

EXAMINATION
OF
BOTANIC SPECIMENS AT KEW, 1855.

John Reish Howard

I have been enabled, through the permission and with the kind assistance of Sir William J. Hooker, to examine the rich stores of botanical information deposited at Kew, in so far as they elucidate the present and some nearly allied genera of plants.

First in importance is a valuable collection brought from Lima by Matthews, having been met with by him there in 1833 and 1835. The collection is entitled "Fourteen Species of Cinchonæ, from the herbarium of Peruvian Plants left at Lima by Ruiz and Pavon."

In the next place comes Lambert's herbarium of dried specimens, captured in a Spanish frigate, and brought to this country.

Then follows the valuable collection of Dr. Bentham, including researches of botanists who have recently explored those regions.

There are also some interesting specimens of *barks* deposited in the Museum.

I am glad to find that these varied sources of information will enable me to supply many of the *lacunæ* which existed in my previous "Examination," as also to correct some errors; and in other cases to verify the conjectures I had formed as to the analogy of some specimens from sight of the barks alone, showing that the examination of the *barks* must be not without importance in the discrimination of the *plants* themselves.

The first species on which I shall offer any remarks is that which has interested me much, on account of its apparent connexion with the *Red bark* of commerce. I allude to the specimen of the *Cascarilla colorada de Huaranda*. The reader will find the *bark* of this sort, as deposited in the British Museum, described at p. 9 (*supra*) as quite like *commercial red bark*. M. Guibourt also says:—*

"Ou trouve dans les collections de quinquinas du Musée Britannique et de M. Delessert un grand nombre d'écorces nommées *colorada de Juen, del Rey, de Loxa*, de los azogues de Loxa, etc., qui n'ont aucun rapport avec notre quinquina rouge. Une seule ecorce se rapporte au quinquina rouge non verruqueux, et elle s'y rapporte exactement; c'est le *cascarilla colorada de Huaranda, species nova inedita*, du Musée Britannique (No. 20 ter des ecorces) et le *cascarilla colorada de Huaranda* de la collection Delessert (lettre E)."

I am unable to determine the species of this plant. It is the *Cinchona succirubra* of the Peruvian botanists—a very likely name for the cinchona producing the *red bark* of commerce, if indeed this should prove a distinct species, and not a mere variety. Dr. Weddell says of the bark of *C. micrantha*:—"A peine l'écorce est elle retirée de l'arbre et depouillée de son periderme, qu'elle prend une couleur d'un rouge de sang vif." The *Cinchona succirubra*, "red juice," must have the same peculiarity, but probably in a still more remarkable degree.

M. Guibourt appears to me to be very correct, not only in stating the identity of the above bark with the *red bark* of commerce, but also in the remark that the other *colorada* barks have no connexion with this kind. The examination of the colours of barks further on, will, I think, prove this distinctly. Before I pass away from these *Colorada* barks, I will, however, notice such as are in this collection, to be classed under *C. Condaminea*.

* *Histoire Drogues*, t. iii., p. 124. 4^{me} édition,

(A). *Cascarilla colorada*, marked in pencil C. macrocalyx, D. C., an 2 sp. subuna. A variety of C. Condaminea.

(B). "*Cascarilla colorada*, like 554 (sobrante)," *i. e.*, *rich*. Marked in pencil Cinchona macrocalyx, D. C.

(C). *Cascarilla colorada*. Fl. Peruv., 578, Lamb. 734. Cuenca, classed with a specimen of C. villosa, and appears to be the same species.

(D). *Cascarilla colorada*. Fl. Per., No. 549. L. 711. Variety of C. Condaminea, with leaves like C. angustifolia. Two specimens.

The next succeeding barks are also varieties of C. Condaminea, Weddell.

(E). *Cascarilla con hojas de Palton*. Three specimens.

The bark referred to at page 31 (*supra*), amongst the barks of uncertain origin. It appears by these specimens to be that of Cinchona macrocalyx, D. C., and is so marked in pencil on one of the papers.

