burst, would require that the distribution of the above mentioned frequencies be of the Poisson rather than the binomial type, and this was not supported by the observations.

An increase of barometric pressure brings about a decrease of q with n remaining constant, and this is in line with Swann's hypothesis[2].

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[1] *Phys. Rev.*, **48**, 786 (1935).
[2] *Phys. Rev.*, **46**, 828 (1934).

Are Hymenoptera Tetraploid ?

A RECENT communication[1] has suggested that among Hymenoptera Symphyta males may be diploid, females tetraploid. It was further suggested that this characteristic might help to explain the phenomena of pre-conjugation as seen in *Apis* and *Cynips kollari*.

More light on the problem may be obtained by taking into consideration available genetic data. If the queen bee is a true tetraploid, one heterozygous for a given recessive factor might be designated *AAaa* and would be expected to produce impaternate diploid drones, an excessive number of which would show the dominant character (the exact ratio of dominants to recessives would rest upon the peculiarities of tetrad or octad formation). However, if the queen bee is diploid and heterozygous for a recessive factor, she would be designated *Aa* and would be expected to produce impaternate haploid drones, equal numbers of which would show the dominant or the recessive character.

Dzierzon, in 1854 (eleven years before Mendel's paper), stated that male offspring from a hybrid queen bee resembled one or the other parental race, the two types appearing in equal numbers. Newell[2] reports that hybrid queens resulting from crosses of yellow Italian and non-yellow Carniolan are themselves yellow and indistinguishable from the Italian parental stock, but "produce both Italian and Carniolan drones, produce them in equal numbers, and do not produce any other kind". A clearer demonstration of this genetic segregation is given by Michailoff[3]. A black-eyed bee, the mother of which was known to have produced white-eyed drones, herself produced a total of 811 white-eyed drones and 806 black-eyed. A black-eyed daughter of this queen, mated to a white-eyed drone, produced 191 white-eyed, 191 black-eyed females and 8 white-eyed, 11 black-eyed drones.

The same method of inheritance has been amply demonstrated by Whiting and his associates in the braconid, *Habrobracon*, for more than 100 mutant genes. Here females show 20 gonial chromosomes, males 10, and the possibility of a diploid–tetraploid condition is made improbable by the presence of one very small chromosome in the male, two in the female, as shown by Torvik-Greb[4] and verified by me. Moreover, recessive mutations in this species have so often been found in but a single male of a fraternity as to indicate that such mutations occurred shortly before maturation of the egg and were made visible by reason of the haploid condition of the offspring.

Also of interest in connexion with this problem is the fact that diploid males, which are occasionally produced in *Habrobracon* from fertilised eggs, show no synapsis of homologues during spermatogenesis and, behaving like haploid males, exhibit an abortive reduction division, resulting in diploid sperm.

Impaternate females likewise may appear in *Habrobracon*; these are diploid, and produce normal haploid sons. Recent cytological work indicates that these females come from unfertilised tetraploid eggs, and by inference, from tetraploid patches in the ovaries of their mothers. If the thelytokous mothers are heterozygous for any recessive factor, the impaternate daughters appear in the ratio of 3 dominants to 1 recessive[5], thus fitting the expectation for diploid progeny from tetraploid gonads.

Thus, although tetraploidy may be a characteristic of lower Hymenoptera, it is unlikely that this condition is normal among representative species of Apocrita. In all cases, genetic evidence would be desirable to back up the cytological findings, since by this means tetraploidy is readily demonstrable.

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[1] F. Greenshields, NATURE, **137**, 662 (1936).
[2] W. Newell, *Science*, **41**, 218 (1915).
[3] A. Michailoff, *Z. I. A. V.*, **59**, 190 (1931).
[4] M. Torvik-Greb, *Biol. Bull.*, **68**, 25 (1935).
[5] K. Speicher, *Biol. Bull.*, **67**, 277 (1934).

Bones of a Whale from the Wieringermeer, Zuider Zee

IN 1935, the hind part of a skull, two lower jaws and other bones of a juvenile whale were found in the soil of the Wieringermeer, a reclaimed part of the Zuider Zee. Dr. van Deinse and I came to the conclusion that these bones must have belonged to a young specimen of *Rhachianectes glaucus*. Close comparison of the bones with a skeleton of *R. glaucus* in the British Museum (Natural History) proved that our conclusion was a correct one. Mr. M. A. C. Hinton and Mr. F. C. Fraser are also convinced that our identification is right.

Nearly as interesting, however, is the fact that there are earlier records of this whale in Europe which seem to have been overlooked until now. As a matter of fact, the name *Rhachianectes glaucus* auct. must be changed to *Eschrichtius gibbosus* (Erxl.). Van Deinse and I propose to publish a detailed paper with full synonymy in the journal *Temminckia* in the beginning of 1937.

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Immunological Detection of the *Y*-Chromosome in *Drosophila melanogaster*

THE general aim of this line of research is to detect hereditary substances in man and animals by means of immunological methods. We began with experiments on the *Y*-chromosome.

An intensely inbred stock of *Drosophila melanogaster* (Florida) was used. Rabbits were immunised, some by means of a gruel extract obtained from crushed male flies of this stock, and some by means of a similar extract obtained from the virgin females. Serum from the first group of rabbits was adsorbed

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