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I. On the Flowering and Fruiting of *Aucuba japonica*

Mr P. S. Robertson

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spadix of the *Arenga saccharifera*, now flowering in the palm-house at Edinburgh. This palm is now 68 feet in height, and has three large flower-spikes near the summit.

4. Mr Sadler exhibited and presented a specimen of Guarana which he had received from Dr Lea Richardson. It is obtained from the seeds of *Paullinia sorbilis*, one of the Sapindaceæ, a tree found growing abundantly in some parts of the Great Amazon Valley. The fruit, when ripe, is roasted, and the seeds taken out and powdered. The powder is then mixed with water and made into a thick paste, which is moulded into cakes or round rolls, and dried in the sun. It possesses a bitter principle, identical with theine, and is reported to be stomachic, and febrifuge. In Brazil it is regarded as a cure for dysentery and many diseases. According to Dr Stenhouse, Guarana is the richest known source of theine. It also contains a colouring matter, analogous to the tannin in Cinchona bark, as well as fatty matter which, like the fat of chocolate, does not appear to become rancid by keeping. According to the price paid by Dr Richardson for the specimen presented, Guarana sells in the market of this country at 6s. an ounce.

5. Sir William Jardine, Bart., presented specimens of the fruit of a variety of *Solanum Melongena* (L.), obtained in the Covent Garden Market, where it is sold for making sauce.

6. Don Guillermo Jameson, San Juan, presented a large collection of dried plants from the Andes; and Mr Mawson presented dried specimens of plants from Cumberland, to the University Herbarium.

14th April 1870.—Sir WALTER ELLIOT, President, in the Chair.

The following Communications were read:

I. *On the Flowering and Fruiting of* *Aucuba japonica*.

By Mr P. S. ROBERTSON.

The author had observed that recently introduced female plants from Japan (grown in a cool pit) came into flower

in January and February, while the male plants, grown in the same circumstances, never came into flower till the middle of March. Yet he had every year obtained a crop of young plants from the seed, although the female flowers were quite shrivelled before the male ones expanded. He found that the common spotted variety, long grown in this country, does not flower till May or June, although grown in the pit or house with the others, and begins to expand its flowers when the males are getting past; yet it also never fails to produce a crop of fruit with perfect seeds. He thought that the pollen must lodge for some time in the scales of the unopened flower-buds, or must reach the pistils before the flowers are expanded; but how to account for the fertilising of the early flowering varieties he was at a loss. This year he has forced on the flowering of the male plants by placing them in strong heat, and has all the varieties of the male and female plants in full flower at very nearly the same time, and accordingly he anticipates a much larger produce of fruit than in former years, when they were left to the ordinary course. He exhibited a branch bearing fruit with perfect seed; yet when that plant came into flower, there had not been a male plant in the house where it grew for fully a month previously.

Mr Sadler stated that he had been informed by the Messrs Lawson that when there was a great lapse of time between the flowering of male and female *Aucuba* plants, they frequently collected the pollen and kept it wrapped in paper until such time as the female flowers were ready for fertilisation, when it was applied to the stigmas, and thus secured invariably a crop of fruit with perfect seeds. By grafting the male plant on the female, the two kinds of flowers might expand nearly at the same time.

II. *Remarks on Grimmia pruinosa (Wilson's MSS.)*

By Mr WILLIAM BELL.

The specimens of the moss now exhibited, collected in April 1869 on Arthur Seat, have been carefully examined both by Mr Sadler and myself; and I have come to the conclusion that it is very different from any *Grimmia*