is not poisonous. It is most reasonable to assume that it is resistant to such a temperature.

"The usual method in practise of preparing the shark flesh so that it may gradually lose its poisonous qualities is to cut the meat into thin strips which are hung up to dry in the sun and air; it thus loses its large quantity of water, and gradually its poisonous qualities disappear, so that it becomes a rather good food for the dogs, though it must still be used with caution and preferably mixed with a little blubber.

"Regarding the seat of the poison in the body of the shark we have the most divergent opinions; some assume that it is only in the musculature, others that it is exclusively present in the cartilage and others again that it is chiefly found in the peritoneal and spinal fluids, as it has been found that these fluids produce a severe pain when received in the eye. A proper judgment on these matters, however, will only be obtained by means of a special investigation of the poison, and such at the same time would elucidate its chemical composition, its physiological properties and various biological reactions."

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SPECIAL ARTICLES

THE CROWN-GALL OF ALFALFA

DURING the past two years the writer has been engaged in studies upon the life-history of the organism described by Magnus[1] in 1902 under the name of *Urophlyctis alfalfæ*. It seems best to publish a brief statement of the results so far obtained, pending further studies.

1. The "resting spores" when placed in water cultures develop into sporangia.

2. Within these sporangia are formed motile spores of two sizes; usually one large spore and many small ones are formed in the same sporangium.

3. One or several small spores may become attached to one large one. Only one remains permanently attached. It has not been determined whether or not this attachment is in the nature of a sexual fusion. If so, the large spores and small spores are obviously capable of functioning as sexually differentiated gametes.

4. The motion of the large spore continues after the attachment of the small spore.

5. The small spores, the large spores and the united spores (zygotes?) become amœboid after a period of motility.

6. In the amœboid state, singly or in groups, these bodies may be observed to move on the surface of the host.

7. In infected soil young alfalfa seedlings develop galls in which plasmodia are found.

8. In older galls similar plasmodia are present which ramify through the tissues of the gall. Previous to spore formation the parasite becomes massed in cavities formed by the destruction of the host tissue.

9. The resting spores are formed in these cavities, apparently by division of the parasite into many cells.

10. The content, cytoplasm and nuclei, of the resting spores in the dormant condition, corresponds to that of the plasmodium in the stage immediately preceding spore formation.

The presence of a plasmodium as the vegetative stage of the parasite and the entire absence of a mycelium at any stage suggest that possibly the organism should be removed from the genus *Urophlyctis*.

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A PRELIMINARY NOTE ON THE FOOD HABITS AND DISTRIBUTION OF THE TEXAS HORNED LIZARDS

RANDOM examinations of stomach contents, made by various workers during the past forty years, have indicated that *Phrynosoma cornutum*, the Texas horned lizard, is of great economic importance. To determine its status as a valuable animal, an examination of four hundred and eighty-five stomachs has been made. As only a small per cent. of the animals found in the field were captured and killed, several facts—besides the principal one—concerning this animal have been disclosed.

The Texas horned lizard, unlike the other species of the genus, is distinctly not a desert form. Its area of distribution is quite extensive, going northward into Kansas, southward

[1] Magnus, P., "Ueber in knolligen Wurzelauswuchsen der Luzerne lebende Urophlyctis," *Ber. der Deut. Bot. Gesell.*, 20, 291–96, 1902. One plate.