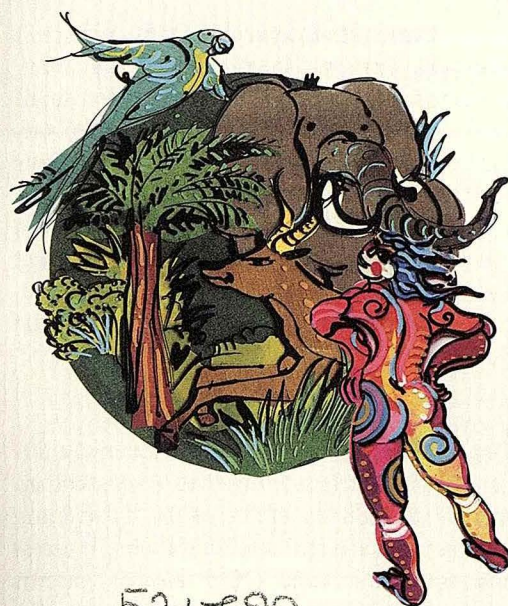


There are 22 species of the genus *Dacryodes* (Burseraceae) in Africa's tropical rainforests. Five of the ten species found in Gabon are endemic. Wild *Dacryodes* species have long been used for human food. *Dacryodes edulis* (African plum or safou in Cameroon, atanga in Gabon) has always been planted as a crop, its fruit being much appreciated. Regional and international trade of fruits generates many contacts between human societies and also vigorous genetic mixing.

The research is about the impact of historical factors of the evolution of forest cover on the spatial organisation of genetic diversity. Until now no study of the phytogeography of *Dacryodes* in the Congo basin had been made which would enable researchers to assess the impact of these factors on the organisation of *Dacryodes* genetic diversity. Researchers hope to clarify this diversity by using chloroplast markers to compare, on a large scale, the genetic diversity in the "cultivated" species *D. edulis* and two or three wild Gabonese species. Another objective, both local and region-wide, is to assess the impact of human activity on the dynamics of genetic diversity of species of *Dacryodes* whose modes of use are different (gathering only, gathering and harvesting of planted trees, plantations only).

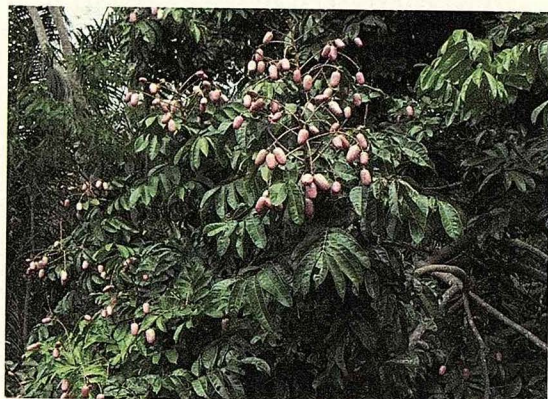


531723

Biodiversity at the periphery of a national park

The regional Park W was formed when the governments of Benin, Burkina Faso and Niger decided to manage three adjoining national parks together. It was recently named a trans-national Unesco Biosphere Reserve under the MAB, and is a site of major importance for biodiversity. The Park W regional ECOPAS programme has been in place there since 2001, financed by the European Commission.

To reconcile conservation with agro-silvo-pastoral systems of communities living at the periphery of the park, the interface between the protected area and the village lands have to be organised and managed. Some 400,000 people of about ten different ethnic groups are concerned. Although conserving biodiversity has been little discussed by the managers, who are mainly concerned for populations of species that attract ecotourism and the habitats those species require, the local populations see things quite differently. Nature means different things to different groups, and to talk of biodiversity one must talk of peoples' perceptions of biodiversity. Thus one can speak of "sociodiversity", meaning a set of representations of the environment, farming knowledge and practices.



• African farmers protect the shea nut tree in their agroforestry fields. The flesh of the fruit is greatly appreciated, and the kernel is used for edible oil and cosmetics. Agroforestry, combining trees and crops, maintains a high level of ecosystem biodiversity which is highly desirable near nature protection areas.



531 F24

From an ecological standpoint, the agro-ecosystems modelled by farming practices (land clearance, multi-purpose agroforestry parklands, fallow land) produce a landscape mosaic with a mixture of successive vegetation development stages in separate patches, providing a variety of different agro-ecological niches. One important point is to maintain this landscape mosaic, which can both meet the local population's needs and provide an agro-ecological gradient between the village lands and the park.

With this in mind, research is under way on the different ways the agroforestry systems work and their viability in the context of the cotton agricultural frontier on the one hand, and limitations on access to land on the other hand. Other research concerns interactions between insects and different farming practices. Whereas the density of some species such as Nymphalidae diminishes with distance from the conservation area, others such as Cetoniidae benefit from limited land uses - gathering and grazing - that produce a more open landscape. Thus the choice of crops at the periphery of the park is a vital question for the management of the protected area.

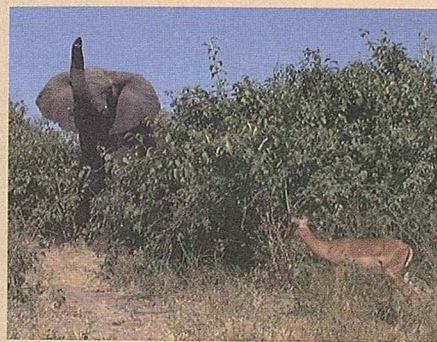


• The shea nut tree (Karité), a world-famous African tree, prized for its fruits and the fat content of its seeds, has shown that its genetic diversity results from the combination of manmade action and biological factors. This tree has strong genetic diversity, which may explain its omnipresence in the agroforestry parklands so carefully tended by the farmers.

Elephants in the Zakouma national park: pests or consumers?

In Chad as elsewhere in Africa, pressure from elephants can compromise biodiversity conservation in protected areas. Studies of *Acacia seyal* and *Combretaceae* savanna in Chad's Zakouma national park have shown that elephant damage is localised and seasonal, because most elephant populations can only stay in the park during the dry season.

Plant biodiversity is therefore high despite heavy pressure from browsing elephants and the fact that all ligneous species are browsed, particularly trees between one and six metres tall. Mortality is quite high in the *Acacia seyal* savannas but most ligneous species are resilient, fire-resistant and regenerate well. The largest trees suffer no damage and produce seed for the species to reproduce.



• The regional "Parc W", a major challenge for biodiversity is the last big refuge for wild animals in West Africa. It is a regional park created when three countries (Benin, Burkina Faso, Niger) with neighbouring parks took the political decision to manage them together.

ECOPAS, a regional research programme, was launched to allow the local populations to continue living in the region without causing irreparable damage to the environment and the natural resources.

