ART. VIII.—ON A NEW SPECIES OF RAFFLESIA, FROM MANILLA. By J. E. TESCHEMACHER. (Read 16th June, 1841.)

Plate VI.

Having just received from Manilla, preserved in spirit, several buds of that rare and singular parasite, *Rafflesia*, which, on examination appeared to differ essentially from the species hitherto described from Java and Sumatra, I beg to offer to the Society the following account, with a drawing.

The specimens were gathered in Basei, a district of the province of Leite, on the same spot visited by Mr Cuming, for the purpose of finding this plant, during his late excursion to the Philippine Islands. Not having seen any description of this plant by him, in the Scientific Journals, I am uncertain of the result of his visit; and although I propose the specific name of *Manilana* for this species, I would readily yield it to any other he may wish it to retain.

The only accounts of *Rafflesia* to which I have access are, that of *R. Arnoldi*, from Sumatra, in the 13th volume of the Transactions of the Linnean Society of London, and that given by Sir W. J. Hooker, in the Companion to the Botanical Magazine, of *R. Patma* detected by Dr Blume, in Noussa Kambangan, a small island on the coast of Java, and described and figured by him in the *Flora Javæ*.

The column of one of my specimens was sent by itself from Manilla, and of two others I have dissected buds; the larger by a vertical cut, the section shown in the figure, the second, a smaller specimen, by the removal of the whole of the envelopes, exhibiting the naked column with its processes, edge, anthers, &c. The column from Manilla, being dissected when fresh, was considerably dried when placed in spirits. Its form and several parts are therefore not very distinctly retained, but the number of anthers and several other particulars are clear enough.

The largest bud of those I dissected is two and one-half inches in diameter, and arises from a cup three-fourths of an

inch in depth, the outer part of which is formed of the same substance as the external bark of the root on which it is parasitic, and which is evidently of the same structure as that of the root of *Cissus augustifolia* on which the *R. Arnoldi* was found.

It is probable that the smaller size alone would sufficiently distinguish this from the last mentioned species, the buds of which are stated to be one foot in diameter ; because, although the respective age of these buds is not known, yet every part is so perfect in the buds I dissected, even to minute and glandular hairs, that it is not probable they would have been long in this state before opening.

There are apparently in this, five series of bracteæ ; the middle one, at its origin, about three-eighths of an inch in thickness, or three times the thickness of the two outer and the two inner series. These bracteæ are imbricated over, and completely envelop the perianth ; they are marked by prominent veins, precisely as in *R. Arnoldi ;* the tube of the perianth originates on a line with the central row of bracteæ below the two interior rows, and although in the bud at its upper part, it is undivided, yet the lines of its divisions, when expanded, are clearly discernable. The interior of these divisions of the perianth is marked by tubercles of various forms, as in the other species.

The column has a convex disc, surrounded by a raised edge ; on the surface of this column are eleven processes, rather more than one-eighth of an inch in height, differing from each other slightly in size and form, the summits of which are entire and hispid, the hairs much resembling pistillary projections. One of these processes is in the centre, the other ten arranged around it at about an equal distance between it and the raised edge.

The anthers, which are of the same form, with pores and cells like those of the other species described, are ten in number, and are also suspended from the under side of the upper edge of the column, in open cavities formed in the lower part or base of it ; both edges of the open part of these cavities are covered with hairs resembling those on the tips of the

processes on the disc, and that part of the tube of the perianth opposite to these openings is studded with thick, capillary hairs, each terminated by what is apparently a glandular knob.

Down the centre of the column are lines, evidently bundles of vascular tissue, which pass through the substance of the cup into the root of the cissus; all the rest of the interior is cellular.

I could not perceive any very distinct appearance, in the bud, of an annular process at the mouth of the tube of the perianth, although it is not improbable, from various marks, that such a ring may be developed when the flower is open.

There is no appearance, in any of these three specimens, of the cavities exhibited in the figure of *R. Patma*, which contain the spores; on this part of the structure of *Rafflesia*, therefore, these specimens from Manilla do not throw any farther light. They are probably male flowers. Of *R. Horsfieldii*, which, when expanded, is only three inches diameter, I have not seen any description.

I close this paper with the following comparisons of the two species described, and of that which I call, at present, *R. Manillana*.

*R. Arnoldi.* Bud, before expansion, one foot diameter, sessile on root of *Cissus angustifolia*, the under side of its base reticulate; disc of column convex, processes on surface forty to sixty, close together, divided at the summits, which are hispid; anthers forty to sixty, with numerous cells, and furnished with pores at summits; a moniliform cord at base of column; interior of perianth covered with variously formed tubercles.

*R. Patma.* When expanded, two feet diameter, arising directly from the root of the *Cissus;* disc of column concave, processes on surface of disc *numerous*, of a pyramidal form, the summits of which are entire and hispid; lower part of tube of perianth and column glabrous, interior of perianth covered with variously formed tubercles; anthers with cells and pores; number not mentioned; no moniliform cord at base of column; antheriferous flower containing cavities filled with spores, hence hermaphrodite.

*R. Manillana.* Bud, before expansion, two and one half inches diameter, arising from a cup three-fourths of an inch high, formed by the thickened bark of the root of the *Cissus;* the bracteæ origi-

nating from the inner side of the upper edge of the cup; no appearance of reticulation under the base; disc of column convex, processes on surface eleven, one of which is in the centre, the rest arranged around it, their summits entire and hispid; lower part of tube of perianth studded with thick glandular hairs; anthers ten, with cells and pores, as in the other species; no moniliform cord at base of column; sporiferous cavities not apparent, flowers examined probably male; interior of perianth covered with various formed tubercles.

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## Art. IX.—REMARKS UPON CORAL FORMATIONS IN THE PACIFIC; WITH SUGGESTIONS AS TO THE CAUSES OF THEIR ABSENCE IN THE SAME PARALLELS OF LATITUDE ON THE COAST OF SOUTH AMERICA.

By Joseph P. Couthouy. (Read December 15, 1841.)

Among the various geological phenomena which at once bear record of the past changes in the structure, conditions and climate of our planet, and indicate the alterations at this moment slowly and silently, but effectually going forward; few have given rise to more speculation, than the countless coral isles and reefs, which stud the equatorial seas, especially in the Pacific and Indian Oceans.

It is my intention, in this communication to, throw together a few observations upon this class of rocks, and such correlative topics as may present themselves as I proceed. With regard to the latter, no fixed system or order of introduction will be pursued, but they will be taken up at random, as suggested by the main subject.

The vastness of the region over which these singular formations are scattered; the evidence they afford, by analogy, of the existence, in former epochs, of a more uniformly warm temperature of the earth than has prevailed since its present organization — in the fact that such rocks now form only in the more heated parts of the ocean, while their fossil types and analogues extend even into the arctic regions — the great density of the beds of coral, exhibited in some of the uplifted islands — the light thrown by an examination of them, on the