FIELD NOTES ON ABDIM'S STORK IN TWO KENYA PROVINCES.

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- I. DISTRIBUTION OF ABDIM'S STORK (Sphenorynchus abdimii) IN NYANZA AND THE NORTHERN FRONTIER.
- (1) In Nyanza.
- (a) North Kavirondo District. (Period of observation, November, 1938, till April, 1939.) Both resident and migratory. Residents were found breeding either singly, or in small colonies, in the part of the district that lies south of the Kakamega-Mumias-Busia road, from January onwards. A large isolated A large isolated forest tree in cultivated land was usually chosen. were seen in large flocks in January-February. They seemed to be following the locusts, and did not remain for long in any To what extent the migrants became residents, one locality. or vice versa, could not be ascertained in the time available.

(b) South Kavirondo District (April-July, 1939). Two birds were often observed in the vicinity of uncertain. Kisii station during the period I resided there; they looked like a pair about to breed, but, as far as I could see, did not do so. Perhaps the lack of big trees was a deterrent. No other birds were seen. At present there is no evidence of breeding south of

Kavirondo Gulf.

(2) In the Northern Frontier.

- (a) Garissa District (September, 1935, till August, 1936). A flock of about 50 birds "wintered" in the vicinity of the station, arriving on 13th December and leaving in March. Not seen elsewhere.
- (b) Wajir District (July, 1939, till date of writing, March. 1940). A single bird was seen at the station on 20th October. ten on 9th November, and a flock of a hundred or so on 25th November. These remained near by, though in gradually diminishing numbers, until the time of writing. Only one bird was seen elsewhere—at the Lorian Swamp in February.

II. FIELD CHARACTERS.

Aspect when at rest.—A small, black stork with a white belly and a short, tapering bill. A white streak just above the wing-shoulder shows distinctly at certain angles. The back is white, but the dark wings, when folded, almost completely cover it. (Plate 3.)

Upper-side in flight.—Black, with the white back showing conspicuously. (Plate 1.)

Under-side in flight.—Neck, wings, and tail black; under-

parts white. (Plate 2.)

Other features.—A flock circling in the air possesses a compact, columnar formation which proclaims that the birds are storks as distinct from, say, vultures. Since, however, the habit is shared by several members of the stork family, the field characters must be noted before one can identify the species.

STORKS WITH WHICH ABDIM'S MIGHT BE CONFUSED.

(a) Black Stork (Ciconia nigra).—Under-side very similar to

Abdim, but the back is black, not white; is also larger.

(b) White Stork (Ciconia ciconia).—A much larger bird,

pure white, with dark flight-feathers. (Plate 4.)

III. OBSERVATIONS ON NON-BREEDING BIRDS AT WAJIR, NORTHERN FRONTIER.

From November to March, parties of the storks could be seen most mornings and evenings around the station, or on the adjacent landing ground, busily searching for insects. They had little fear of the Somali men, and even less of the women, whom most of the large village-frequenting birds, such as Marabous and vultures, deem to be harmless. A European, however-particularly when armed with camera and field glasses—was regarded with suspicion, the storks flying off at a range of 30-40 yards. I found that easily the best way to approach them was in a car, in which one could edge up quietly until the desired bird was within ten yards or less. Wajir photographs were taken in this way. (The pictures of the flying birds were made at a distance of 30 feet with a Leica camera at 1/1000 second, using a long-focus 13.5 centimetre lens.) During the heat of the day, it was customary for the storks to congregate at a well, beside which there was often a large puddle left after the Somalis had watered their stock. (Plate 3.) Here the birds would sip the water, and squabble, and then sun themselves, extending their wings statuesquely so that the rays could strike to the best advantage. One individual varied the attitude by squatting on its tarsus and twisting its wings round till the under-sides were uppermost—the effect being that of a beggar soliciting alms! Among the Abdims one noted a few Marabous, towering like giants among the pygmies; a solitary White Stork (Plate 4), which must have wandered far east of its usual course of migration, and miscellaneous ravens and vultures.

