in twelve specimens of canned and two of chilled salmon flesh.

While the upper values quoted by Fixsen and Roscoe certainly seem beyond the range reported by most investigators, my own experience does not support the view of Pyke and Wright that canned salmon is quite devoid of vitamin A. In four specimens purchased locally, I have found 5, 120, 120 and 150 I.U. of vitamin A per 100 gm. of flesh by the antimony trichloride method, applied to the unsaponifiable fraction. These results agree with the findings of most previous workers that canned salmon contains small but appreciable amounts of vitamin A.

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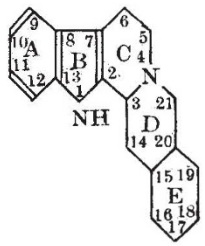
[1] Pyke, M., and Wright, M. D., NATURE, **147**, 267 (1941).
[2] Fixsen, M. A. B., and Roscoe, M. H., *Nutrit. Abstr. Rev.*, **7**, 823 (1937–38); **9**, 795 (1939–40).

Constitution of Yohimbine

IT has been suggested by D. G. Harvey, E. J. Miller and W. Robson in a recent publication[1] on the colour reactions of tryptophan and allied compounds—among them the alkaloid yohimbine—that the formation of a *blue* colour in sulphuric acid containing a trace of oxidizing agent is characteristic of the 4-carboxytetrahydro-β-carbolines. The presence in yohimbine of both tetrahydro-β-carboline and carboxylic acid (actually carbomethoxyl) residues has been recognized for some time, and it is clear from the formation in good yields of 2 : 3-dimethylbenzoic acid from ketodihydroyohimbine[2], and of harman and *m*-toluic acid from tetradehydroyohimbic acid[3], that the carbomethoxyl must be attached to the yohimbine skeleton, which is as depicted, in ring *E* at position 16.



Harvey, Miller and Robson do not, however, refer to this evidence, but conclude that the carbomethoxy-group is located at C_5 because the alkaloid displays a 'carboline-blue' colour reaction.

We have been engaged on experiments on the constitution of yohimbine, and by distilling yohimbic acid with copper and cupric oxide instead of alkali have improved Hahn's preparation of yohimbol[4]. The complete identity which we have observed between the sulphuric acid colour transformations of this *carboxyl-free* secondary alcohol and of yohimbine entirely invalidates the evidence on which the suggested alternative formula rests. With regard to the position of the alcoholic hydroxyl, which Hahn[5] disposes at C_{17}, it appears to us that the available evidence strongly favours its existence at C_{19}, and we propose for the alkaloid a structure having the groups $-CO_2Me$ and $-OH$ at positions 16 and 19 respectively.

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[1] *J. Chem. Soc.*, 153 (1941).
[2] Barger and Scholz, *Helv. chem. Acta*, **16**, 1343 (1933).
[3] Hahn, Kappes and Ludewig, *Ber.*, **67**, 686 (1934).
[4] Hahn and Stenner, *Ber.*, **61**, 278 (1928).
[5] Hahn and Hansel, *Ber.*, **71**, 2192 (1938).

Salaman's Culture of Blight Resistant 'Aya papa'

A FURTHER note may be of interest in connexion with Reddick's paper, "Whence came *Phytophthora infestans*?"[1], on the question of the distribution of blight resistant potatoes in the American continent.

Blight resistance has so far been found only in Mexico with the exception of a plant known as 'Aya papa' from Ecuador. Salaman's culture of this plant is immune, but Reddick considers that this is not the original Aya papa collected by P. T. Knappe but a *Solanum demissum* hybrid in about the first back-cross stage.

Cytological examinations of root tip preparations made by us from Salaman's Aya papa show that the specimen is a pentaploid with 60–62 somatic chromosomes. The chromosome number thus confirms Reddick's suggestion that Salaman's culture of Aya papa is a hybrid between *S. demissum* ($2n = 72$) and *S. tuberosum* ($2n = 48$). The plant also shows many morphological similarities to *S. demissum*, especially in such floral details as the short corolla lobes and characteristic 'star'.

We were at first inclined to consider that Knappe's original plant was also a *S. demissum* hybrid, but both Bukasov (see Reddick[1]) and Black (in a private communication), who obtained their cultures direct from Knappe, found it to be susceptible. Furthermore, their descriptions (Bukasov[2], Black, in a private communication) do not agree with Salaman's culture. A further piece of evidence comes from Ecuador itself. One of us (J. G. H.) when in Riobamba (whence Knappe was said to have obtained his tubers of Aya papa) was able to ascertain that potatoes known as Aya papa did actually occur in certain localities, growing apparently wild in the vicinity of native habitations and villages. They are regarded by the Indians as potatoes which were cultivated by their ancestors—hence the Quechua name 'Aya', which means 'dead person, ghost or ancestor' and 'papa', signifying 'potato'.

All evidence, therefore, points to the conclusion that Knappe's Ecuadorean potato was not blight resistant and that this quality has not yet been discovered outside Central Mexico.

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[1] Reddick, D., *Chronica Botanica*, **5**, 410–12 (1939).
[2] Bukasov, S. M., Suppl. 58, *Bull. Appl. Bot. Leningrad*, 192 (1933).