

flowers of any kind of plant are for a perpetuity of generations fertilized by their own pollen. And what are we to say with respect to the sticky glands of the Bee Orchis, the use and efficiency of which glands in all other British Orchids are so manifest? Are we to conclude that this one species is provided with these organs for no use? I cannot think so; but would rather infer that, during some years, or in some other districts, insects do visit the Bee Orchis and occasionally transport pollen from one flower to another, and thus give it the advantage of an occasional cross. We have seen that the Fly Orchis is not in this part of the country by any means sufficiently often visited by insects, though the visits of insects are indispensable to its fertilization. So with the Bee Orchis, though its self-fertilization is specially provided for, it may not exist here under the most favourable conditions of life; and in other districts or during particular seasons it may be visited by insects, and in this case, as its pollen-masses are furnished with sticky glands, it would almost certainly receive the benefit of an occasional cross-impregnation. It is this curious apparent contradiction in the structure of the Bee Orchis—one part, namely, the sticky glands, being adapted for fertilization by insect agency—another part, namely, the natural falling out of the pollen-masses, being adapted for self-fertilization without insect agency—which makes me anxious to hear what happens to the pollen-masses of the Bee Orchis in other districts or parts of England. I should be extremely obliged to any one who will take the trouble to observe this point, and to communicate the result to the 'Gardener's Chronicle' or to me.

CHARLES DARWIN.

Down, Bromley, Kent.

Do the Tineina or other small Moths suck Flowers, and if so what Flowers?—

I once saw several individuals of a small moth *apparently* eating the pollen of the *Mercurialis*; is this physically possible? I have during several years watched the smaller clovers, such as *Trifolium procumbens*, and the *Vicia hirsuta* which has such extremely minute flowers, and I never saw a bee visit them. I am, however, aware from experience that it is very difficult to assert that bees do not visit any particular kind of plant. As Mr. F. Bond informs me that he has often seen moths visiting papilionaceous flowers, even such small ones as those of the trefoil, it has occurred to me that small moths may suck the flowers of *T. procumbens* and of *V. hirsuta*. From analogy we must believe that the smaller clovers secrete nectar; and it does not seem probable that the nectar would be wasted. I should esteem it a great favour if any Lepidopterists would communicate their experience on this point.—CHARLES DARWIN, *Down, Bromley, Kent.*

[In reply to Mr. Darwin's enquiry we may observe that very many of the Tineina are provided with tongues, and that these appendages are naturally used in extracting the sweets of flowers. It is no uncommon sight to see an Umbellifer swarming with the pretty little *Glyphipteryx Fischeriella*, each with its proboscis extended sucking at the flowers. The *Depressariæ*, as is notorious to every collector of Noctuæ, come very freely to sugar, and no doubt naturally visit flowers.

But the fertilization of flowers may be accomplished by insects in another way. Many species oviposit on the blooming flowers; they do not deposit all their eggs on a single plant, but sparingly a

few here and a few there; a female protruding her ovipositor down the corolla of a flower, and then flying off to repeat the operation elsewhere may herself be "the priest who performs the marriage ceremony."]

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