IV. OBSERVATIONS ON BREEDING BIRDS IN NORTH KAVIRONDO.

The main locality in which this species breeds is thought to be the Sudan, but it is also resident in Uganda. There is no published record of nesting in Kenya, except for a note of Sir Frederick Jackson's, stating that he once saw birds carrying sticks near the Samia hills, west of Mumias ("Birds of Kenya Colony and the Uganda Protectorate," 1938, Vol. I, page 73). When I was posted to North Kavirondo in November, 1938, I decided to follow up Jackson's clue and obtain more information concerning the breeding status of this bird in Nyanza.

The primary need in an enquiry of this kind is to discover the native names. In the present case, this was not difficult, because several birds used to feed regularly on the grass behind Kakamega office, where they could be seen by all. They are called "Eviyoyo" in the Kakamega, Maragoli and Terikhi languages, and "Omenena" in Wanga and Luo. At first nobody could tell me anything about breeding, but in February I was shown a small colony near Nambare, and early in March I found a single nest in a large tree in the centre of Kakamega lepercamp, less than half a mile from the office in which I had been so busily pursuing my enquiries! Later in the month I was shown another nest near Rosterman's Mine, while near Butere there were at least twenty unoccupied nests said to have be-

longed to this species during the short rains.

The nest at the leper camp had small downy young on 8th March. It was a small, flat structure at the end of a horizontal branch about seventy feet above the ground. I made no attempt to climb up to it, because the tree contained a large and apparently permanent swarm of bees, which looked discouraging. The doings of the storks were of the greatest interest to the lepers, who said that the birds bred here annually; that the present pair had laid in January, and that the hatching of the eggs had been marked by a change in the feeding habits of the parents, which then began to bring mice and locusts carried intact in the bill, instead of swallowing the food at the place of capture and subsequently regurgitating it. I myself once saw a bird carrying a large dark object towards the nest—in fact. this was the clue that led me to discover it. From my own observations, however, it would appear that the normal method of feeding the young was by regurgitating the food on to the floor of the nest, and leaving them to pick it up themselves. They were fully feathered by 17th April, and looked nearly ready to fly, but I was then transferred to another district, so cannot say when this actually took place. Half a dozen pairs of Black-headed Herons (Ardea melanocephala) began nesting in March. They utilised the topmost branches, high above the Abdims.

Nambare is where the main Mumias-Busia road crosses the Sio river. The Abdim colony is in a large isolated tree on the south side of the river, about three miles below the bridge. The tree (Plate 5) is a prominent and rather incongruous object, alone in a wide, cultivated plain—a survival, perhaps of a long-departed forest. Though not less than 100 feet high, it gives the impression of being lower, owing to the very massive trunk. This rises for 70 feet on a distinct slant, in places as much as 45 degrees, before it branches into a canopy. A 50 foot offshoot which rises vertically from the same base serves to enhance the general effect of lop-sidedness. The native name of the tree is "Murumba," which, according to Battiscombe ("Trees and Shrubs of Kenya Colony," 1936 edition) would appear to be Chlorophora excelsa.

On 12th February, when I first visited the tree, there were ten nests in varying stages of incompletion, some built in the forks of the main limbs, others on the very tips of the branches that formed the canopy. To climb the tree presented a difficult problem. Once the main fork, seventy feet up, was reached, several of the nests would clearly be accessible, but between this fork and the ground the trunk was thick, and nearly branchless, and about half way up there was the inevitable bees' nest.

I had brought with me a set of tackle which has been successfully employed on other large trees (Plate 5). It consists of 400 feet of alpine rope, a pulley, a bow and arrows, and plenty of fishing line and cobbler's thread. The idea is to attach a length of thread to an arrow, which is shot over the desired fork, carrying the thread to the ground on the further side. The fishing line is fastened to the thread and hauled over the fork, and the rope pulled over by the line. To the end of the rope is attached the pulley, which has a second rope passed over the wheel, ready for use. The first rope is hauled until the pulley is hanging just below the fork, and made fast. The climber can then attach himself to one end of the rope which is passed through the pulley, and people on the ground hauling the other end can send him up to the fork without difficulty.

