resistant to the invasion of Endothia. This is obviously due to some substance or substances present in these regions, which either are not present in the stem tissues or are present in lesser amount. It is possible that these are tannin compounds or perhaps substances closely associated with the occurrence of tannin.

Work recently carried on by the Leather and Paper Laboratory of the Bureau of Chemistry, U. S. Department of Agriculture, shows more than twice as much tannin present in the bark of chestnut roots as in the bark of the trunk. It has been known for some years[1, 2, 3] that tannin or substances closely associated with it, although to some extent utilized by the fungus as food, yet when present in considerable amount, exert an inhibitory effect on its growth.

Whatever the nature of the resistant substance, it is clear that it exists. Ordinarily the fungus does invade the root tissue slowly and the basal shoots die, to be replaced by others as long as any living root collar tissue with adventitious buds remains. Cases are known to the writer where this succession of basal shoots has been going on for more than fifteen years. In the ordinary course of events all signs of life eventually disappear and the tree becomes entirely dead.

However, as sometimes happens in the case of a popular "hunch," the layman may have struck it right. There is surely a possibility that the chestnut may be able to "come back" *via* this route. For if the resistant substances, whatever they may be, should develop somewhat greater concentration, the invasion of the fungus might be successfully checked. In addition, there is always the alternative that the parasite may, in time, lose some of its virulence. Some years ago J. Franklin Collins[4] found a group of chestnut sprouts which, although in 1912 showing attack by the fungus, had apparently succeeded in throwing off the early invasion by 1919. We should be constantly on the lookout for similar cases, for stock of this sort is most valuable in view of the threatened extinction of the species.

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[1] Clinton, G. P., "Chestnut Bark Disease," Conn. Agr. Exp. Sta. Rept. for *1912*, 359–453, 1913.

[2] Cook, M. T., and J. J. Taubenhaus, "The Relation of Parasitic Fungi to the Contents of the Cells of the Host Plants. I. The Toxicity of Tannin." Del. Coll. Agr. Exp. Sta. Bull., 91, 1911.

[3] Cook, M. T., and G. W. Wilson, "The Influence of the Tannin Content of the Host Plant on Endothia parasitica and Related Species," *Bot. Gaz.*, 60, 346–361, 1915.

[4] Collins, J. F., "Note on Resistance of Chestnut to the Blight," *Phytopath.*, 10, 368–371, 1920.

BACTERIAL LEAFSPOT ON HUBBARD SQUASH

IN August, 1925, leaves of Hubbard squash were received from New York which were thickly covered with angular spots, strongly suggesting the angular leafspot of cucumbers. Bacteria were found in abundance in the spots. Poured plates, however, did not yield anything at all resembling *Bact. lachrymans*. Instead, small yellow colonies predominated on all sets of plates.

Spray inoculations with single colony transfers of this yellow organism have given good infections on Hubbard squash leaves, reisolations have been made from these infections and single colony transfers again proved infectious on squash.

The organism is a gram-negative, polar flagellate rod, commonly with one flagellum. Colonies on thin-sown peptone beef agar, pH 7.0, are visible in three days and after seven days are four mm wide, convex, wax-yellow with internal concentric markings by oblique light. Gelatin is slowly liquefied, nitrates are not reduced; growth is absent or feeble in Cohn's solution and very moderate in Uschinsky's solution. In beef broth a heavy bright yellow rim is formed and often in undisturbed cultures a pellicle, both composed of coarse pseudozoogloeal masses. Litmus milk is peptonized, and a soft curd is formed, but there is no reddening or bluing of the litmus. Later the litmus is completely reduced. Growth on potato cylinders is very abundant, destroying the starch and filling the water with dense yellow slime.

The name *Bacterium cucurbitae* n. sp. is suggested for this organism. Further work is in progress.

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IODINE IN THYROID DEFICIENCY

THE value of iodine as a therapeutic agent for goitrous persons was shown by Dr. David Marine in his extensive experiments on the school children of Akron, Ohio. However, this was not the first use of iodine in this disease in America. J. Young ("Chloroform") Simpson in his treatise on homeopathy (1853) notes the universal employment of seaweed as a remedy for goiter, saying:

Those suffering from it in South America seem, from medical experience, to have discovered also the uses of matters containing Iodine in the same affection. The stems of a seaweed, and without doubt containing Iodine, have been long chewed by inhabitants of South America under the name of Palo-coto, or Goitre-stick, wherever goitre is prevalent. I am informed by Dr. Greville that Dr. Gillies found this drug carried over the Pampas of South America, many hundred miles inland, for this

medicinal use. Here we have the same medicinal agent, Iodine, used by people suffering under the same affection in very different and distant parts of the world; and their faith in it founded, no doubt, merely upon their experience of its good effects in the treatment and removal of this disease in those affected by it.

