
Palm Trees of the Amazon, and their Uses.

By Alfred Russel Wallace. Van Voorst.
THE design of this little work is excellent; it aims at popularizing one of the most instructive, beautiful, and useful natural orders of plants, which is no less interesting to the scientific botanist than to the merchant, artist, and economist.

Mr. Wallace appears to have visited South America as a travelling naturalist, to have been imbued with a thorough love of nature and its productions, animal and vegetable, and to have made every effort to turn his time and opportunities to the best account. He was unfortunate in losing the greater portion of his collections, retaining no part of his botanical ones, as we are given to understand, but his drawings of palms. These he has essayed to lay before the public, in a form and upon a scale which we most highly approve, but with an unfortunate want of attention to details, and a mistaken view of what is botanically

useful and what is not, that seriously detracts from the value of the work.

A facile pencil and the eye of a naturalist are all that are required to give life-like representations of objects so remarkable, and with botanical characters so conspicuous as the palms present, for many of them may be recognised from a great distance by aspect or habit alone; but to reduce such drawings to an octavo size, with their main features retained, requires more detail, skill, and judgment than has here been displayed; whilst to give those botanical characters which Mr. Wallace vainly hopes the botanist will find in his plates, it is necessary that a good choice of flowering or fruiting specimens be made, and sketches of the spadix and spathe, flowers of both sexes, and fruits.

Now, though they present pretty and varied designs of the natural order, these plates fulfil neither of these conditions—no scale of size is adopted, or other means of conveying to the eye the height of the palm; the individual leaflets of palms 100 feet high are brought as close to the eye in the plate, and are hence seen as clearly, as in stemless species; and the dead leaves which generally form so conspicuous a feature under the crown of living ones are scarcely ever represented, if (as we suppose) they exist in Amazonian as in other palms. In many cases there is nothing in the drawing to tell how two, or even more, species are to be distinguished from one another, and in several cases the descriptions will be found to correspond equally well with different plants.

Though not pretending to any depth of botanical science, Mr. Wallace will not escape the criticism of botanists, for the manner in which he has introduced new species without botanical characters sufficient for their identification, and, what is worse, without, in all cases, having taken proper means to ascertain that his palm was really new to science. This is not only to be regretted but to be reprehended, and was, in the present case, quite uncalled for. As many as ten supposed new forms of this order, the species of which are amongst the most difficult of plants to determine accurately by botanists, are thus named as new, with drawings and descriptions that are wholly insufficient for botanical purposes, and with no specimens for reference. What pleasure naturalists can find in seeing their initials attached to such crudities as ill-defined species we are at a loss to conceive. In the present case it is the more extraordinary, as Mr. Wallace has, as his travels show, merits and accomplishments of his own quite sufficient to keep him employed usefully to others and honourably to himself. In other respects, Mr. Wallace is an intelligent and agreeable traveller and companion; his plates, if botanically insufficient, would supply excellent landscape illustrations, and give character and truth to individual and general scenes, and for such purposes, we suspect, they were originally intended.

The letter-press contains a good deal of very important and much interesting matter, and the Introduction is a popular sketch of the geographical distribution of the natural order, professing to be compiled from the great work of Von Martius, and consequently not brought up to our present knowledge of the subject. The general description of the natural order, at the first page of the Introduction, is botanically inaccurate, and commences with a curious blunder, in calling most of the grasses, bamboos, lilies, and pineapples, an-

nual plants. In the second page again, palms are called almost exclusively tropical plants; and in the third it is stated that forty-three are found north of the Tropic of Cancer—a number which we believe should be considerably increased.

The popular descriptions of the uses to which the various species are applied are written with clearness, simplicity, and brevity, conveying in many cases much useful information; in others, as the cocoa-nut, the account is too meagre; for, however familiar with the general uses of that plant we may be, there should be some special attribute to justify the introduction of a plate of so well-known a palm. Mr. Wallace, indeed, seems to excuse himself for introducing it, by describing it as not having that light and feathery appearance which it is often represented as possessing; but his main figure of the plant, which, in our opinion, is one of the best in the book, represents a most beautifully feathery palm, and another in the back-ground is as light as may be. In the "List of the Palms described in this work, with their native names and uses," at the end of the volume, the only use quoted for the cocoa-nut is, "fruit eatable," which would hardly satisfy the youngest student of popular economic botany.

It is in simple truthful descriptions of natural scenery, half-savage people and their habits, that Mr. Wallace excels; and we admire the following quotation from his Introduction, because these are indispensable qualities in the traveller naturalist who aims at being purely instructive, and are here conspicuous:—

"Suppose then we visit an Indian cottage on the banks of the Rio Negro, a great tributary of the river Amazon in South America. The main supports of the building are trunks of some forest tree of heavy and durable wood, but the light rafters overhead are formed by the straight cylindrical and uniform stems of the Jará palm. The roof is thatched with large triangular leaves, neatly arranged in regular alternate rows, and bound to the rafters with sipós or forest creepers; the leaves are those of the Caraná palm. The door of the house is a framework of thin hard strips of wood neatly thatched over; it is made of the split stems of the Pashíúba palm. In one corner stands a heavy harpoon for catching the cow-fish; it is formed of the black wood of the *Pashíúba barriguda*. By its side is a blowpipe ten or twelve feet long, and a little quiver full of small poisoned arrows hangs up near it; with these the Indian procures birds for food, or for their gay feathers, or even brings down the wild hog or the tapir, and it is from the stem and spines of two species of palms that they are made. His great bassoon-like musical instruments are made of palm stems; the cloth in which he wraps his most valued feather ornaments is a fibrous palm spathe, and the rude chest in which he keeps his treasures is woven from palm leaves. His hammock, his bow-string and his fishing-line are from the fibres of leaves which he obtains from different palm trees, according to the qualities he requires in them,—the hammock from the Mirití, and the bow-string and fishing-line from the Tucúm. The comb which he wears on his head is ingeniously constructed of the hard bark of a palm, and he makes fish hooks of the spines, or uses them to puncture on his skin the peculiar markings of his tribe. His children are eating the agreeable red and yellow fruit of the Pupunha or peach palm, and from that of the Assaí he has prepared a favourite drink, which he offers you to taste. That carefully suspended gourd contains oil, which he has extracted from the fruit of another species; and that long elastic plaited cylinder used for squeezing dry the mandioca pulp to make his bread, is made of the bark of one of the singular climbing palms, which alone

can resist for a considerable time the action of the poisonous juice. In each of these cases a species is selected better adapted than the rest for the peculiar purpose to which it is applied, and often having several different uses which no other plant can serve as well, so that some little idea may be formed of how important to the South American Indian must be these noble trees, which supply so many daily wants, giving him his house, his food, and his weapons."

It will be seen from this extract and the foregoing remarks, that in narrative Mr. Wallace really excels; and our readers shall have proof of this in a week or two, when we have space for a notice of his book of 'Travels.'