SOME NOTES ON THE NESTING HABITS OF THE YELLOW-BREASTED SUNBIRD, *EUCINNYRIS VENUSTUS FALKENSTEINI* (FISCH. AND REICHW.).

By F. L. Vanderplank, B.Sc.,

Old Shinyanga.

The Yellow-breasted Sunbird (*Eucinnyris venustus falkensteini*) (previously described in Swynnerton's Key as the Kenya Yellow-bellied Violet Sunbird, *Cinnyris venustus falkensteini* Fisch and Reichw. and by other authors as *Cinnyris venustus niassae*) is distributed according to Roberts from West to East Africa, southwards to Nyasaland and Eastern Southern Rhodesia. The author found while motoring through the Rhodesias that they were well distributed and common as far south as Bulawayo, also they appear well distributed throughout Tanganyika, although perhaps not so common as some of the other species of sunbirds.

The writer first noticed a pair of these birds about his garden at Old Shinyanga (Tanganyika) during December, 1940, where they seemed fond of visiting the numerous *Zinnia* flowers, and later aloës (*Aloë mwanzana* Christian).

However, it was a surprise when early in March, 1941, the female commenced building a nest, less than two yards away from the sitting-room window. When first observed the apex of the future pendant nest had already been constructed by intertwining numerous pieces of grass and fine threads of bark around the stem and leaf stalk. The site had been chosen in the middle of a small oleander (*Nerium oleander*) bush, fifty-nine inches from the ground. The nest was woven from the top downwards and the outside structure was completed on the first day. All the work was done by the female, the male watched and accompanied her to and fro, and was seen to pass pieces of material to her in the garden. However, he did not bring any pieces to the nest, but perched in the neighbouring bushes between one and three yards away. The female continued bringing material throughout the day, except for a period of two hours from 11-30 a.m. till 1-30 p.m., and for a short spell (about twenty to thirty minutes) during the early morning and late afternoon.

On the second day work was continued lining the nest with fine grasses and down from hawkweeds. On the third and fourth days the nest was lined with small feathers. Subsequent

examination revealed that a total of fifty-nine feathers had been used and of these, thirty were between one and one and three-quarters inches in length, all from domestic fowls; and twenty-nine smaller feathers from fowls and probably other birds. (All the latter were white downy feathers.) The female had brought pieces of material at intervals of every two minutes, and since she worked from 7 a.m. to 11-30 a.m. and 1-30 p.m. to 6 p.m., this would account for 240 pieces per day. The nest was later taken to pieces and each blade of grass, bark, and other material was counted. Approximately 600 ($\pm$100) pieces had been used. Naturally, while taking the nest to pieces some of the blades of grass broke, these were not counted, since the remaining half was counted later as the nest was disentangled.

The birds were active around the nest for several days after it was completed, but no eggs were seen. Some days later the birds were observed to be carrying feathers to another part of the garden and a second nest was found hanging from a bougainvillea branch, four feet above the ground. Subsequent examination showed that this nest had been constructed with 550 ($\pm$100) pieces of material. It was covered on the outside with pieces of bark stuck together with cobwebs.

A day or two later the nest was found to contain one egg, and the second egg appeared by the next day. Unfortunately, the writer had to go away on safari at this time and so was not able to continue his observations. However, on returning ten days later only one egg remained and this hatched on either the fourteenth or sixteenth day (depending whether the surviving egg had been the first or the second to be laid). The writer was away again and the next time he noticed the birds was May 14th, when he observed the youngster flying around after its mother and receiving food at intervals.

