

other cases this species fruited freely when fertilised with its own pollen; and the writer in one case attributed the favourable result to the temperature of the house having been raised from 5° to 10° Fahr. above the former temperature, after the flowers were fertilised.⁷⁹ With respect to *P. laurifolia*, a cultivator of much experience has recently remarked⁸⁰ that the flowers "must be fertilised with the pollen of *P. cœrulea*, or of some other common kind, as their own pollen will not fertilise them." But the fullest details on this subject have been given by Messrs. Scott and Robertson Munro:⁸¹ plants of *Passiflora racemosa*, *cœrulea*, and *alata* flowered profusely during many years in the Botanic Gardens of Edinburgh, and, though repeatedly fertilised with their own pollen, never produced any seed; yet this occurred at once with all three species when they were crossed together in various ways. In the case of *P. cœrulea* three plants, two of which grew in the Botanic Gardens, were all rendered fertile, merely by impregnating each with pollen of one of the others. The same result was attained in the same manner with *P. alata*, but with only one plant out of three. As so many self-sterile species of *Passiflora* have been mentioned, it should be stated that the flowers of the annual *P. gracilis* are nearly as fertile with their own pollen as with that from a distinct plant; thus sixteen flowers spontaneously self-fertilised produced fruit, each containing on an average 21·3 seed, whilst fruit from fourteen crossed flowers contained 24·1 seed.

Returning to *P. alata*, I have received (1866) some interesting details from Mr. Robertson Munro. Three plants, including one in England, have already been mentioned which were inveterately self-sterile, and Mr. Munro informs me of several others which, after repeated trials during many years, have been found in the same predicament. At some other places, however, this species fruits readily when fertilised with its own pollen. At Taymouth Castle there is a plant which was formerly grafted by Mr. Donaldson on a distinct species, name unknown, and ever since the operation it has produced fruit in abundance by its own pollen; so that this small and unnatural change in the state of this plant has restored its self-fertility! Some of the seedlings from the Taymouth Castle plant were found to be not only sterile with their own pollen, but with each other's pollen, and with the pollen of distinct species. Pollen from the Taymouth plant failed to fertilise certain plants of the same species, but was successful on one plant in the Edinburgh Botanic Gardens. Seedlings were raised from this latter union, and some of their flowers were fertilised by Mr. Munro with their own pollen; but they were found to be as self-impotent as the mother-plant had always proved, except when fertilised by the grafted

⁷⁹ 'Gard. Chron.,' 1868, p. 1341.

⁸⁰ 'Gardener's Chron.,' 1866, p. 1068.

⁸¹ 'Journal of Proc. of Linn. Soc.,'

vol. viii., 1864, p. 1168. Mr. Robertson Munro, in 'Trans. Bot. Soc.' of Edinburgh, vol. ix. p. 399.