ABSTRACTS OF THE COMMUNICATIONS, PACIFIC COAST BRANCH.

104 (1036)

Further studies on the occurrence of para-hydroxyphenyl-ethylamine in mistletoes.

By ZENO OSTENBERG (by invitation).

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In continuation of the work carried on in this laboratory on the occurrence of *p*-hydroxyphenyl-ethylamine in a southern mistletoe (*Phoradendron flavescens* Nutt.), it was decided to examine all the species of mistletoe available, and isolate and identify the amines present.

The examination of a commercial fluid extract of European mistletoe (*Viscum album*)[1] showed that a considerable quantity of a mixture of amines was present. From 946 c.c. of the fluid extract there was isolated .660 gram of mixed oxalates of the amines. This yielded .240 gm. of pure *p*-hydroxyphenyl-ethylamine oxalate, m.p. 203°–204° (corr.). The picrate melted at 206° as did that of the picrate of synthetic *p*-hydroxyphenyl-ethylamine. The di-benzoyl derivatives of both the natural and synthetic amine melted at 174° when melted either separately or mixed, provided they were crystallized from hot propyl alcohol (Kahlbaum's), but at 171.5° when crystallized from 50 per cent. propyl or ethyl alcohol. All melting points were made with Anschütz short scale thermometers (tested and found accurate to .2°) in a Roth melting point apparatus, and therefore need no correction and would naturally be somewhat higher than uncorrected readings, but this does not account for the great difference between these melting points and those reported by others. When more material becomes available the reasons for these differences will be carefully investigated.

A platinichloride, isolated from the hydrochlorides of the steam volatile portion of the amines, was heated to 270° when it decomposed without melting. The amount obtained was too small to examine further.

[1] Put up by John Wyeth and Brother, Philadelphia.

For extracting the amines from a sodium carbonate solution free from alcohol, a mixture of 1 part amyl alcohol with 3 parts ether was used, as it is a better solvent than ether alone and does not emulsify like amyl alcohol alone. The amines were recovered by extracting the ether-amyl alcohol mixture with dilute H_2SO_4.

From the fresh plants of *Phoradendron flavescens*, var. *macrophylla* and *Phoradendron californicum* (obtained through the courtesy of Prof. J. J. Thornber, University of Arizona) no amines, precipitable by oxalic acid from ether solution, were obtained. However, they will be examined further.

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On the mechanism of the anaphylactic reaction in smooth muscle. (Preliminary communication.)

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If the uterus of a sensitized guinea-pig is rendered bloodless by transfusing it with Locke's solution, the sensitiveness of the uterine muscle to the foreign proteid is increased.

If the muscle is further freed from tissue lymph and from other diffusible tissue elements by repeated centrifugation in Locke's solution, the sensitiveness is greatly decreased.

If the serum and diffusible tissue elements thus removed are replaced in the muscle by repeatedly centrifuging the muscle in dilute normal guinea-pig serum, the sensitiveness is restored quantitatively.

This would seem to indicate that the reaction of the anaphylactic uterine muscle is dependent upon two factors: (*a*) a factor induced in the fixed cells by the process of sensitization, and (*b*) some normal serum component. It would also indicate the presence of a third element, (*c*) an antitoxic or anti-anaphylactic serum component.