

were done. To this end it is proposed to establish suitable boarding houses where armies of lady helps might be lodged. The idea of a daily cook on the footing of a daily governess is one which will not be realised in a hurry.

Dr. Clippingdale, in discussing at the West London Medico-Chirurgical Society the etiology of gastric ulcer, assigned a leading place to local constrictions in women by corsets, in men by belts.

The women dentists of the United States have organised an Association. It has forty-two members. There are about 150 women who pursue the gentle craft of dentistry in the United States.

A London daily opines that:—"Men may very well be excused from taking up the cause of woman suffrage with any enthusiasm when the mass of women are so manifestly indifferent on the question. This indifference is well brought out by the *Boston Herald* in reference to the two States of Connecticut and Massachusetts, where women already have the right to vote in public school matters. There is a woman population of voting age in Connecticut of 175,000. As a matter of fact, in the last three years the numbers of those actually voting were 3,806, 3,241, and 1,906 respectively. In Massachusetts with a woman population of voting age of 625,000, at no time have 30,000 taken the trouble to register, while the largest actual woman vote recorded was 20,146 in 1894.

When it is remembered that nowhere in the world has the agitation for woman suffrage been so keen as in these two States, it cannot be doubted that the movement is of a highly fictitious character, confined to a mere handful of active and cultivated women. A Man Suffrage Association has been formed in Massachusetts to protest against woman suffrage, and it has been joined by many of the foremost men in the State."

This is a good sign; when men consider a cause worthy of active and combined opposition, we may be sure that cause is on the high road to victory. As for women, if that chivalrous association of men formed to prevent justice and freedom to women does not arouse their sense of self-respect, we do not know our sex.

## Science Notes.

### BIDDEN AND UNBIDDEN GUESTS.

THE presence of honey in flowers and the visits, made by bees and butterflies to flowers for the purpose of obtaining honey, were probably among the earliest observations made in the study of natural history. Not until about a century ago, however, was the motive of the flowers in thus providing a feast for insects, explained; it was then discovered that flowers employ the insects as carriers of pollen, and so effect cross-fertilisation. Plants require also to defend themselves against insects who would rob them of their honey, and do them no service in return. Among these are ants, who are exceedingly anxious to obtain honey, but quite unsuited to convey pollen. Besides

being so much smaller than bees and butterflies, they have smooth bodies and no wings, consequently pollen is very unlikely to adhere to them as it does to the hairy body and limbs of a bee or butterfly, and if it did adhere to them momentarily it would be liable to be removed as they crawl over the stems and leaves of the plants.

The absence of wings in the ant is a great assistance to the plant in protecting itself. A hairy stem like that of a primrose is impassable. Other stems are defended by rings of a sticky secretion such as occur in the viscid *Lychnis*. The smooth condition of the stem and leaves in aquatic plants is a strong confirmation of the truth of the above explanation of the presence of hairs. Aquatic plants are sufficiently protected from creeping insects by the water which surrounds them, and so have no need of hairy or sticky stems. The teasle, although not an aquatic plant, is perhaps defended in a somewhat similar manner. It may be remembered that the leaves of the teasle occur in pairs, and that the opposite leaves are united round the stem in the form of a basin. In this basin water is almost always present even after many days of dry weather, and in the water are usually found the decomposing remains of numerous small flies, ants, and other insects. It was suggested by Darwin that the teasle was an insectivorous plant, and absorbed nourishment from the decomposing animals, but this view has not been satisfactorily confirmed. Whether it is as Darwin suggested or not, it is still possible that the presence of the drowned victims may have another explanation—they may be drowned to prevent them from reaching the flower.

In some cases, however, it appears that ants are welcome visitors, or bidden guests of the plant. It is generally admitted to be impolitic to make enemies, especially of quarrelsome and pugnacious individuals; it is better to be on friendly terms with such, if possible. Ants are particularly pugnacious, and averse to sharing food or shelter with any other insects, so that they are usefully employed as a standing army by certain plants.

A thistle-like plant, *serratula*, has all over its flower-buds a great number of honey-secreting glands. These are usually discovered by ants, who, having established themselves on the buds and stems of the plant, menace any winged beetle who approaches, and squirt their fiery acid at all intruders, either on wing or on foot. The plant is a gainer by the presence of the ants, since they are contented with the honey, whereas many of the intruders kept away would, if they could, destroy the bud itself.

Some flowers, when fully open, are provided with honey-glands on the calyx, as well as within the corolla. The former are supposed to be for the purpose of attracting ants who indirectly effect the pollination of the flower. The direct agent of pollination is the bee, but some bees prefer to obtain their honey without acting as distributors of pollen, having discovered that they can reach the desired nectar by biting through the base of the corolla. Prof. Weiss suggests that, if bees are the bidden guests of flowers, these particular individuals can only be compared to guests who come for the sake of their dinner, and ignore what is due to their host. Such bees, evidently intent on getting as much as they can with as little trouble as possible, can readily be driven to the legitimate entrance to the flower as being the easiest when a pugnacious ant is present on the calyx.

[previous page](#)

[next page](#)