(a) that it is the result of homology between the genome of *S. fimbriata* and a genome of an allotetraploid parent (*S. bocconii* or *S. rupicola* according to the hybrid). This would indicate that *S. fimbriata* is sufficiently closely related to one of the diploid ancestors of the allotetraploid for pairing of chromosomes to occur.

(b) *S. bocconii* and *S. rupicola* are not allopolyploids but are autopolyploids or segmental allopolyploids and the pairing observed in the hybrid is amongst the chromosomes donated by the tetraploid parent with the genome of *S. fimbriata* failing to pair.—J. A. Ratter.

THE DISTRIBUTION OF THE TWO SPECIES OF *CHRYSOSPLENIUM* IN S.E. ENGLAND

Chrysosplenium oppositifolium L. occurs very widely and abundantly in the Weald of Kent, Sussex and Surrey (about 500 localities are known) wherever certain physical conditions are satisfied—namely, where well-oxygenated, usually moving, water and shade occur. Where springs or spring lines are found in the Weald this species is almost certain to grow, irrespective of the chemical nature of the waters. Thus, it is found both in highly calcareous and in somewhat acid, base-poor waters.

North of the Thames, owing to geological factors, such conditions are more local, and only some 40 localities are known between Reading on the west and Ipswich on the east, concentrated on the spring lines at the junctions of various gravelly and clayey strata.

C. alternifolium L. appears to require similar physical conditions to *C. oppositifolium*, and in nearly all its stations *C. oppositifolium* occurs as well. It is, however, much more restricted in distribution, and as far is at present known only occurs in springs or by streams fed from the following strata:—1. The Thanet Sands of north-east Kent: 2. The Bargate Beds of west Surrey, east Hampshire and west Sussex: 3. The Kentish Ragstone of Kent and east Surrey: 4. The Red Crag of north-east Essex and south-east Suffolk. These strata all yield alkaline waters, fairly rich in calcium, but also in other minerals. Thus it appears likely that chemical factors play a part in determining the distribution of *C. alternifolium*, at least in south-east England.

Experimental work is in progress with the object of trying to determine what chemical factors, if any, may be responsible. Work is being undertaken on the following lines:—1. Accurate analysis of soil waters for all ions and other dissolved substances from as many localities as possible for both species in south-east England, in order to build a picture of the range of chemical composition of the waters in which each species occurs in nature: 2. Measurements of growth of plants of each species in various artificial media of composition based on the findings of the analytical work.

Specimens and distribution maps were exhibited.

Details of localities for either species north of the Thames are urgently requested.—F. Rose and Miss P. A. Hitch.

COLOUR PHOTOGRAPHS OF BRITISH ORCHIDS

Colour transparencies were shown of *Himantoglossum hircinum* (L.) Spreng., *Orchis militaris* L., *O. simia* Lam., *Dactylorchis incarnata* (L.) Vermeul., *Cephalanthera rubra* (L.) Rich. and *Epipogium aphyllum* Sw., all photographed in British stations.—Mrs. B. H. S. Russell.

AN INTERSPECIFIC HYBRID IN EUROPEAN *CALLITRICHE*

The only naturally occurring hybrid population of *Callitriche* found during the past three years of investigation on the genus was at Hillerød, Sjælland, Denmark. A vigorous growth of *Callitriche* was found in a number of ditches in the grounds of Frederiksborg Castle, 30 km. north of København, during August 1957. The plants were between 15 and 35 cm. in length and much branched. The leaves were mainly elliptical and the stamens were between 3 and 5 mm. long. Preparations of pollen from several hundred anthers showed that the pollen was completely abortive. A careful search was made for female flowers; but without success.

Meiosis in pollen mother cells showed, during the first division stage, one quadrivalent, three bivalents and five univalents, the latter being scattered throughout the cell. In addition most pollen mother cells had either one or two chromatic bodies. At first and second anaphase there was an unequal separation of the chromosome into each of the daughter cells.

It would appear that vegetative propagation was the only means of survival of the population as the plants failed to form fruits.

It is impossible to be sure of the parents of the Hillerød hybrid but from circumstantial evidence it would appear that they were *C. platycarpa* Kütz. and *C. polymorpha* Lönnr., both of which occur in the vicinity of the hybrid population. The parents must have been diploid ($2n=10$) and tetraploid ($2n=20$), since cytological investigation of the hybrid shows it to be a triploid with 15 chromosomes. Of the two diploid species in Denmark, *C. polymorpha* and *C. stagnalis* Scop., it is obvious that the hybrid is related to the former and not the latter and while the hybrid resembles *C. platycarpa* it is quite different from the other tetraploid species, *C. palustris* L.—J. P. Savidge.

COLOUR PHOTOGRAPHS OF BRITISH PLANTS

40 colour slides of British plants were displayed in an illuminated exhibition box.—P. G. Sheasby.

TWO UNUSUAL HYBRIDS FROM IRELAND

Specimens of *Sonchus asper* × *oleraceus* from North Kerry and *Pinguicula grandiflora* × *vulgaris* from West Donegal were shown.—N. D. Simpson.

JUNCUS BUFONIUS SUBSP. *FOLIOSUS*

Specimens were exhibited of *Juncus bufonius* subsp. *foliosus* (Desf.) Maire & Weiller from West Cork and South Kerry. New to the British list it is also a native of the Mediterranean countries.—N. D. Simpson and S. M. Walters.