Courtois, a French manufacturer of saltpeter, first isolated iodine in 1812 from the ashes of seaweeds. Although this halogen was itself unknown to the ancients, its therapeutic action was made use of by Roger de Palermo (1180), who recommended the ingestion of seaweeds and sponges as a cure for goiter. Michael Servetus mentioned the value of burnt sponge as a remedy for this condition in Switzerland.

It seems strange that people in different parts of the world, afflicted with enlarged thyroids, should have singled out for use among all the drugs supplied by nature the very one which would prove efficacious, and one wonders how many centuries of trial and error were necessary to confirm the primitive people in their belief in the value of iodine-containing organisms.

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A METEOR FALL

THE Associated Press dispatch of December 16th carries a notice of a meteor which fell at 11 P. M. on Tuesday, December 15, 1925, in a field twenty-four miles southeast of Aberdeen, South Dakota. The press dispatch states that the meteor illumined the landscape with a quivering yellow radiance that changed to bright blue just before the meteor struck the earth.

Correspondence has been published in SCIENCE in the past in regard to the unreliability of personal observations as to the exact location where a meteor fell, and I wish to point out a striking example of this.

At 11 P. M. on Tuesday I was walking along a street in St. Paul on a rise of ground which is very close to the highest point in Ramsey County, Minnesota. Slightly to the north of west I saw a very spectacular meteor fall, and I am convinced that the meteor which I saw fall is the meteor which is noted from Aberdeen, South Dakota. I first noticed it at thirty-five to forty degrees elevation in the western sky and observed it for several seconds before it struck the earth. It had the appearance of a large sky-rocket, excepting in this case it was falling instead of rising, leaving behind it a brilliant path of flame. It appeared to me to fall not more than a quarter of a mile away. As a matter of fact, I hesitated for a moment or more before deciding not to walk over to the place where I thought it fell, and was only deterred from so doing by the fact that no hissing sound accompanied its passage through the air and by the fact that no concussion was heard when it disappeared from sight. The colors were those given in the Associated Press dispatch, a brilliant yellow or orange fading toward the end into a blue.

If the meteor which I saw fall is the one recorded from Aberdeen, South Dakota, it would mean that my estimate of distance of one eighth to one quarter of a mile is an outstanding example of how deceptive one's estimate can be of the location of a meteor fall. In this instance, the meteor fell more than two hundred miles away, but the time, general direction and the color changes are such that I personally believe I saw the fall of the meteor which is recorded in the press dispatch.

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SCIENTIFIC BOOKS

Faune de France. 10. Hyménoptéres vespiformes. 1 (Sphegidae, Pompilidae, Scoliidae, Sapygidae, Mutillidae). By L. BERLAND. Paul Lechevalier, Paris, 1925. (Fr. 45.)

IT would be a fine thing if we could have in the United States something comparable with the *Faune de France,* as projected by a committee of the French Federation of the Natural Science Societies, and as already carried partly into effect. It is the aim of the committee to furnish to naturalists, in convenient form, the means of surely identifying any animal found in France; but not of finding out all that is known about it. The diagnoses are reduced to the essential characters, dichotomous keys, brief bibliographies and abundant text figures are used. Each volume takes up a more or less restricted group, and the introduction to each volume includes such general information about the group as seems necessary.

In general, the distribution of the forms considered covers France, Corsica, Belgium, the Rhine Provinces and western Switzerland. The volumes are well printed, are of usable size and are sold at a cheap price. Twelve volumes of varying prices have already been published, of which six concern groups of insects. I have at hand, in addition to the volume mentioned in the heading, Seguy's "Anthomyidae," Pierre's "Tipulidae" and Chopard's "Orthoptera and Dermaptera," and am greatly impressed with the idea that started the series and with the results as published so far. The United States probably covers too great a territory to make it possible to adopt this admirable plan of the French Federation; but it