ON CEDAR GUM (*CEDRELA AUSTRALIS*, F.v.M.).

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The well-known "Cedar" or "Red Cedar" of New South Wales and Queensland is the produce of a *Cedrela*, but in regard to the species there is a difference of opinion. Bentham (B.Fl. I. 387) considers it to be identical with *C. Toona*, Roxb., the Indian Toon Tree, which produces "Moulmein Cedar" and one of the "Chittagong woods." Baron von Mueller, on the other hand, created a new species for it (*C. australis*, F.v.M.). It is very certain the affinities of the two trees are very close, and it becomes interesting to see if examination of any of their products tends to throw any light on the subject.

The writer is not aware that the finding of gum on the New South Wales Cedar has hitherto been recorded, but a collector sent to the Technological Museum a small quantity recently. An old cedar-getter says that trees well exposed to the sun (? in unsuitable situations) yield most gum.

It is a very pale yellow gum, almost colourless, and in thin tears about an inch long. Between the teeth it almost feels leathery. It swells up largely in cold water, but in the course of twenty-four hours it nearly wholly dissolves, forming a solution colourless and faintly cloudy, like good gum arabic, and leaving a small percentage of metarabin.

It is one of the gums which form a connecting link between the Arabin group,—those gums which dissolve almost immediately in water, and the Metarabin group,—those which merely swell up in that liquid. It forms a fair mucilage, and on account of its freedom from colour it would be a valuable commodity if obtainable in any quantity. An analysis gave the following result:—

Arabin	68·3
Metarabin	6·3
Hygroscopic moisture	19·54
Ash	5·16

Here we have a true gum, without so much as a trace of resin.

Following is the evidence the author has been able to collect in regard to the exudation of the Indian tree.

"It yields a *resinous* gum" *(Cat. Kew Museums).* Perhaps the experiments of von Essenbeck *(infra)* are the foundation for this statement.

"It is called bastard cedar from an aromatic *(sic) resin* exuding from it, resembling that of the American Cedar" (Art. *Cedrela Toona* in Surgeon-General Balfour's *Cyclop. of India*). No definite authority is given for this statement, and the writer is probably labouring under a misapprehension, as the name Cedar was bestowed in reference to the wood, and not to any exudation.

The experiments of Nees von Essenbeck, who *extracted from the bark* a *resinous* astringent matter, and a brown astringent *gum*, do not affect the point at issue one way or the other.

"Toon-ke-gond" *(C. Toona)* is enumerated by Dr. Wight as one of the *gums* of Coimbatore. Yet Cooke *(Gums and Resins of India)* who quotes this statement, says, "From the character of the timber one might suppose it rather a resin than a gum." I am not impressed with the force of the latter observation.

A sample of "Toon-ke-gond," the exudation of *C. Toona*, was exhibited by Dr. Royle at the Exhibition of 1851 (No. 52, p. 180, Jury Reports). It is not definitely stated whether it is a gum or a resin, and there is nothing in the context to clear up the point absolutely.

Dragendorff *(Pflanzenanalyze*, Greenish's Trans. p. 212) speaks of "the partially soluble *gum* of species of . . . *Cedrela.*" To

this specific statement of a man who only employs the term "gum" in its proper significance, I attach much importance.

I consider the balance of probability to be largely in favour of the exudation in the Indian species being a gum and not a resin. As collateral evidence, the exudations from the Indian *Melia Azadirachta*, Linn., (another of the "Chittagong woods"), and the Australian form of *M. Azedarach*, Linn., may be instanced together with the Spotted or Leopard-tree gum (*Flindersia maculosa*). These are the only other exudations of the *Meliaceæ* recorded as far as I know. I have seen and examined them, and they are true *gums*.