remote ancestor bearing flowers regularly cross-fertilized by insects, as is the case with most Orchids at the present day. We should probably find that from some reason—it might be from the flowers becoming less attractive, or from the proper insects becoming less plentiful—the flowers were not so regularly visited as before. It would then be an advantage to the plant to be occasionally self-fertilized, in order that a sufficiency of seed should be obtained to perpetuate the species. Varieties having a tendency to self-fertilization would then be rigorously selected. The process of modification having once commenced, I see no difficulty in its being carried on to any extent, provided that the visits of insects continued to decrease, and that consequently the necessity for self-fertilization became more pressing. In this way the species would become more and more self-dependent, until we find it, as it is at present, almost uniformly self-fertilized. At the same time, any structures existing in the flower for purposes of cross-fertilization would hardly be modified if they did not prevent self-fertilization from taking place, but would be retained in their original shape, although perhaps but seldom, or even never, performing their proper functions.

Most writers on the subject maintain that it is a positive disadvantage to a species to be self-fertilized for a long length of time. But here we have the case of a plant which is probably self-fertilized for many generations in succession, but which is yet a vigorous and predominant species, accommodating itself to a wide range of habitats, protecting itself against encroachment by other species, and highly successful in the battle of life.

Art. XXXVII.—*Description of a New Species of* Loranthus.

By T. F. Cheeseman, F.L.S.

[*Read before the Auckland Institute, 25th October*, 1880.]

Some time ago my friend, Mr. James Adams, the head master of the Thames High School, kindly forwarded to me specimens of a handsome new *Loranthus* discovered by him in the Thames district, and which differs widely from any of the known species inhabiting New Zealand. During a recent visit to the Thames I was able to examine the plant in a living state, and to obtain a good series of specimens, from which the following description has been drawn up. I have much pleasure in associating the name of the discoverer with the species.

Loranthus adamsii, n.sp.

A small perfectly glabrous bush, two to three feet in height. Branches terete. Leaves opposite, one and a half to two and a half inches long,

broadly oblong, obovate or oblong-obovate, narrowed into a short stout petiole or almost sessile, very thick and coriaceous, veins hardly conspicuous, margins recurved. Inflorescence axillary; peduncles very short, each bearing two to four sessile flowers at the top. Bracts—three at the base of each flower (one bract and two bracteoles), small, concave. Flowers rather large, one and a half to two inches long, reddish, more or less tinged with yellowish-green. Calyx with four minute triangular teeth. Corolla narrow at the base, swollen in the middle, and then contracted just below the limb; lobes four, separating about a quarter of the way down, but the corolla often splits nearly to the base on one side, the four petals then pointing all in one direction. Stamens four; anthers narrow-linear, basifixed. Stigma capitate. Fruit not seen.

Habitat: Thames goldfields, parasitic on *Coprosma*, *Myrsine* and *Melicope*. Flowers in September and October.

According to the elaborate sketch of the genus given by the author of the "Genera Plantarum," our plant must be placed with a group of Indian and Malayan species possessing a corolla with the petals united nearly to the top, and with three bracts at the base of each flower, and which forms the sub-genera *Macrosolen* and *Elytranthe*. *Loranthus flavidus*, so common in the *Fagus* forests of Nelson and Canterbury, is referred to the same group, but is a somewhat anomalous member of it.

Loranthus colensoi has much of the habit and foliage of *L. adamsii*, but is much larger, and can be at once distinguished by the free petals and the absence of bracts.

Search should be made in hilly and wooded districts for *Loranthus tenuiflorus*, of which only a single specimen, preserved in the Kew Herbarium, is known, and the exact locality of which has been lost. It can be distinguished from the other species by the oblong versatile anthers, which place it in a division of the genus almost wholly composed of South American species.

ART. XXXVIII.—*Contributions towards a List of the New Zealand* Desmidieæ.

By W. M. MASKELL, F. Roy. Micros. Soc.

[*Read before the Philosophical Institute of Canterbury, 7th October*, 1880.]

Plates XI. and XII.

THE following catalogue by no means pretends to contain a *complete* list of the Desmidieæ in this country; but it has been compiled because, as I believe, no attempts have yet been made to record the existence here of