types of mating : (1) both snow birds ; (2) both blue birds ; (3) one snow and one blue bird in a random sample of 520 breeding pairs from the Boas River population in 1952.

The χ^2 value for the deviations from expected is very large, 133·45, which for 3 degrees of freedom indicates a probability of less than one in a thousand of obtaining such a result by chance alone.

This is strong evidence for the existence of positive assortative mating in mixed populations and this is in agreement with earlier work[5,6].

In our study, however, the reciprocal matings snow × blue and blue × snow were distinguished. Table 2 shows for the 83 mixed pairs the observed and expected distribution.

Table 2. OBSERVED AND EXPECTED DISTRIBUTION OF THE TWO RECIPROCAL TYPES OF MIXED MATING IN A MIXED BLUE AND SNOW GOOSE POPULATION

Type of mating	Snow (♀) and blue (♂)	Blue (♀) and snow (♂)	Total
Observed	54	29	83
Expected	41·5	41·5	83

The χ^2 value for the deviations in this case is 7·52 for 1 degree of freedom. The probability that this is the result of chance alone is less than one in a hundred. We may feel, therefore, confident that the incidence of the two reciprocal matings is really different in this, and presumably in other mixed populations, and it is of some evolutionary interest to speculate as to possible reasons for this. One reason may be that the sex ratio is different in the two phases. There are no indications that this is in fact true, but a sex ratio disturbed in the direction of relative female preponderance in snow geese and in the direction of relatively more males in the blue geese might give the effect observed.

A more likely hypothesis is that the mechanism governing resistance to unlike-mate choice more readily breaks down in one type of pair formation than in the other. This might involve different levels of receptivity on the part of the two female types, different levels of sexual drive on the part of the two male types or both. Only a study of the long-term dynamics of the mating barrier would tell us what factors are involved, but from other evidence it is possible to infer what might be happening. The frequency of the blue phase is increasing in all known mixed populations and more populations are becoming mixed ; in the Darwinian struggle for existence it seems that the snow phase is losing to the blue and what is observed at present is a transient polymorphism (which may, of course, later become balanced).

Among other things one component of the selective advantage enjoyed by the blue phase may be sexual in that blue males find it easier to obtain an unlike mate than do snow males. The situation is complicated by the fact that the majority of blue birds involved in mixed matings are white-bellied (that is, heterozygous at the principal genetic locus governing difference in colour). This then implies that hybrid males may mate more easily than pure blue males, and in an evolutionary sense this might be a factor in promoting a balanced polymorphic system in the species-complex but equilibrium is so far from being attained than further speculation upon this point seems unwarranted.

Whatever the mechanism underlying the reciprocal mating difference, it is clear that it depends upon factors other than those which are responsible for assortative mating as such, although this is in itself a matter of considerable interest. Further study should show how far mating preference is a result of family structure[4], imprinting[7], pleiotropy of colour genes or more complex genetic systems, and will, it is hoped, contribute towards a better understanding of the taxonomic problem.

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Hæmoglobin and the Habitat of the Harpacticoid Copepod *Elaphoidella gracilis* (Sars)

HÆMOGLOBIN has only recently been found in free-living copepods. Munro Fox[1] found that certain mud-dwelling harpacticoids contained this respiratory pigment, while allied species living in moss or open water lacked it. The correlation between hæmoglobin and habitat can now be extended by the discovery of hæmoglobin in *Elaphoidella gracilis*, a species which inhabits burrows in decaying aquatic vegetation. The red pigment in this species is easily visible under the microscope, and its identity was established spectroscopically.

Elaphoidella gracilis is not very often recorded because of its burrowing habits. Gurney[2], writing of its seasonal occurrence, says "the capture of it is so capricious that nothing certain is known". Donner[3] regards it as a summer form, but I have found this species to be present and active in the Long Water at Hampton Court throughout the whole of the last winter.

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Role of the Supra-œsophageal Ganglion during the Early Stages of Caudal Regeneration in Some Errant Polychætes

THE importance of the nervous system in annelid regeneration has been realized for some years[1], and it has emerged that, at least in lumbricid oligochætes and nereid polychætes, the supra-œsophageal ganglion secretes hormones that are essential for regeneration[2-4]. Durchon[3] showed that if the supra-œsophageal ganglion of three species of nereid is removed regeneration is retarded. Hubl[4] discovered that, in lumbricids, extirpation of the supra-œsophageal ganglion at the same time as a number of posterior segments is removed totally inhibits