

Taymouth plant, and except, as we shall see, when fertilised by her own seedlings. For Mr. Munro fertilised eighteen flowers on the self-impotent mother-plant with pollen from these her own self-impotent seedlings, and obtained, remarkable as the fact is, eighteen fine capsules full of excellent seed! I have met with no case in regard to plants which shows so well as this of *P. alata*, on what small and mysterious causes complete fertility or complete sterility depends.

The facts hitherto given relate to the much-lesened or completely destroyed fertility of pure species when impregnated with their own pollen, in comparison with their fertility when impregnated by distinct individuals or distinct species; but closely analogous facts have been observed with hybrids.

Herbert states⁸² that having in flower at the same time nine hybrid *Hippeastrums*, of complicated origin, descended from several species, he found that "almost every flower touched with pollen from another cross produced seed abundantly, and those which were touched with their own pollen either failed entirely, or formed slowly a pod of inferior size, with fewer seeds." In the 'Horticultural Journal' he adds that "the admission of the pollen of another cross-bred *Hippeastrum* (however complicated the cross) to any one flower of the number, is almost sure to check the fructification of the others." In a letter written to me in 1839, Dr. Herbert says that he had already tried these experiments during five consecutive years, and he subsequently repeated them, with the same invariable result. He was thus led to make an analogous trial on a pure species, namely, on the *Hippeastrum aulicum*, which he had lately imported from Brazil: this bulb produced four flowers, three of which were fertilised by their own pollen, and the fourth by the pollen of a triple cross between *H. bulbosum*, *reginæ*, and *vittatum*; the result was, that "the ovaries of the three first flowers soon ceased to grow, and after a few days perished entirely: whereas the pod impregnated by the hybrid made vigorous and rapid progress to maturity, and bore good seed, which vegetated freely." This is, indeed, as Herbert remarks, "a strange truth," but not so strange as it then appeared.

As a confirmation of these statements, I may add that Mr. M. Mayes,⁸³ after much experience in crossing the species of *Amaryllis* (*Hippeastrum*), says, "neither the species nor the hybrids will, we are well aware, produce seed so abundantly from their own pollen as from that of others." So, again, Mr. Bidwell, in New

⁸² 'Amaryllidaceæ,' 1837, p. 371; 'Journal of Hort. Soc.,' vol. ii., 1847, p. 19.

⁸³ Loudon's 'Gardener's Magazine,' vol. xi., 1835, p. 260.