(F). *Cascarilla partida* [parecida?] *a la buena*. F. P. coll., 551. L., 713. Loxa, 805.

The name in this instance, copied by Matthews, and incorrectly as I think, I suggest the amendment which is needed to make any sense of the title, which then becomes that of No. 24 at page 31, where the notice of the bark will be found amongst those of uncertain origin; and at page 34, described in the table as the *Quina carrasquena*, according to Lindley. The botanical specimen appears to be that of C. Condaminea.

(G). *Chincona vulg. margarita*, 581. L. 735. Jaen, 805. Classed under "Macrocalyx, D. C.," and so marked in pencil.

This differs from the *Margarita de Loxa*, of which I have a specimen so marked by Pavon, given me by Dr. Weddell as "*Cascarilla magnifolia*, Wedd."

(H). *C. Chahuargutra*. F. P., 558. L., 715. Loxa, 805. Again C. Condaminea.

(I). *C. amarilla* [de] *el Soberano*. F. P., 550. L., 712. Loxa. C. Condaminea, with rich yellow tint of leaf. Probably the same bark as the *amarilla del Rey*.

(J). *C. Chauarguera ined.*

This, which Dr. Lindley rightly presumed to be the C. Condaminea (see page 10, *supra*), is represented by a good specimen of Ruiz and Pavon's in Lambert's herbarium. It is, according to De Candolle, "*varietas distincta foliis paulo latioribus et calycis lobis paulo longioribus acutioribus.*" The difference in the leaf is well seen in this specimen.

Cascarilla estoposa.

I notice here, though not belonging to Pavon's collection, a botanical specimen of this species, brought by Jameson, marked "*Cinchona*, with the preceding species—[which is marked C. lanceolata in pencil] but rather higher elevation, named by the inhabitants *Cascarilla estoposa*, from the bark splitting into fibres like tow—Jameson,"—showing that this sort is still known by the same name as in the time of Pavon. It comes now in-commerce, mixed with *lanceolata* and *C. cordifolia*, *var. rotundifolia*.

C. Pitayensis.

Of this there are several specimens. Those which specially interested me are two brought by Mr. Jervise, marked "*Corteza de la naranjada—Naranjada de Pitayo*," "*ojas flor semejan*," and "*roja*," accompanied with specimens of bark—the *naranjada* being the kind most commonly imported and known as Pitayo bark, the *roja* representing the red variety constantly accompanying the other, and also well known in commerce.

The next specimens I shall notice appear to me to belong to

C. cordifolia or to C. pubescens.

(K). *Cascarilla con hojas de Zambo*. F. P., 527. L., 739. Loxa, 805. Closely resembles C. purpurea, and is identical with a specimen ex herb. Lambert, marked *C. cordif.*, *var. Mutis*. It has smooth leaves. This bark must therefore

be removed from the head *C. lucumæfolia*, under which I had placed it (page 11, *supra*), misled by the white coat. M. Guibourt classes it as *Quinquina de Lima blanc* (*H. D.*, t. iii., p. 111). It frequently occurs in commerce.

(L). *Cascarilla palo blanco*. No. 556. L., 718. Loxa, 705. (See M. Lambert's table, p. 5 App.) Resembles *C. cordifolia*, and is given as a synonym of *C. cordifolia* in Pavon's MSS., according to Lambert (*Illus.*, p. 4.)

(M). *Cascarilla amarilla*. Two specimens, marked in pencil *C. purpurea*, R. and P. (See No. 37 on the wood, the bark of which is very thin, and is the *Quinquina gris pale*, according to M. Guibourt. *H. D.*, iii., p. 155.) It seems to me to accord exactly with the *Huamalies mince et rougeâtre*, of which I have a specimen from M. Guibourt, but perhaps both the plant and the bark vary a little from the *C. pubescens*.

(N). *Crespilla blanca*, classed with, and apparently identical with a specimen marked 2a *Amarilla*.

C. pubescens.

(O). *Crespilla Axmada* [*ahumada*]. Peru.

