

OBSERVATIONS ON THE AMETHYST SUNBIRD,
CHALCOMITRA AMETHYSTINA AMETHYSTINA (SHAW).

BY RAYMOND B. COWLES.

The following observations were recorded in the Umzubi Valley, Natal, South Africa where this species is known by the Zulus as *i' nCwincwi elimnyama*.

This is probably the most common Sunbird in the thorn-bush association and is found frequenting the open glades and edges of the bush. It is not ordinarily found in the bush itself, but seems to prefer open territory rather than the dense cover.

While feeding on their favorite source of nectar, the blossoms of the umSinsi (*Erythrina caffra*) the male is at times very conspicuous and makes a splendid contrast, jet black against scarlet blossoms, but at times they appear to vanish mysteriously and yet with careful searching will be revealed not far from the spot where they had been perched a minute before. A possible explanation of this variation in visibility may lie in the bird's proximity to shadows of the blossom clusters or of the larger branches. Certainly, when looking upwards against the dazzling sky of winter, shadows under the blossoms and lower surfaces of the branches appear to be black. It would be interesting to make observations on the visibility of the species as seen from above with the source of illumination behind one.

A note made while observing these birds in an uHluzi tree in full bloom (a tree which bears its blossoms in the shade close to the trunk and which therefore presents a different illumination and environment) indicates that while in the uHluzi tree the dull colored females were inconspicuous but the jet black males were very conspicuous contrasting wonderfully with the red blossoms.

The following observations of courtship and nest building may be of value. The nest described in the following paragraphs, was located within six feet of a window near a table at which about seven hours per day were spent skinning specimens and writing.

An amethyst Sunbird was observed going through courtship antics in June, four months before the nesting took place, for nesting does not take place until September. Apparently the antics are a carry-over and become play. The male was hopping about on a branch near a female, drooping first one wing then the other then both wings at once. As each wing was lowered, it was fluttered and displayed. The female, in the meantime, appeared interested and at one stage was seen to hang head downward, in a stiff and rigid posture, without any perceptible movement. The same courtship antics may be observed during the breeding season.

Early in September a pair of Amethyst Sunbirds were seen behaving as though they were hunting for nesting materials and a large wad of cotton wool was hung on an iron rod depending from the (stoep) porch roof. By September 7 the cotton had been carefully plastered over with lichens, and on the evening of the same day, after a day of work, a doorway was beginning to show with a visor coming into evidence. Aside from this doorway there was no other sign as to which was back or front of the nest, the rest of the mass was simply a wad of cotton-wool just as it had been when first placed in position except that the surface had been covered as previously mentioned.

The bird commenced work at approximately 10:00 a. m. and left work at approximately 3:00 p. m. These hours were regularly observed during most of the nest building activities.

On September 15 the male appeared for the first time since the selection of the nesting site. (During the selection he had been exceedingly attentive and solicitous although most of the attention was directed toward his mate rather than toward work.) For an hour or so the male made sporadic attempts to interest his mate, and then having made no headway he appeared to give up and did not return again until twelve days later. The female was hard at work, still making over the doorway. Fourteen visits were made in the course of an hour although twelve of them were made during one twenty-five minute period.

On September 16 some progress had been made and the back and body of the nest were being fashioned. The bird would alight on the floor of the entrance and from that position tuck in and pull out parts of the nest in the process of mending and shaping, and from time to time she entered the nest in order to wriggle around and around as though testing for size, at the same time she stretched the nest here and there to make a good fit. At one time after some particularly vigorous efforts she sat still for a moment, head out, and snuggled down as though making still another test.

The doorway faced away from the light and toward the walls of the house. It would be interesting to note the relative position of other nest openings of this species in relation to light and shelter. So far as an observer can tell, the nest could have been placed facing in any other direction with equally satisfactory results.

By September 19 the nest was fairly well along in construction and the porch or visor seemed at last finished and satisfactory and the lining of the nest was begun.

From the above date until September 27 only a few visits were paid to the nest but on this date both birds made a visit and while the female entered and crouched in the nest the male clung to the entrance, billing the female affectionately. On this visit the female brought some downy substance for

lining the nest but the activities seemed perfunctory or merely a continuance of habit. (A nest watched the previous year showed that the same thing happened, i. e., after completion of the nest the birds left for two or three days scarcely coming near the spot, and then returned, being much more shy following the rest period.)

The occurrence of the rest period and subsequent shyness fits into the general pattern of bird behavior in nesting, bold when incubation is progressing, shy during hatching, bold when all the young are hatched and growing, shyness when young have reached independence.

On September 28 a few visits were made, each time carrying down for lining purposes although the nest was already thick and warm. The next day, September 29, the first egg was laid and that night the female slept in the nest for the second time. At about 8:00 a. m. a second egg was laid.

The female remained in the nest most of the time during the day and always at night until October 3, invariably with the bill resting on the rim of the porch and projecting just beyond the outermost margin of the visor. On the night of the third, she did not sleep in the nest, and was absent all day on the fourth, and most of the day on the fifth. On that day she arrived at 3:30 p. m., remaining until 5:30 p. m. and left again not to return.

The nest had been carefully protected from handling or close approach and care had been taken not to disturb the birds, but for several days before deserting she had been unsettled and nervous.

The following account by an untrained observer (Mr. F. B. Cowles) was at first considered by the writer to be a misinterpretation of an interesting feeding habit but since his experience with the cotton ball he is less doubtful although he still wishes to see the performance with his own eyes, or see a report from a trained observer. The report is as follows:

"In certain tall mimosa trees which grow rather commonly throughout this section . . . a certain spider builds a large globular 'nest.' This is attached to the end of a long slender branch. At a period when the spiderlings are about the size of the head of a pin, the male Sunbird attacks and kills what is apparently the parent spider (?) and makes an opening in the side of the nest. This opening is about an inch in diameter. During the attack and opening of the nest only the male bird was seen, later the female appeared and for three weeks or so the pair were constantly in the vicinity, the male most frequently."

These observations led the observer to believe that the birds had taken the spider's nest and converted it to their own use. During part of this time the nest was swarming with young spiderlings "and the Sunbirds were seen feeding on them and entering the nest. The nest was allowed to remain unmolested and the eggs were never seen."

University of California at Los Angeles.