

NOTE ON THE INHERITANCE OF HETEROSTYLISM
IN *PRIMULA ACAULIS* JACQ.

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THE experiments with the wild Primrose, which it is the purpose of this note to record, were begun by Mr. Bateson and the writer concurrently with our experiments on *Primula sinensis*¹. The results obtained in the two species are exactly similar; the inheritance of the characters of short and long style is of a simple Mendelian type, the short style being dominant, the long style recessive.

The two forms of the wild Primrose are about equally numerous in nature². Among the wild plants used for experiment were nine short-styled plants, all of which proved to be heterozygous. Darwin³ found the "illegitimate" mating *short-style* × *short-style* to be relatively even less fertile in the Primrose than it is in *P. sinensis*; my experiments have given a similar result, and from numerous matings of this kind only five families have been obtained⁴. Two of these families were the offspring of wild plants; they consisted of 13 short-styled, 4 long-styled plants. Of these 13 short-styled plants, only two produced any offspring; one of them shewed itself to be heterozygous, giving 11 short-

¹ Bateson and Gregory, *Roy. Soc. Proc.*, B. Vol. LXXVI. p. 581, 1905; Gregory, *Journal of Genetics*, Vol. I. p. 73, 1911.

² Darwin, *Forms of Flowers*, p. 34. I have counted the two forms in several localities where the plant grows wild, without finding any significant departure from equality of numbers.

³ *L.c.*, p. 37.

⁴ The plants used for experiment were grown out-of-doors, in pots covered with muslin bags, so that flowers which had been operated upon were exposed to the weather at a time of year when frosts are common. As a consequence a great number of the experiments were unsuccessful, and the whole of the crosses made in 1905, and again those made in 1907, were lost.

style and 4 long-style when self-fertilized, and 9 short-style, 11 long-style, when crossed by the recessive. The other short-styled plant, when crossed by long-style, gave 4 short-style, 0 long-style; other experiments with this plant failed, so that it remains doubtful whether it was pure or heterozygous. It was the only short-styled plant, from which seeds were obtained, which was not definitely shewn to be heterozygous. Altogether, the heterozygous short-styled plants, self-fertilized, gave 39 short-style, 13 long-style. The crosses of heterozygous short-style ♀ × long-style ♂ gave 119 short, 138 long; the reciprocal crosses gave 110 short, 96 long; or a total, for the matings in both forms, of 229 short, 234 long. The results of my experiments are shewn in tabular form below.

Form of Mating	Number of Families	Short-style	Long-style	Expectation
Long × Long	21	0	199	All Long
Short × Short (heterozygous) ...	5	39	13	3D : 1R
Heterozygous Short ♀ × Long ♂	17	119	138	1D : 1R
Long ♀ × Heterozygous Short ♂	15	110	96	1D : 1R