

## Black Stork (*Ciconia nigra*) Wintering in Nazinga Game Ranch - Burkina Faso

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**ABSTRACT** - Since the beginning of the "Cigognes sans frontières" program, West European Black Storks were known to winter in Burkina Faso and particularly in the Nazinga Game Reserve but no quantitative data were available. Education program in Nazinga contributed to a better knowledge of Black Stork by trackers, guides and foresters of the Game Reserve. Almost all trackers, out in the bush during the last quarter of 1999 and the first of 2000, were able to see one, but generally several Black Storks. Our personal observations, completed with the precious indications of trackers, gave us a figure of more than 40 birds wintering on shallow ponds or reservoirs. A dozen birds were additionally observed regularly in the Sissiki-Safari. Therefore, from November through February, around 60 Black Storks occupy the Nazinga area, representing 3 % of the West-European population.

### Nazinga Game Ranch

Nazinga Game Ranch (NGR) is located in the Sudano-Guinean biogeographical area, south of Burkina Faso at the border with Ghana, 200 km south of Ouagadougou by road. The NGR's activities (mostly game observation, safari hunting and wildlife conservation) are covering over 91300 ha between 11°00' and 11°18' latitude North and 01°16' and 01°43' longitude West.

The dominant landform type in the project area is flatland plains that slope gently toward drainage channels with an average altitude of 280 meters, ranging from 270 to 325m. It has a Sudano-Guinean climate with annual rainfall between 800 and 1,000 mm. The rain season lasts from June until mid-October with a maximum of rainfall in August.

Briefly, the NGR's synecologic profile is dominated by a mosaic of bush savannas with *Vitellaria paradoxa*, tree savannas with *Detarium microcarpum*, *Terminalia avicennioides*,

*Anogeissus leiocarpus* and *Combretum glutinosum* with small patches of forest areas with *Isoberlinia doka*. Perennial grasses represent the most important part of the herbaceous layer and of the savannah's primary production. Because the rain season is short (close to 8 months of dry season), the biological production has a pronounced seasonal rhythm. This rain regime, wild or man-managed fires and the large herbivores pressure are the driving forces of the trees/grasses/herbivorous interactions.

The "Pilot project for the development of Nazinga's wild animal life" started in 1979, financed by the Canadian cooperation and executed by a Canadian NGO: the Association for the Development and Breeding of the African Fauna. Its goals were to ensure that the wild fauna survives in its habitat and to prove that it is possible to exploit it rationally and in a sustainable way for the rural population's benefit. First thing done was to organise the ranch and start scientific research about fauna.

From 1979 until 1989, the ADEFA project and the government of Burkina managed together the NGR. They accomplished the following :

- The building of 11 dams mostly on the Sissili and Nazinga rivers that improved the attractiveness of the area;
- The opening of nearly 600 km of tracks for supervision and for tourist excursions;
- The organisation of the area's poaching control;
- The establishment of a program aimed at increasing the peripheral population awareness

and helping its integration through the setting up of village hunting committees, village hunting areas and through the creation of a school in Sia;

- An intensive activity of research;
- The construction of 2 camps for tourists and hunters accommodation.

The results were an obvious increase in wildlife (mainly great ungulates) populations, a great production of scientific results and, since the late eighties, interesting economical benefits.

## Support Programs

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Since 1989, the Water and Forest Administration is managing the area by itself. From 1996 up to now, the ranch benefited from financial help of the GEF program (Global Environmental Funds) and since 1999, the Région Wallonne of Belgium has been giving support to the government of Burkina Faso through the "Scientific Valorisation Project of the NGR". This project is part of the realisation of the Protocol of Agreement of Technical and Scientific Cooperation between the Environment and Water Department of Burkina Faso and the Environment, Natural Resource and Agriculture Department of the Walloon Region of Belgium; protocol signed on February 4th 1998, in accordance with the recommendations of the 12th-14th October 1998 Mixed Commission. This program is scientifically supervised by the Forestry Unit of Gembloux Agronomic University -Belgium, represented by the professor Willy DELVINGT.

The mission of 3 scientists working in the field is to reach specific goals :

- A better knowledge of the West-African buffalo's ecology, which is of interest to Nazinga's major safari;
- The control of game species ecology to organise and make hunting more profitable as a sport or for the villagers;
- The training of all people taking part in Nazinga's development (foresters, guides, trackers, ...), especially their environmental education and bird watching ability to promote fauna observation tourism;
- The establishment of a geographical information system (GIS);
- Restoring and computerising the scientific documentation centre of the ranch.

