

also phylogenetically divided into two sub-genera—one containing the glossy and the other the mat petalled species.

Marsden-Jones and Turrill are collaborating in a genetical study of this genus, and last year they published a preliminary account of their results with the two common buttercups, *Ranunculus acris* and *R. bulbosus* (*Jour. of Genetics*, 21, abstract in *NATURE*, 124, p. 928). One of the most interesting points connected with these species is the occurrence of plants functionally only female. Reference to these was made in the correspondence columns of *NATURE* last year (123, pp. 568, 798, and 911).

A Japanese botanist, M. Kumazawa, has this year published the results of his morphological and anatomical study of the species of *Ranunculus* occurring in his own country (*Jour. Faculty of Science*, Univ. Tokyo, Botany 2, pt. 3). The island empire of Japan is sometimes regarded as the eastern counterpart of the British kingdom, and in keeping with this it so happens that the number of species (sixteen) found there is about equal to the number usually recognised in Britain. Furthermore, as in the British flora, the only species that have not yellow and glossy petals are white water buttercups.

Two endemic species present interesting vegetative features. *Ranunculus Zuccarini* has root tubers suggestive of those of the Lesser Celandine (*R. Ficaria*). *Ranunculus flagellifolius* has filiform leaves monocotyledonous in appearance. Evidence is brought forward to show that these foliar organs have evolved through the transformation of the whole of an ordinary leaf and are not merely modified leaf stalks (phyllodes).

The main part of the paper is taken up with vascular anatomy. Interesting points in connexion with the endodermis are described. There is a marked tendency in the stem to closed bundles of the monocotyledonous type.

From the morphological and anatomical point of view *Ranunculus sceleratus*, a widely distributed species and fairly common in Britain, is regarded probably as one of the most primitive members of the genus.

### Autumn-sown Cereals.

THE choice of a good variety of cereal may make a difference of more than twenty per cent in a farmer's returns, and yet the crop will cost him no more to grow. For this reason the National Institute of Agricultural Botany, Cambridge, has issued a number of recommendations, based on careful trials at a number of stations, as to varieties of cereals suitable for autumn sowing. These do not necessarily apply to the north of England, but may be accepted with confidence in other districts.

The reaction of different varieties of wheat to diseases such as foot-rot or whiteheads is as yet far from complete, but there is no reason to believe that any one variety is markedly more resistant or susceptible to them than another. As regards winter hardiness, it should be borne in mind that other factors besides frost resistance are important in England, and that on the whole, Scandinavian and Dutch wheats are less adapted to our conditions than such a variety as *Squarehead's Master*. The value of change of seed is still a vexed question, but there seems no evidence (given equal purity and germination) that foreign-grown seed is preferable to stocks of the same variety grown in England.

*Wilhelmina* or *Victor* are the most trustworthy high-yielding varieties on soils in good condition; *Yeoman* or *Yeoman II* possess unique bread-making quality

and are the varieties to grow on the richest soils or under intensive manuring; *Little Joss* should be chosen for the lighter wheat soils, particularly in Norfolk, or where fertility is low; *Iron III*, though less trustworthy than *Wilhelmina* and apt to develop rust, like *Weibull's Standard*, finds a place on heavy soils. *Rivett*, or *Blue Cone*, probably outyields all other varieties on heavy soils in the south of England, and *Squarehead's Master* stands by itself in its adaptability to all sorts of conditions and the regularity with which it gives a certain crop.

*Grey Winter* is the only really trustworthy variety of oats, but its weak straw is a serious disadvantage. If strength of straw is an essential point, black-grained *Bountiful* is suggested. There is no winter-hardy white oat on the market. As regards barley, the ordinary six-row winter variety gives a satisfactory crop, but the grain is not of malting quality. However, although none of the malting barleys are winter-hardy, *Plumage Archer* and *Spratt Archer* can usually be grown successfully, if exposed situations and badly drained soil are avoided, and when autumn-sown, out-yield similar spring-sown crops. Anyone wishing for fuller particulars is advised to write to the National Institute of Agricultural Botany at Cambridge.

