Mr. Rostrup, the eminent Danish mycologist, his paper upon "Heteræciske Uredineer" (1884). In this I am pleased to see the same fact has been noticed by him, but with different fungi. First with *Coleosporium senecionis*, which, when it occurs in districts where fir-trees are absent, consists almost wholly of uredospores; and, secondly, with *Chrysomyxa ledi*. He received from Greenland a specimen of *Ledum palustre*, upon which the uredospores of this fungus were present. Now De Bary has shown that acidiospores of this *Chrysomyxa* occur upon *Picea excelsa*, a tree which does not grow in Greenland.

Report on the Botany of Mr. H. O. Forbes's Expedition to Timor-Laut, by W. T. THISELTON DYER, F.R.S., Secretary to the British-Association Committee for the Exploration of the island; with a List of determinations of the Plants collected, by Prof. OLIVER, F.R.S.

[Read 6th November, 1884.]

THE Timor-Laut or Tenimber Islands are a small archipelago situated to the north of Australia, about halfway between the island of Timor and the Aru Islands. The natural history has hitherto been almost entirely unknown. In 1882 Mr. H. O. Forbes, aided by grants from the British Association, was enabled to spend the months of July, August, and September in the group.

He landed at the islet of Larat, which lies off the north-east coast of Yamdena (as the northern of the two portions of Timor-Laut is named), at a distance of about 15 minutes' sail.

Of the physical characters of the group Mr. Forbes gives the following account:—

"The Tenimber Islands, as seen from the sea, are very low. There are no hills; nothing over 400 feet on the northern island, nor on the surrounding islets, with the exception of Laibobar on the west coast of Yamdena, which rises to a height of about 1500 feet as seen from Larat across the mainland. The Tenimber group is surrounded (as I am told by the Commander of the Dutch man-of-War 'Samarang') by a very deep sea. The islands are entirely of coral formation. On the eastern shore of Yamdena there are coral-cliffs of about 100 feet in height, from which immense stalactites hang down. Along the beach are here and there blocks of tideworn sandstone; but nowhere have

I been able to find any sedimentary rocks. In the interior of Yamdena the coral lies a few inches below the surface, being covered only by a very thin layer of dark mould. There are absolutely no traces of sedimentary strata, with the exception of one small nodule of a fine calcareous limestone. Along the shore low coral-cliffs alternate with sandy baylets (the sand is almost entirely of fine particles of coral and minute shells and broken fragments of *Echini* &c.), which are studded also with worn coral boulders."

Mr. Forbes also furnished to the Committee of the British Association the following account of the general characters of the vegetation of the group as far as he was able to examine it:—"Of plants my collection is not so large as could be desired, owing to my inability to obtain any one willing to assist in felling or to climb trees, as I have always been able to do in Sumatra. The season was also unfavourable, it being during our stay the height of the dry season; besides I had the misfortune to have my drying-house, with 300 to 500 specimens, burnt to the ground, a conflagration which almost involved my house and endangered the village also. The forest is not very tall, few trees reaching even 80 feet, and has little undergrowth; but there is a thick sward of *Commelina*. On the coral-rocks by the seashore several species of orchids grow, of which I have obtained living specimens. On trees at Cape Watoe Sianga, in Larat, where it faces the wind entering from the southern sea, I found a handsome and, I imagine, a new species of orchid; but I have been able only to see half-shrivelled flowers. At few other places have I seen any orchids; none on the mainland. Ebony, from the accounts of the natives (who make much use of it in their carved work), is found in considerable abundance. A very few species of ferns and two species of Lycopodiaceæ were found. A great species of *Sterculia* with dark lake flowers, which appear before the leaves, is one of the most conspicuous objects in the vegetation. Dammar trees occur; but the natives collect only to make lamps for themselves. The largest trees are figs of the genera *Urostigma* and *Ficus*; but, though abundant, they are few in species. *Artocarpus incisifolia* (but not the true bread-fruit tree) is abundant; but no *Artocarpus integrifolia* was met with. Leguminosæ and Myrtaceæ occur in considerable numbers, also low Compositæ and shrubby Apocynaceæ. Mingling in the belt of *Rhizophora*, where it is somewhat rocky, grows a species of

