

ment to recognize that the public well-being is a public question, will always cause his name to be remembered with respect.

THE FORESTRY OF WEST AFRICA.

Sketch of the Forestry of West Africa, with Particular Reference to its Principal Commercial Products. By Alfred Moloney, C.M.G., of the Government of the Colony of Lagos. (London: Sampson Low, Marston, Searle, and Rivington, 1887.)

THIS, as its title indicates, is intended to form a handbook to the economic plant-products of Western Africa. Although the author is Governor of a British colony in this region, his remarks are by no means confined to British possessions, but are intended to include all that is at present known of economic interest connected with the plants of Western Tropical Africa.

Following Prof. Oliver, the author deems it expedient to divide Western Tropical Africa into two principal geographical regions. The first, called Upper Guinea, includes the western coast region from the River Senegal on the north to Cape Lopez immediately south of the equator; the interior drained by rivers intermediate between these limits, and the small islands of the Gulf, Fernando Po, Prince's Island, St. Thomas, and Annabon. The second region, called Lower Guinea, includes West Tropical Africa from Cape Lopez southward to the Tropic of Capricorn, including Congo, Angola, Benguela, and Mossamedes. Within the limits here indicated we have British possessions represented by "colonies" and "protected territories," and we have numerous possessions claimed by the French, Portuguese, Spanish, and German Governments, some of which have only lately been acquired in the European scramble for African territory. It is only right to mention that the term "possessions," as here applied, is somewhat a misnomer. There is little practically possessed, even by ourselves, except a slender coast-line: the interior is described as having no "territorial definiteness," and it is politically, no less than scientifically and commercially, unexplored. Capt. Moloney has wisely not attempted to treat separately of the economic products of these possessions. He has taken their present economic botanical productions in order of export value, and we find that these consist chiefly of palm oil, ground nuts, india-rubber, coffee, gum, dye-woods, cacao, cotton, fibres, and timbers. Palm oil, the produce of *Elaeis guineensis*, a plant which covers immense tracts of country in Western Africa, is imported to this country to the value of nearly a million and a quarter annually. The yellow palm oil is obtained from the outside fleshy portion (sarcocarp) of the nut, while a white solid oil is obtained from the kernel. India-rubber is another West African product obtained chiefly from climbing vines belonging to the genus *Landolphia*. The author was one of the first to draw attention to the value of *Landolphia owariensis* as a rubber-plant, and it must be gratifying to him to find that the exports of "white African rubber," as the produce is called, have during the last four years risen from almost nothing to a value of nearly £36,000. What is known as "Yoruba" indigo, derived from a large tree, *Lonchocarpus cyanescens*,

has evidently a commercial value, but at present it is used to mix with butter or "shea" to make the negroes' hair a fashionable gray!

Numerous West African plants are cited as yielding either gum tragacanth, copal, frankincense, gum-arabic, bdellium, or resin; what is called "ogea" gum, derived from an unknown tree, *Daniellia* sp., is used powdered on the body and as a perfume by women. The true frankincense-tree of Sierra Leone is *Daniellia thurifera*. Camwood, used largely as a dye, is derived from *Baphia nitida*; but although barwood is generally said to be derived from the same source, it fetches only one-sixth the price of the former. The medicinal properties possessed by numerous West African plants is a subject full of interest.

Various species of *Strophanthus*, the active principle of which was formerly used for poisoning arrows and is known to be of incalculable benefit in cardiac diseases, and the merits of the "miraculous berry" (*Sideroxylon dulcificum*) of the Akkrah and Adampe districts, which is credited with rendering the most sour and acid substances "intensely sweet," and of the "oro" plant of Sierra Leone, said to act as an irritant poison cumulative in its effects (which has been ascertained at Kew to be a species of *Euphorbia*), are among the numerous subjects requiring further investigation.

A most cursory glance at this book cannot fail to suggest the wonderful wealth both of botanical and industrial problems which are yet unsolved in connexion with West Tropical Africa. The "Flora of Tropical Africa," by Prof. Oliver, of which three volumes are published (the last in 1877), has made a beginning in the work of elucidating some of these problems; but in recent times few men have systematically pursued West African botany, and the entire absence of a resident botanist or of a properly-equipped botanical establishment in any of our West African colonies has left the plants of a most important region to be known only by the intermittent collections of travellers who have either perished there before their mission has been completed or have hastened home to avoid the effects of the deadly climate.

Nearly 200 pages of Capt. Moloney's book are taken up with condensed notes and references to the economic plants of Western Africa arranged in natural orders according to the "Genera Plantarum" of Bentham and Hooker. To many people both in West Africa and at home these notes, brought together by the assistance of an officer connected with the Kew Museums, will prove of great value. In the appendices are given a copy of the instructions for collecting plants, seeds, and useful plant-products issued by the Royal Gardens, Kew; an ornithology of the Gambia, by Capt. Shelley; a list of Coleoptera and of diurnal Lepidoptera of the Gambia, by the same writer; and a list of reptiles, batrachians, and fishes collected at the Gambia by Capt. Moloney in 1884-85.

The book is well got up and clearly printed, but it has the unpardonable defect of being published without a good alphabetical index. This greatly detracts from its value as a book of reference. It, however, is the chief fault we have to find with a work full of interesting matter for the first time brought together, and evidently prepared with great care.

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