### University and Educational Intelligence.

BIRMINGHAM.—The celebration of the jubilee of Mason College and the thirtieth anniversary of the granting of a charter to the University commenced on Oct. 13. The Chancellor, the Viscount Cecil of Chelwood, in the course of his address, referred to the foundation in 1880, by Sir Josiah Mason, of Mason College as a college of science and technical knowledge for Birmingham, at a cost of £200,000. The College became the University in 1900, and the first principal was Sir Oliver Lodge, who was present at the celebrations. The honorary degree of doctor of laws was conferred on the following, among others: Sir Henry Hadow, Sir William Hardy, Sir Thomas Lewis, and Dr. F. E. Smith.

CAMBRIDGE.—At Trinity College, J. W. Brunyate, L. H. Gray, and R. E. A. C. Paley have been elected to fellowships. At Corpus Christi College, Dr. G. S. Carter, formerly lecturer in zoology in the University of Glasgow, has been elected to a fellowship.

The John Winbolt Prize has been awarded to S. Steele, of Christ's College, for a dissertation on "Chemical Changes in Fuel-air Mixtures in an Internal Combustion Engine during Compression".

LONDON.—Two courses of advanced lectures have been arranged in the Faculty of Engineering at King's College. Mr. T. G. Rose is giving three lectures on "Management", on Tuesdays, beginning Oct. 21; and Col. C. H. Bressey, Chief Engineer, Roads Department, Ministry of Transport, will deliver three lectures on "Modern Road Construction", on Tuesdays, beginning Nov. 11. Particulars can be obtained from the College.

MANCHESTER.—The Council has accepted with regret the resignation of Prof. O. T. Jones, who has held the chair of geology and the directorship of the Geological Laboratories since 1919. Prof. Jones has been elected to the Woodwardian chair of geology in the University of Cambridge, and will vacate his Manchester appointment in December. The Council has also accepted the resignations of Dr. John Walton, senior lecturer in botany, who has been elected to the Regius chair of botany in the University of Glasgow, and of Mr. L. J. F. Brimble, lecturer in botany.

Dr. J. H. Frazer (Johns Hopkins) has been appointed lecturer in mathematical physics.

ST. ANDREWS.—At the graduation ceremonial on Oct. 10, the honorary degree of LL.D. was conferred upon J. A. C. Kynoch, emeritus professor of midwifery, University College, Dundee.

APPLICATIONS are invited by the Zoological Society of London for an aquarium research fellowship for three years, of the annual value of £350. The successful applicant will be expected to do research in connexion with aquatic life, principally in the laboratory attached to the Society's aquarium, under the general advice of some naturalist appointed by the committee, and to report quarterly to the committee on the progress of the research. Applications should be addressed to Sir Peter Chalmers Mitchell, Zoological Society, Regent's Park, N.W.8, and received on or before Nov. 3.

An arrangement has existed for the past six years whereby, when a candidate for a Higher National Certificate in Mechanical Engineering at the termination of an advanced course includes a specialised automobile engineering subject in his final examination, the signature of the president of the Institution of Automobile Engineers can be added to any certificate awarded. This arrangement has now been extended to ordinary certificates awarded at the termination of senior part-time courses. Applications should be addressed in the first instance to the Board of Education.

THE following research fellowships are open to members of the British Federation of University Women:—A Senior International Fellowship (offered by the International Federation of University Women), value £250; an American International Fellowship (offered by the American Association of University Women), value approximately £300; a Caroline Spurgeon International Scholarship in Arts (offered by the Directors of the Crosby Hall Association), value £100 a year for two years; an International Residential Scholarship at Crosby Hall (offered by the British Federation of University Women), value £100; and a German International Fellowship (offered by the German Federation of University Women), value approximately £100. Application forms and regulations are obtainable from the Secretary, British Federation of University Women, Crosby Hall, Cheyne Walk, S.W.3.