Pandanus. Of *Balanophora* one species was obtained, and a pretty species of *Aristolochiaceæ*; but both went in the conflagration. I have seen in the hands of the natives a species of wild mangosteen; the capsules were very thick, with almost no fleshy pulp. The natives eat the former, and throw away the latter. Of palms, only *cocos*, *Areca*, *Borassus*, and *Sago* were seen; neither *Eucalyptus*, phyllode-bearing *Acacias*, *Melaleuca*, *Casuarinas*, nor *Melastomaceæ* were met with, and no sandalwood.

"Timor-Laut seems, from our present rough survey, to have great affinities with the Moluccan (Amboina) region; perhaps more than with the Timor group. The Insecta seem very closely to resemble those of Amboina; but the Lepidoptera and Coleoptera are excessively few."

Mr. Forbes's botanical collections (in the absence of more definite localities) were presumably made in *Larat* and *Yamdena*. They have not proved, on examination, so interesting as the zoological specimens brought back by him. But this may, no doubt, be attributed in great measure to the unfortunate accident by which so large a proportion of his dried plants appears to have been destroyed by fire. Still, in the face of our total ignorance of the nature of the flora of the group, it seems desirable to put on record a list of the species actually determined, even if it must be admitted that the general facies of the vegetation they indicate is somewhat common-place. A more thorough investigation of the forest of the interior than Mr. Forbes could perhaps afford time for would very probably yield more interesting results.

The determinations in the following list of species have been made by Prof. Oliver, F.R.S., who has added a few notes on such species as appear of more special interest. One of these is closely allied to a Queensland plant, and another belongs to a genus hitherto regarded as endemic in *New Caledonia*. As far, therefore, as the gathering indicates any distinctive peculiarities in the flora, they are with countries to the west of the *Malayan archipelago*. It is noteworthy in this connection that Mr. Selater finds the affinities of the avifauna to be preeminently *Papuan*, with only a slight element from *Timor**.—[W. T. T. D.]

* *Proc. Zool. Soc.* Feb. 20, 1883, p. 56.

- Amamirta Cocculus, *Wight et Arn.* (In fruit.)
 Portulaca oleracea, *L.*
 Ochrocarpus ovalifolius, *T.*
And. ? (Calysaccion obovale, *Miq.*)
 Sida humilis, *Willd.*, var. *repens.*
 Abutilon indicum, *Don.*
 Hibiscus surattensis, *L.*
 Thespesia populnea, *Corr.*
 Sterculia foetida, *L.*
 Melochia velutina, *Bedd.*, var. *glabrata.*
 Micromelum pubescens, *Blume.*
 Murraya exotica, *L.*, var.
 Glycosmis pentaphylla, *Corr.*,
 or possibly *G. sapindoides*,
 but flowers too young.
 Tristellateia australasica, *A.*
Rich.
 Owenia sp., may be *O. cerasifolia*, *F. Muell.*; but in fruit only.
 Carapa, an *C. moluccensis*, *Lam.* ?
 Too young for identification.
 Strombosia ? Fruit only.
 Erioglossum edule, *Blume*,
 forma.
 Flemingia strobilifera, *R. Br.*
 Desmodium umbellatum, *DC.*
 Pongamia glabra, *Vent.*
 Mucuna (§ *Stizolobium*) sp.
 Canavalia obtusifolia, *DC.* ?
 Vigna lutea, *A. Gr.*
 Dolichos Lablab, *Savi* ?
 Cynometra ramiflora, *L.* (*C. bijuga*, *Span.*)
 Cassia javanica, *L.* ?
 Cæsalpinia pulcherrima, *Sw.*
 Bauhinia Blancoi, *Benth.* ?
 Peltophorum ferrugineum,
Benth.
 Bruguiera caryophylloides,
Blume.
 Eugenia javanica, *Lam.* ?
 Momordica Charantia, *L.*
 Zehneria, *aff. Z. mucronatae*,
Miq.
 Delarbrea sp. ? Interesting ;
 a New-Caledonian genus.
 Randia sp.
 Ixora sp.
 Ixora ? Fruit only.
 Ixora, *aff. I timorensis*, *Dcne.*
 Psychotria ? sp.
 Vernonia cinerea, *Less.*
 Weddellia biflora, *DC.*
 Mæsa, sp. Allied to a species
 from the Indian archipelago.
 Diospyros maritima, *Blume.*
 Tabernæmontana parviflora,
Dcne. (*T. orientalis*, *R. Br.*)
 Marsdenia ? Fruit only.
 Gymnema ? vel *Sarcolobus* ? sp.
 Cordia subcordata, *Lam.*
 Tournefortia sarmentosa, *Lam.*
 Hewittia bicolor, *Wight et Arn.*
 Solanum verbascifolium, *L.*
 Capsicum frutescens, *L.*, forma.
 Acanthus ilicifolius, *L.*
 (*Dilivaria ilicifolia*, *Juss.*)
 Hypoestes floribunda, *R. Br.*,
 var.
 Eranthemum, sp.
 Asystasia, an *A. chelonoides*,
Nees ?
 Premna obtusifolia, *R. Br.*
 Vitex trifolia, *L.* Form very
 near *V. Negundo.*
 Leucas decedentata, *Sm.*
 Deeringia celosioides, *R. Br.*