## The Black Stork in Nazinga

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Satellites data obtained through the „Cigognes sans frontières" program indicated that Black Storks from West Europe were wintering in Burkina, especially in Nazinga (Jadoul, pers. comm.), but no quantitative data about wintering of this species in South Burkina were available. A complete survey or inventory could not be rea-

lized because of the wintering behaviour of the Black Stork and of the lack of personnel and equipment. Still, valuable information have been gathered as described below.

The training programs in Nazinga helped trackers, guides and foresters to know and identify

Black Stork. Nearly all the trackers regularly out in the bush during the last quarter of 1999 and the first quarter of 2000 could observe one or often several European Black Storks. Together with our own observations this amounted to about 40 birds wintering in NGR's waters. A dozen of birds also regularly observed in the adjacent area of the Sissili-Safari (more than 12 km from Nazinga) brings the wintering population staying in the area from November to February to about 60 birds, nearly 3 % of the west European population. Several information gathered by birdwatchers visiting South Burkina in the eighties, mention the wintering of the Black Stork in the Kabore Tambi National Park along the Nazinon River (just 30 km north-east of Nazinga) and in Arly National Park (along the border with Benin). More suitable habitats for the stork are to be found along the Mouhoun (Western Burkina), the Nakambé (Ghanaian border) and the Pendjari (Benin border) Rivers, which certainly makes Burkina Faso the wintering place of a higher proportion of European Black Stork.

The earliest arrival in Nazinga has been registered on October 6th, while the latest adults have been observed on February 20th, a few juveniles have stayed until February 27th. Often gregarious, the Black Stork occurs frequently in groups of 3 to 11 individuals, 2 gatherings of 23 storks were noted during the winter 1999-2000. The Black Stork is sometimes joining large African waders such as Marabou Stork (*Leptoptilos crumeniferus*), Woolly-necked Stork (*Ciconia episcopus*), Hadada Ibis (*Bostrychia hagedash*), Hammerkop (*Scopus umbretta*)...

The Black Stork stays essentially in humid low grounds and dammed areas. These areas, where fish abound, are becoming scarce the further the season gets dry, which makes stork localisation easier in January-February than at their arrival in

fall. The birds come for fishing at 5.30 in the morning, half an hour before sunrise, on their own or in little groups, eat intensively and then rest until the evening in the shadow of big trees. They prefer quiet areas and fly away at the slightest disturbance.

During twilight, between 17.45 and 18.15, the storks move in groups of 5 to 30 birds to their roosts, most of the time large baobabs (*Adansonia digitata*) where they spend the night protected from predators. During the day, these roosts are easy to find because of the white dejections on the bark and hundreds of feathers on the grounds. We were able to find 3 nocturnal roosts occupied in 1999-2000 by about 15 birds but there are certainly other spots where Black Storks perch in the NGR.

In a country with a rapidly growing human population and ever less land available in the cities and the countryside, setting aside protected areas to maintain the Black Stork's tranquillity and food supply in wintering zones is essential in an international effort for Black Stork's conservation, as well as for the future of many other Palearctic migrant birds.

In this context, and since nature conservation is an international process, we can only strongly defend the idea of an international cooperation to help developing countries in the preservation of their natural resources and protected areas.

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## Le ranch de chasse de Nazinga (Burkina Faso), site d'hivernage de la Cigogne noire (*Ciconia nigra*)

Le ranch de chasse de Nazinga est situé dans la zone biogéographique soudano-guinéenne, au sud du Burkina-Faso, à la frontière ghanéenne, à 200km au sud de Ouagadougou. Les activités (observation de la faune, safaris de chasse, conservation de la nature) s'étendent sur plus de 91.300 ha, entre 11°00'-11°18' de latitude nord et 01°16'-01°43' de longitude ouest. Le paysage dominant est une plaine légèrement inclinée vers des canaux de drainage, à une altitude moyenne de 280m (extrêmes : 270-325m). Le climat est de type soudano-guinéen avec des précipitations annuelles comprises entre 800 et 1.000 mm. La saison des pluies dure de juin à mi-octobre avec un maximum en août. La végétation est constituée principalement par une mosaïque alternant la savane buissonnante et la savane arborée. Les graminées pérennes représentent la majorité de la strate herbacée et de la production primaire de la savane. Avec près de huit mois de saison sèche, la production biologique se fait selon un rythme saisonnier marqué. La pluviométrie, l'action naturelle ou anthropique du feu ainsi que la pression des grands herbivores sont les principaux facteurs influençant les interactions arbres/herbacées/herbivores.