On May 16th, the writer saw the same female (only one pair of this species has ever been observed in the neighbourhood of the writer's garden) perched on a branch of a shrub, *Tecoma stans*, less than one yard away from the gauze covering the sitting-room window, and two yards away from the first nest. She was weaving a grass around the branch at a leaf-stalk junction. Her offspring and mate were perched in a nearby bush watching. She returned at short intervals (one, two or three minutes) and soon had the apex of a new nest completed. The outside "frame" of the nest was completed by the end of the day. On the second day the nest was lined with grass and completely lined with feathers by the end of the third day. The nest was five and a half feet above the ground level, and as on previous occasions the male followed the female around and watched, the youngster still followed the female around and received food from her occasionally. On the fourth day a few more feathers were added. Subsequent examination revealed

that the nest had sixty-two feathers and 580 (±100) pieces of grass and bark-fibre. This nest was not covered with bark as No. 2 nest had been, but the outside grasses were bound together with cobwebs.

On May 20th, the fifth day, one egg was laid sometime in the morning before 10 a.m., and on the following day the second egg was laid. The coloration of these eggs was as already described in the *Birds of South Africa,* by Roberts; namely, greenish-white finely-speckled with pale lavender-grey, much thicker round the larger end, forming an indistinct ring. Only the female incubated the eggs, neither did the male bring food to her, but he occasionally came and observed the nest from branches about three feet away. The female was never observed to leave the eggs longer than fifteen minutes usually leaving them for several short periods early morning and late afternoon.

The incubation temperature was measured by inserting a thermocouple inside the nest and between the eggs, the galvanometer and the cold "point" of the thermocouple being inside the house. The temperature varied usually between 36.5°C. and 37.4°C., the lowest temperature was observed after the female had left the nest for ten minutes during the early morning, this was 34.2°C. when the outside temperature was 22°C. The highest temperature recorded was 41.0°C. at 11-30 a.m., probably the point of the thermocouple was in contact with the sitting hen.

The first egg hatched during the morning of June 3rd, after fifteen days' incubation, and the other had not hatched by midday on June 4th, but had hatched by 9 a.m. on June 5th, after fifteen and a half days' incubation. The female now left the nest more frequently and brought food at one and a half hour intervals to the youngsters. The male still followed his mate about, but did not help in bringing food at this stage. The first offspring (from nest No. 2) had now disappeared. On the third day, after the first egg had hatched, the adult male was observed to pass food to his mate in a nearby bush, it appeared to be a small insect. On the sixth day a rather extraordinary occurrence took place, a male Marico Sunbird (*Maricornis mariquensis*) was observed bringing food to the nest and feeding the young; the rightful parents made a great deal of noise and both made feint attacks upon the stranger, who persisted and fed the young. This was observed four or five times during the day. When the stranger left the female parent fed them, and at 5 p.m., the young refused food brought by the Marico Sunbird. They were then left unmolested the rest of the evening and the female parent brooded them as usual at night. The young were not heard to make any noises, as most fledglings do at this stage.

The next day the male Marico Sunbird returned and insisted on feeding the young birds, even chasing the rightful parents away. This continued the following day (the eighth after

hatching), but on the ninth day the parents were successful in chasing the stranger away. The young birds now required and received food at shorter intervals throughout the day.

On the tenth day the male parent was observed on several occasions to bring food and hand it over to the female a yard or so away from the nest. The food appeared to be small dipterous flies. The male was not observed to feed the young himself nor were the young fledglings heard to make any noises.

On June 14th, the twelfth day, it was noticed that the beaks of the young were now becoming elongated and they made a hissing sound like certain snakes when disturbed.

On June 15th, the young then had an obvious covering of "down" over their bodies and both male and female parents were observed to feed them with dipterous flies, some as large as house-flies.

On June 19th, my diary records that the young sunbirds were nearly fully-fledged, and on June 21st, they flew from the nest when disturbed. So they had taken eighteen and seventeen days from hatching until they left the nest. They returned to the nest each night and were still doing so on June 26th, and were fed by their parents daily in the open. The young birds and their parents were observed for several days about the garden after which they disappeared. The temperature in the nest was taken daily while the young birds were growing and varied within the limits given for the incubation of the eggs.

During January and February this year (1942), a pair of Yellow-breasted Sunbirds have been observed about the garden; perhaps the same pair as last year?