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Scotch Pine (*Pinus sylvestris*) as a Member of the Iowa Flora

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more fundamental character. When the basidium is considered in the light of Neuhoﬀ's hypo-, epibasidium and Donk's pro-, metabasidium concepts, homologies appear which furnish the basis for a natural arrangement of the class. Such an arrangement follows the general groupings proposed by Patouillard of Hetero- and Autobasidiomycetes and of Hymeniales and Gasteromycetes. The relationships, mutual and within the groups, of Patouillard's divisions receive greater meaning from such a consistent morphological and phylogenetic interpretation.

ON THE SIGNIFICANCE OF THE MINOR VENATION OF FOLIAGE LEAVES

ROBERT B. WYLIE

Experiments with living mesophytic foliage leaves show that the smaller veins are capable of carrying enormously increased overload. There seems to be no structural modification of the minor veins in meeting these increased demands.

DEPARTMENT OF BOTANY,
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SCOTCH PINE (*PINUS SYLVESTRIS*) AS A MEMBER OF THE IOWA FLORA

GUY WEST WILSON

On a recent visit to the southwestern portion of Des Moines county a most interesting discovery was made. Near the county line, but on the Henry county side was formerly a large grove of the Scotch Pine (*Pinus sylvestris* L.). The trees were planted in the early days and have developed into extra large specimens. In fact a large part of the plantation has already found its way to the saw mill. To the northeast in Danville township of Des Moines county is a considerable tract of timber which is not pastured as heavily as is the rule in Iowa at present. Along the small ravines are seedlings of many trees, among them the Scotch pine. These are present in considerable numbers, sufficient to indicate that their presence is not accidental. Probably thirty to forty were seen without special search. These ranged in size from about eight inches in height on up. The largest of these young pines is about four inches in diameter and tall enough to make a sizable christ-

mas tree for a Christmas celebration, being probably ten feet tall. This is the first time the writer has seen any pine showing signs of naturalization in our Iowa forests.

DAVENPORT, IOWA.

INHERITANCE OF FRUIT SHAPES AND SIZES IN THE
PEPPER AND TOMATO

E. W. LINDSTROM

Both *Capsicum* and *Lycopersicum* exhibit the same correlation between fruit shape and fruit size, a correlation which is wholly lacking for the same characters in the Cucurbits. In the pepper both positive and negative correlations of shape and size were discovered in F_2 generations, the sign of the correlation being dependent on the parental combinations. Accordingly the cause for the correlations must be the genetic one of linkage, due to the presence of shape and size genes on the same chromosome, a fact which has already been reported for the tomato. Fruit sizes in both genera exhibit logarithmic rather than additive distributions.

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A VARIANT *QUERCUS ALBA* L.

J. N. MARTIN

In a group of three white oaks on the grounds of the Iowa Sanitarium, one varies considerably from the others and from white oaks in general in character of leaves and fruit and in the color of the bark.

The leaves are similar in shape to those of *Quercus macrocarpa* Michx, but are more downy beneath, resembling the leaves of *Quercus bicolor*, Wild, in this respect. The trunk is a little darker than the other trees otherwise it is of the white oak type.

The fruits are twice or more the size of typical white oak fruits. They approach the acorns of *Quercus rubra* L, in size. They are more obtuse at the apex than typical white oak fruits, and their diameter relative to their length is proportionately greater. In bud and twig features the tree is typical of *Quercus alba*.

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