The botanical specimen is of *C. pubescens*, confirming my conjecture from the character of the bark at page 24, *supra*. A specimen has been brought by a recent botanist under the same vernacular name. It is described as a mere shrub; so that there may be a slight variation in the plant, as there is also in the character of the bark.

C. Ovata.

(P). *C. pato de Gallinazo*. F. P. Coll., 558, L., 719. Loxa, 805.

This, according to Dr. Weddell, is the bark of *C. ovata*, with which derivation, so far as I can judge, this specimen agrees, though there is a difference in the size and smoothness of the leaf, and perhaps in the grouping of the flowers, as well as in the bark. According to Poeppig (*Reise*, vol. ii., p. 261), the *Pata de Gallinazo* is from the younger branches of the *C. micrantha*. Perhaps both kinds are collected under this common name, as often happens in other species. The first sort of Ruiz and Pavon seems to be from *C. micrantha*, and the second sort from *C. ovata*.

C. Glandulifera.

(Q). *Cascarilla crespilla Jaen*. 805. No. 588. L., 742.

The leaf is slightly pubescent on the under surface, and the capsules are oblong and very peculiar. So far as I can judge, the specimen which I here describe appears to belong to the above species. The bark I have described (page 32, *supra*) as "rather like *Cascarilla negrilla*," which is the produce of *C. glandulifera*.

(R). *Cascarilla de la Latuna*. F. P. Coll., 563. L. Loxa, 805.

This appears to be the same as the specimen of *Cas. con hojas rugosas* in the same series. It must therefore be removed from under the head *C. lucumæfolia*, where I have placed it (page 12, *supra*).

C. hirsuta, R. and P.

Cascarilla serrana ex Huaranda.

The specimen has some general resemblance with that of *C. hirsuta*. It differs in some respects, however, and may perhaps agree with the variety of *ovata* I mention under this head, page 29, *supra*.

C. Mutisii.

C. crespilla. F. P. Coll., 600. L., 751. Cuenca, 806.

This *Crespilla de Cuenca* has a leaf coriaceous on the upper side, and very hirsute on the under. It seems to me to agree with the specimens under the above head.

DERIVATION OF THE BARKS DESCRIBED BY MESSRS. DELONDRE AND BOUCHARDAT.

I subjoin a table of that which I suppose to be the botanical derivation of the different barks figured by Messrs. Delondre and Bouchardat, in their recently published *Quinologia*, which will facilitate comparison with those described in this work:—

Pl.	1.	Quinquina Calisaya	Cinchona calisaya, Weddell
	2.	“ Carabaya	C. ovata, var.
	3.	“ rouge de Cuzco	C. scrobiculata
	4.	“ Huanuco	C. micrantha
	5.	“ ditto	ditto
	6.	“ de Jaen	C. pubescens
	7.	“ rouge vif	C. ——— ?
	8.	“ rouge pale	C. ——— ?
	9.	“ de Loxa, gris fin, Condaminea ...	C. Condaminea
	“	“ gris fin, negrilla	C. glandulifera
	10.	“ jaune de Guayaquil	{ C. cordifolia, var. rotundi- folia, Weddell
	11.	“ jaune orangé roulé	C. lancifolia, var.
	12.	“ Pitayo	{ C. Condaminea, var. Pitayensis, Weddell
	13.	“ Carthagene ligneux	C. lanceolata, R. and P.
	14.	“ jaune orangé de Mutis	C. lancifolia
	15.	“ rouge de Mutis	C. lancifolia, var.
	16.	“ jaune de Mutis	C. cordifolia
	17.	“ rose d'Ocaña	C. lancifolia, var.
	18.	“ Maracaybo	C. cordifolia ?
	19.	“ de Cuzco, jaune	{ C. pubescens, var. α Pelletierana
	“	“ brun	var β purpurea
	22.	“ blanc	{ Cascarilla macrocarpa, Weddell
	23.	Quina nova	{ Cascarilla magnifolia, Weddell