FOR the tenth year in succession, Trinity College, Cambridge, announces the offer of a Research Studentship open to graduates of other universities who propose to go to Cambridge in October next as candidates for the degree of Ph.D. The value of the Studentship may be as much as £300 a year if the pecuniary circumstances of the successful candidate require so large a sum. Applications must reach the Senior Tutor not later than July 1, 1931. The same College offers, as usual, Dominion and Colonial Exhibitions to students of Dominion and Colonial universities. These Exhibitions are of the titular value of £40, but their actual value is such sum (if any) not exceeding the titular value as the College Council may from time to time hold to be justified by the exhibitor's financial circumstances, and the Council has power, if it sees fit and if funds are available, to award an additional payment. Candidates must apply through the principal authority of their university, and applications should reach the Senior Tutor (from whom further particulars may be obtained) by July 1, 1931.

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### Historic Natural Events.

Oct. 19, 1800. Hailstorm in Bedfordshire.—During a violent thunderstorm in Bedfordshire, hailstones fell, shaped like oblate spheroids, six to nine inches in circumference.

Oct. 19, 1917. Unexpected Upper Winds.—A fleet of thirteen Zeppelin airships attacked London on Oct. 19 in weather conditions which appeared settled. Owing to the unexpected development of a barometric depression, however, a very strong cold north-east wind sprang up at some height above the ground. Fog and cloud prevented the raiders from determining their position, and they were carried southward over France, where they were discovered. The motors being handicapped by the intense cold, the greater part of the Zeppelin fleet was destroyed.

Oct. 20, 1743. Hurricane at Port Royal.—A furious hurricane began at 6 P.M. at Port Royal, Jamaica. Many houses were blown down, but most of the damage was done by the sea, which rose many feet and destroyed all the wharves, while the streets were several feet under water. Out of 105 ships in the harbour only one rode out the storm, and a great number of marines were drowned. The hurricane was followed by a pestilence which caused still greater loss of life.

Oct. 22–25, 1805. Trafalgar Gales.—After the battle of Trafalgar violent south-westerly gales blew on the south-west coast of Spain, and it proved impossible to get the majority of the captured French and Spanish ships into Gibraltar.

Oct. 23–24, 1924. Typhoon off Coast of Annam.—A typhoon of exceptional violence, accompanied by torrential rains and a storm wave, travelled along the coast of Annam, causing floods, loss of harvests, and great damage to buildings, roads, bridges, railways, and telegraph lines. The regions which suffered most were the provinces of Kinhoa and Song Ba.

Oct. 24, 1847. Aurora Borealis.—A brilliant display was observed from London on the night of Oct. 24–25. As described by J. Glaisher, it began with a bright red streamer in the north-west at 6.30 P.M., but was not well developed until 9.55 P.M., when a pyramid of red and orange light appeared in the north-west, 5° in diameter at the base, and resembling the glow from an immense conflagration. At 10 P.M. this had become deep crimson, and a similar one had formed to the east-north-east, these two pyramids forming the boundaries of a fan-shaped mass of vibrating silvery columns converging to a point a few degrees south of the zenith. About 10.20 P.M. the moon, which had been shining from a cloudless sky, was suddenly surrounded for a few minutes by a fine corona, with concentric circles of grey, violet, green, and red. Soon after 11.15 a bright arch appeared extending from north-west to south-east, with flickering streamers both above it and below it. This continued until 1 A.M. There were magnetic disturbances at Greenwich on Oct. 22 and 24.

Oct. 25, 1665. Gale in London.—There was a violent gale in London with much rain. It is stated in the *Philosophical Transactions* that during this storm the barometer stood at 28½ in., and that on the evening of Oct. 26 it descended nearly to 27½ in.

Oct. 25, 1859. Royal Charter Storm.—During a terrible storm the *Royal Charter* was wrecked on the coast of Anglesea, with the loss of nearly five hundred lives. This disaster led directly to the establishment of a meteorological service in England and to the issue of gale warnings by Admiral FitzRoy. In the same storm the *Great Eastern* narrowly escaped destruction at Holyhead, while Stephenson's viaduct at Penmaenmawr was carried away, the old Chain Pier at Brighton was destroyed, and great damage was done to the railway on the beach below the cliffs at Dover.