Although this method sounds feasible in theory, it has all sorts of snags in practice, the crucial part usually being stage one, getting the thread over the *right* branch. Too often the arrow takes it over the wrong branch, or two branches, and the thread breaks and leaves the arrow dangling far out of reach.

The Murumba tree completely defeated the method just explained—but for a reason that one would not have been likely to foresee. The arrow flew over the desired fork most satisfactorily, but the thread refused to "run" because of the peculiar flaky bark of this tree, which it got caught in. Numerous efforts

merely resulted in the loss of several arrows, most of the thread, and our tempers, so I was obliged to acknowledge defeat. It remained to be seen whether local talent could do any better. Chief Hezekiah of Buhayo said that he knew a young man named Lemberto who could climb anything, so I asked that the

latter should be produced next time.

I was unable to return until 10th April, when Lemberto arrived, and proved equal to his reputation. He ascended the tree unaided, except for inserting two extremely insecure nails at the most difficult place, and he used the bees' nesting-crack as a foot-hold without encountering reprisals. He then visited all the nests. These were now only six in number—three with young and three empty, though all six pairs of birds were present. I think that a pair of Pied Crows (Corvus albus), which I had seen visiting the tree and being angrily chased off by a stork, may have been responsible for the three empty nests.

I decided to visit a nest myself, so Lemberto dropped down a line, and the pulley was fixed up in the manner already described. Plate 8 shows the tackle in position. The vertical rope is that passing through the pulley, while the rope slanting down to the right is the one which holds the pulley in position, passes over the bough, and is fastened to a root at ground level. The nest that I wished to visit happened to be at the end of a long horizontal bough, so I had the pulley fixed there. bough appeared perfectly strong when tested from the ground, so I was duly hauled up to it (84 feet, measured). At close quarters, however, it was much less prepossessing, being both ancient and brittle, and creaking ominously under the combined weight of myself and Lemberto-in fact, I felt that it would not need any great encouragement to snap off at the main fork and precipitate us to the ground. Being frightened, I was not particularly inclined to make ornithological observations, but I noted that the young were newly hatched, and covered with greyish down, and that the nests were about three feet across, with very flat cups. Also I took the extremely bad photograph reproduced in Plate 5, showing a nest with a young bird crouching in the left-hand corner. After this I felt that honour was satisfied, so I fastened Lemberto to the rope and had him lowered down, following myself immediately afterwards.

PLATE 1.





Abdım's sterk in flight.







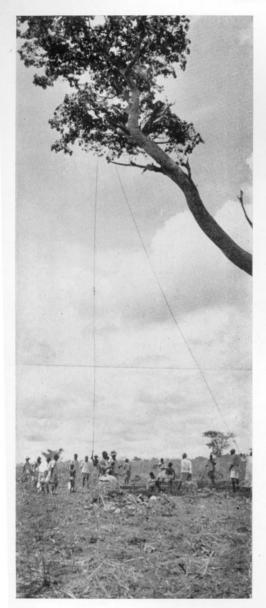
Abdim's stork in flight.



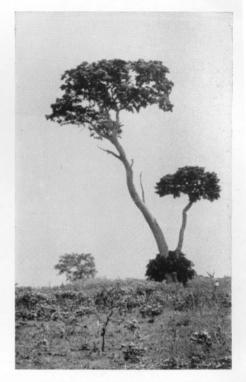
Abdim's stork at waterhole,

PLATE 4.

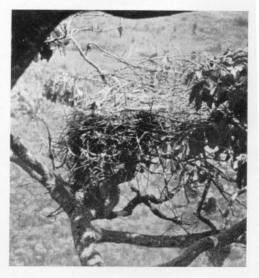
Abdim's stork with a White stork in flight.



Nesting tree of Abdim's stork Showing how the nest was visited.



Nesting tree of Abdim's stork. at Nambare.



Nest of Abdim's stork.