

Polyploidy in *Rumex acetosella* L.

THE species *Rumex acetosella* L. is a weed, which seems to be distributed all over the northern hemisphere. It has been investigated cytologically by Roth¹, who counted the chromosome number $n = 16$ ($2n = 32$), and later, among others, by Meurman², Kihara³, and Jensen⁴, who all found the number to be hexaploid or $2n = 42$.

Last summer I examined material of *Rumex acetosella* and its varieties from Sweden and Iceland. In the main species, having rather broad leaves, I also found the hexaploid number $2n = 42$, both in the male and the female individuals. However, in plants belonging to the variety *tenuifolius* A. and Gr. (Ascherson and Graebner⁵), the number proved to be $2n = 28$, or tetraploid. This number was not known before in *Rumex acetosella*, according to Tischler⁶.

The leaves of the tetraploids are narrower than those of the hexaploid forms. In other details the tetraploid variety is also smaller than the main type, and most often shows a prostrate mode of growth. Both the tetraploids and hexaploids are quite normal sexually, and they also seem to have different geographical distribution.

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¹ Roth, F., *Verh. d. nat.-hist. Vereins d. preuss. Rheinl. u. Westf.*, **63** (1906).

² Meurman, O., *Sci. Soc. Fenn. (Biol.)*, **1** (1925).

³ Kihara, H., *Bot. Mag. Tokyo*, **39**, 353-360 (1925); *Jahrb. wiss. Bot.*, **66**, 442-460 (1927); *Jap. J. Genet.*, **4**, 90-101 (1929).

⁴ Jensen, H., *Cytologia*, **7**, 23-34 (1936).

⁵ Ascherson, P., and Graebner, P., "Synops. d. Mitteleur. Flor.", **4** (1908-13).

⁶ Tischler, *Tabulae Biologicae*, **4** (1926), **7** (1931), **11-12** (1935), **16** (1938).

Occurrence of Bismuthinite in Somerset

AT the end of July last year, while examining the material on the waste-heaps of the Langham Hill Mine, one of the group on the Brendon Hills, Somerset, which was worked for iron during the middle and latter half of last century, I noticed small stains and patches of malachite on some of the crystalline chalybite at one end of the main dump. A number of these pieces were collected and, on being broken open, were found to contain small amounts of chalcopyrite, bornite, and occasionally chalcocite, while a few had, in addition, thin veins and patches of a steel-grey metallic mineral scattered through them, in some cases closely intergrown with the copper minerals.

Blowpipe tests on this steel-grey material showed the presence of copper and bismuth, and from its association with the other copper compounds, it was at first taken as possibly being tetrahedrite; recent chemical and X-ray examination, however, by Mr. F. A. Bannister, of the Mineral Department of the British Museum (Natural History), has proved it to be bismuthinite (Bi_2S_3).

The presence of small amounts of copper minerals at one or two of these mines has been previously noted and mentioned, but there is no record of bismuthinite being found on the Brendons before, and it is a somewhat unexpected mineral to come across in this particular district, or, in fact, in Somerset as a whole.

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Points from Foregoing Letters

S. RUSS comments on recent statements by Sir Leonard Hill on the present-day position of radium treatment. He affirms it is not true that this form of treatment is largely carried on because of the vested interests of medical men; the reason for 15,000 patients having been treated in 1938 is that it was considered by responsible medical opinion to be the best treatment available for them.

A. S. EVE also discusses Sir Leonard Hill's communication. He states that in cases of cancer of the uterus radium is frequently preferred to surgery. Inoperable cases of cancer of the throat are improved by radium beam treatment. The relative merits of radium and X-rays require further investigation, and the same is true of X-rays of various wave-lengths. Great Britain requires a radiological institute for the development and investigation of radiation treatment. In the meantime surgery, radium, X-rays all have their spheres of usefulness which overlap one another.

C. S. HANES reports the occurrence in various higher plants of an enzyme which catalyses the reversible conversion of starch into glucose-1-phosphate. The effect of different factors upon the equilibrium is discussed, together with observations on the properties

of specimens of starch synthesized from pure glucose-1-phosphate by the action of this enzyme. A fact of considerable botanical interest is that the synthetic starch is deposited in the form of well-formed grains.

W. E. LE GROS CLARK states that the nerve of the pineal gland (*nervus conarii*) has been identified in human and monkey material. It runs an uninterrupted course from the tip of the pineal gland into the dura mater of the tentorium cerebelli, and then extends backwards in the floor of the straight venous sinus. On its way the nerve traverses a large arachnoid granulation the structure of which is peculiar in that it contains a plexus of sinusoidal blood-vessels. From the position of this granulation it is surmised that it may play an important part in regulating the venous return from the brain through the great vein of Galen.

The isolation of cannabidiol from Egyptian hashish is reported by A. JACOB and A. R. TODD, who find that in respect of its content of this substance and cannabinol the Egyptian drug is intermediate between the American and Indian varieties. A new compound *cannabol*, which is probably a partially hydrogenated cannabinol, has been obtained from Indian hashish.