A NOTE ON FERTILE SEED PRODUCTION BY *HYPERICUM CALYCINUM*

By EDWARD J. SALISBURY

Croindene, Strandway, Felpham, Bognor Regis, Sussex.

In a previous communication dealing with seed production and self-incompatibility of *Hypericum calycinum* (Salisbury 1963), data based upon the examination of 132 fruits were furnished which indicated an average of about fourteen fertile seeds in each capsule of this species when grown in a favourable locality. The range exhibited was from 0 to 37. Since it is known that self-incompatibility may manifest itself by a retarded rate of growth of the pollen-tubes, it was suggested (Salisbury 1963) that the proportion of fertile seeds in this normally self-incompatible species might largely depend upon the temperatures during the period of pollen-tube development. The exceptional warmth of the July temperature of 1967, after *H. calycinum* came into full bloom, afforded an opportunity of testing this hypothesis.

Capsules were therefore collected from the same plants that provided the source of the sample of 132 capsules previously examined. The location was a slope with a southern aspect. Twenty-five capsules were dissected and these yielded the following numbers of fertile seeds:

5, 16 (three examples), 19, 21, 23, 25, 28 (two examples), 29, 30 (three examples), 32, 33, 34 (two examples), 36, 39, 40, 48, 49, 50, 54.

Thus the twenty-five fruits yielded a total of 765 fertile seeds, or an average of 30·6 (standard error of mean 2·3). This compares with an average of 13·8 fertile seeds per capsule (standard error of mean 0·7) in 1962 when the temperatures at the time of pollination were lower. Furthermore the 1962 fruits exhibited a definite mode between 8 and 12 'good' seeds per capsule, whilst the 1967 fruits though only twenty-five in number exhibit a definite grouping around 30 'good' seeds.

Temperatures subsequent to pollination would then appear to be an important factor in determining the proportion of fertile seeds produced by this species. It may also be noted that the partially developed seeds to which attention was previously drawn also exhibited a significant increase compared with the 1962 sample.

In the previous paper attention was also drawn to the remarkable absence, despite careful searching, of records of seedlings from the neighbourhood of colonies of this species. An appeal made to horticulturists for observations on seedling production emphasized their rarity, but in two locations a very few seedlings were found, in both areas on cultivated loose soil adjacent to a colony where it may well be that shed seeds found immediate concealment. The seeds are oily and, both in appearance and size, resemble ants' eggs. One correspondent actually observed Tits (*Parus*) feeding upon the seeds, so that the usual absence of seedlings is most probably the result of predators upon a seed-crop that is perhaps less than one-fiftieth of what the species would produce in its native land.

REFERENCE

SALISBURY, E. J. (1963). Fertile seed production and self-incompatibility of *Hypericum calycinum* in England. *Watsonia* **5**, 368–376.