the main island of Honshu at an elevation of 1575 feet. The cliffs extend along the river for approximately one mile and average approximately 85 feet in height with a maximum height of 110 feet. Their summit supports a fairly heavy growth of small and medium-sized deciduous trees and vines, which in places overhang the vertical faces and appear to provide temporary perching spots for the Kestrels. The cliffs in some places rise directly from the water's edge, whereas at other points they are located approximately 1000 feet distant, dependent upon the course of the stream within its broad bed. In many places the base of the cliffs is concealed by fairly large talus slopes, sparsely covered by small deciduous trees and brush, and extending up the sides of the vertical face of the cliffs to a height of approximately 50 feet. The face of the cliffs is composed of a very loose conglomerate which breaks away easily upon pressure of any sort. Rope climbing is, therefore, impracticable and all examination of nesting cavities was confined to those that could be reached with the aid of improvised extension ladders.

The Yamase River is a fairly small, shallow stream, which meanders through a wide, gravelly bed and occupies the center of a broad valley; the valley in turn is enclosed in the distance by lesser ranges of the North Japanese Alps. The valley is devoted principally to agriculture and consists of large, open, cultivated fields interspersed with small groves of pine trees and weed fields.

Nesting cavities and ledges within reach and examined, as well as those located at inaccessible heights, were well marked in most instances with deposits of white excrement directly below the cavity or ledge. The majority were clustered within approximately a half-mile stretch of the highest and most central portion of the cliffs and ranged from twelve feet above the top of the basal talus slopes to within a few feet below the vegetation overhanging the summits. A total of nearly 50 such excre-

ment-whitened sites was counted along the entire length of the cliffs at the time of our visit. According to information provided by Mr. Hosono, based upon a more detailed study of forty of these nesting sites, they range from 10½ to 29 meters above the base of the cliff and from 1 to 95 meters apart either horizontally or vertically; the total height of the cliffs at the nesting sites ranges from 10 to 29½ meters. At the time of our visit, certain ledges, located at unattainable heights and from 6 to 10 feet in length, were whitened along their entire reach; this may have been caused by nestlings moving along the ledges after they had gained sufficient strength to walk about.

We personally examined three nesting cavities at close range and found them to be from 42 to 56 centimeters in width at the entrance, 23 to 46 centimeters in height, and extending horizontally into the cliff from 122 to 200 centimeters. Hosono states that cavities he examined ranged from 30 to 50 centimeters in diameter at the entrance and extended into the cliff from 50 to 100 centimeters. All three cavities examined converged to much smaller proportions at the extreme end.

The three nests examined contained eggs in sets of five, seven, and eight, respectively. The sets of five and seven all proved to be in a fresh condition with no traces of blood; however, the set of eight consisted of five eggs partly developed, two badly discolored and infertile, and a single fresh egg. Since this appears to be an unusually large number of eggs in a single set, and since three different stages of egg condition existed, it is assumed that there was communal utilization of this nest. All eggs rested in a shallow depression directly on the dry, dusty, sandy floor of the cavity and were surrounded by small rocks approximately fist-size. No other nesting material was noted.

Measurements of 20 eggs examined ranged from 31.70 to 33.50 millimeters in width and from 37.45 to 42.00 in length; they averaged 32.70 × 39.97. Hosono took a set of five eggs on April 8, 1950, and two sets of five and six eggs each on April 13, 1950; the two latter sets were slightly developed and averaged 31.82 × 38.05 millimeters.

Hosono states that a total of approximately 60 to 70 adult Kestrels generally frequent the nesting cliffs and adjacent area during the breeding season. At the time of our visit, I estimated a total of about 40 adults in the immediate vicinity.

From the opposite side of the river and before we neared the cliffs, I studied the area through field glasses and observed considerable activity among the Kestrels as they went to and from the nesting holes, ledges, and perches in the trees. Others were observed singly in flight high over the river and surrounding countryside as they went either to or from the nesting cliffs. One was also observed approximately 1000 feet east of the nesting site as it flew up from a brush-covered talus slope with a small snake, 12 to 14 inches long, dangling from its talons. It flew to the top of a small leafless tree near the summit of the cliff, rested for a few moments, proceeded on to another tree nearby, rested again, and continued on in this manner until it had disappeared from sight over the top of the cliffs. Although the snake continued to writhe quite violently the whole time, the Kestrel made no attempt to kill it with its bill.

Additional information was gained on feeding habits of the Kestrel when feathers of the Japanese Wagtail (*Motacilla grandis*) and the Meadow Bunting (*Emberiza cioides*) were found in one of the three nesting holes examined. Fresh remains of a small mole were found in one of the other nests. Hosono reports, also, having found remains of the Meadow Bunting and moles along with cast pellets of mouse and mole remains along the bases of the cliffs on April 16 and 23, 1950. He also claims to have observed, from time to time, several adult Kestrels carrying what appeared to be lizards to the nesting site, and on April 13, 1950, he found a dead rat in the nest from which he took five eggs.

As we approached the bases of the cliffs and climbed the ladders to examine the nests, the majority of the Kestrels left the cavities and ledges, flew high overhead, perched in the tops of trees on the summit of the cliff, or left the area altogether. Now and then, single individuals flew within approximately 100 feet of us or perched reasonably nearby in small, scattered trees clinging to the face of the cliff. However, at no time did they attempt to swoop at or attack us nor did they ever utter a single note of alarm or protest while we were in the area.

A single Kestrel was observed, apparently brooding, on a narrow ledge approximately two-thirds of the way up the face of the cliff; it had its tail braced up against the cliff side and its head pointing outwardly. It remained in this position for some 45 minutes.—CHESTER M. FENNELL, *Yokohama, Japan, July 30, 1953.*