En 1979, une ONG canadienne, l'Association pour le Développement et l'Elevage de la Faune africaine, lança un projet ayant pour but la survie et l'exploitation rationnelle de la faune sauvage au bénéfice de la population locale. De 1979 à 1989, cette ONG, conjointement avec le gouvernement du Burkina-Faso, réalisa des recherches scientifiques sur la faune locale ainsi que des actions concrètes comme la création de barrages, l'ouverture de près de 600km de pistes, une surveillance contre le braconnage, un programme de sensibilisation de la population locale à la problématique de la chasse, l'augmentation de la capacité d'hébergement....

Depuis 1989, l'Administration des Eaux et Forêts assure seule la gestion de la région avec, depuis 1996, le soutien du GEF (Global Environmental Fund). La Direction Générale des Ressources Naturelles et de l'Environnement de la Région Wallonne a conclu en 1998 un accord de coopération technique et scientifique, supervisé par l'Unité forestière de la Faculté des Sciences agronomiques de Gembloux. Trois scientifiques ont mené différentes études sur place.

Grâce à la formation des guides et pisteurs, des informations plus précises ont pu être fournies à propos de l'hivernage de la Cigogne noire (*Ciconia nigra*). Ainsi, durant l'hiver 1999-2000, 40 ex. originaires d'Europe occidentale ont été notés à Nazinga, plus une douzaine dans la région adjacente de Safari-Sissili, ce qui porte à environ 60 ex. le nombre d'oiseaux présents de novembre à février, soit près de 3% de la population ouest-européenne. Des Cigognes noires hivernent également dans le Parc national de Kaboré Tambi (30 km au nord-est de Nazinga) ainsi que dans le Parc national Arly, le long de la frontière du Bénin. D'autres sites favorables doivent encore être visités.

L'arrivée la plus hâtive est signalée le 6 octobre, tandis que les derniers adultes ont été observés le 20 février, certains jeunes s'attardant jusqu'au 27 février. La Cigogne noire est souvent en groupes de 3 à 11 individus (mais deux rassemblements de 23 ex. durant l'hivernage 1999-2000). Elle se joint parfois aux grands échassiers africains comme le Marabout (*Leptotilos crumeniferus*), la Cigogne épiscopale (*Ciconia episcopus*), l'Ibis hadada (*Bostrychia hagedash*) et l'Ombrette (*Scopus umbretta*).

La Cigogne noire vit essentiellement dans les

bas-fonds humides et les zones de retenue d'eau. Ces endroits, riches en poissons, se raréfient au fur et à mesure de l'avancement de la saison, ce qui rend plus facile la localisation des oiseaux en février. Ils arrivent sur les lieux de pêche, seuls ou en petits groupes, vers 5 h 30 le matin, soit environ une demi-heure avant le lever du soleil, se nourrissent intensément puis se reposent jusqu'en soirée à l'ombre de grands arbres. Ils préfèrent les endroits calmes et s'envolent au moindre dérangement. Au crépuscule, entre 17 h 45 et 18 h 15, les cigognes rejoignent leur dortoir par groupes de 5 à 30 individus, la plupart du temps sur de grands baobabs (*Adansonia digitata*) où elles passent la nuit à l'abri des prédateurs. Ces perchoirs sont faciles à identifier par la présence de fientes sur l'écorce des arbres et de centaines de plumes sur le sol. Trois sites occupés en 1999-2000 par une quinzaine d'oiseaux ont été trouvés, mais il y en a sûrement davantage à Nazinga.

Dans un pays où la croissance démographique est très élevée et où l'espace disponible se réduit tant dans les campagnes que dans les villes, il est essentiel de préserver certaines zones pour assurer la tranquillité et les ressources alimentaires de la Cigogne noire dans ses quartiers d'hivernage. Ces mesures doivent s'inscrire dans le cadre international de la conservation de la Cigogne noire et aussi de toute une série d'oiseaux migrants du Paléarctique. Dans cette optique, il est impératif de promouvoir l'idée d'une coopération internationale pour favoriser la conservation des ressources naturelles et des zones protégées des pays en voie de développement.



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