<i>Ærua scandens</i> , <i>Wall.</i> (<i>Æ. velutina</i> , <i>Mog.</i>)	determinable from the material.)
<i>Piper</i> , <i>aff.</i> <i>P. canino</i> , <i>Dietr.</i>	<i>Fatonia pilosa</i> , <i>Gaud.</i> (<i>F. lanceolata</i> , <i>Dene.</i>)
<i>Myristica</i> , <i>cf.</i> <i>M. insipida</i> , <i>R. Br.</i>	<i>Lycopodium carinatum</i> , <i>Desv.</i>
<i>Loranthus</i> (§ <i>Dendrophthoe</i>), sp., <i>aff.</i> <i>L. rigido</i> , <i>Wall.</i> ?	— <i>Phlegmaria</i> , <i>L.</i>
<i>Ficus</i> , <i>aff.</i> <i>F. acanthophyllæ</i> , <i>Miq.</i>	<i>Polypodium irioides</i> , <i>Lam.</i>
— spp. (Three species in-	<i>Pteris tripartita</i> , <i>Sw.</i>
	<i>Asplenium falcatum</i> , <i>Lam.</i>
	<i>Vittaria elongata</i> , <i>Sw.</i>

This collection, so far as it goes, is made up in great part of the more widely diffused species of the Indian archipelago.

The most interesting plants appear to be :—

A plant, in fruit only, which I would refer to the Meliaceous genus *Owenia*, perhaps indeed to *O. cerasifera*, F. Muell., of Queensland.

A fine *Mucuna* in fruit, of the section *Stizolobium*, which I have not identified.

A *Delarbrea*, an Araliaceous genus hitherto only received from New Caledonia.

A plant, in fruit only, which may be something new, though possibly a *Strombosia* (Olacineæ).—[D. O.]

Remarks on *Cinchona Ledgeriana* as a Species.

— By EDWARD MORELL HOLMES, F.L.S.

[Read 20th November, 1884.]

THE name *Cinchona Ledgeriana* appears to have been first used in *Cinchona* plantations in the East Indies, to distinguish the trees grown from seed collected in the northern portion of Bolivia by an Indian servant of Mr. Ledger's, and which was subsequently distributed to Java, various plantations in India, and Ceylon.

When the plants flowered, Mr. J. E. Howard figured in his magnificent work 'The Quinology of the East-Indian Plantations' three forms of *Cinchona* which he had received from Java, as the produce of Ledger's seedlings, under the name of *Cinchona Calisaya* var. *Ledgeriana*, and gave a brief botanical description of the plant, by Dr. Weddell, in the accompanying text.