A paper on the inheritance of grain colour is being published separately.

The fact that a few golden yellow grains occurred in a head of an Indian variety breeding pure for bluish green, by cross pollination from the African variety and that these yellow grains later gave plants with golden yellow and bluish green seeds occurring in the same earhead indicate the occurrence of true xenia, the first of its kind observed in pearl millet.

Z. H. PATEL.

Palitana,
Kathiawar,
July 23, 1939.

A Note on *Pennisetum typhoideum* Rich. (*bajri*) affected by *Striga densiflora* Benth.

SEVERAL members of the genus *Striga* are parasitic on other flowering plants. Of these *S. lutea* is found to attack some members of the gramineæ. Among its known cultivated hosts, those of economic importance are sugarcane (*Saccharum officinarum* L.), *jowar* (*Andropogon sorghum* Hack.), maize (*Zea mays* L.), finger millet (*Eleusine coracana* Gaert.), *vari* (*Panicum miliare* Lamk.), rice (*Oryza sativa* L.) and several pasture grasses. Besides these some non-graminaceous and also a few dicotyledonous weeds act as hosts. Because of its pestilential character *Striga* has attracted the attention of workers in different countries to check its spread. Of those who have worked on *Striga* Van Buuren[3] makes a mention of having observed *bajri* attacked by *S. lutea* on the Poona Agricultural College Farm in 1915. He has illustrated the attack of *S. lutea* on *jowar* but not on *bajri*. Sawyer[2] gives a list of hosts affected by it as determined by tests in the Botanical Laboratory at Mandalay in which *bajri* (*Pennisetum typhoideum* Rich.) is included as one. He, however, does not mention having observed *bajri* being affected by *S. lutea* or any other *Striga* species in the open field. Saunders[1] in his list of hosts of *S. lutea* includes *bajri* based on Sawyer's list.

The writer has been collecting the seed of *Striga* species for the past seven years on the Poona Agricultural College Farm but has not come across a single *bajri* plant affected by them. In determining the host range of *Striga* species in the laboratory it was observed that *Striga lutea* seeds germinated when placed in contact with the roots of *bajri* but not those of *S. densiflora*. Beyond this no evidence of attack on *bajri* by either *S. lutea* or *S. densiflora* was observed in the open fields. Last year in the course of collecting seeds of *Striga*, a *bajri* field affected by one of the species of this genus of parasitic flowering plants (Fig. 1) was

FIG. 1

Bajri (*Pennisetum typhoideum*) attacked by the parasitic flowering plant *Striga densiflora*.

observed on the outskirts of the Wadki Village, ten miles from Poona. A few of the host plants with the parasites growing close to them were carefully uprooted, brought to the laboratory and were examined. It was found that the parasite had definitely established connection with the *bajri* host (Fig. 2). The species of the parasite attacking *bajri* was identified as *S. densiflora*. Enquiries made indicate that in some parts of Khandesh, *bajri* has been affected by *Striga* to the extent of being definitely observable. If there had been attacks in the past they must have been so negligible as to have escaped notice.

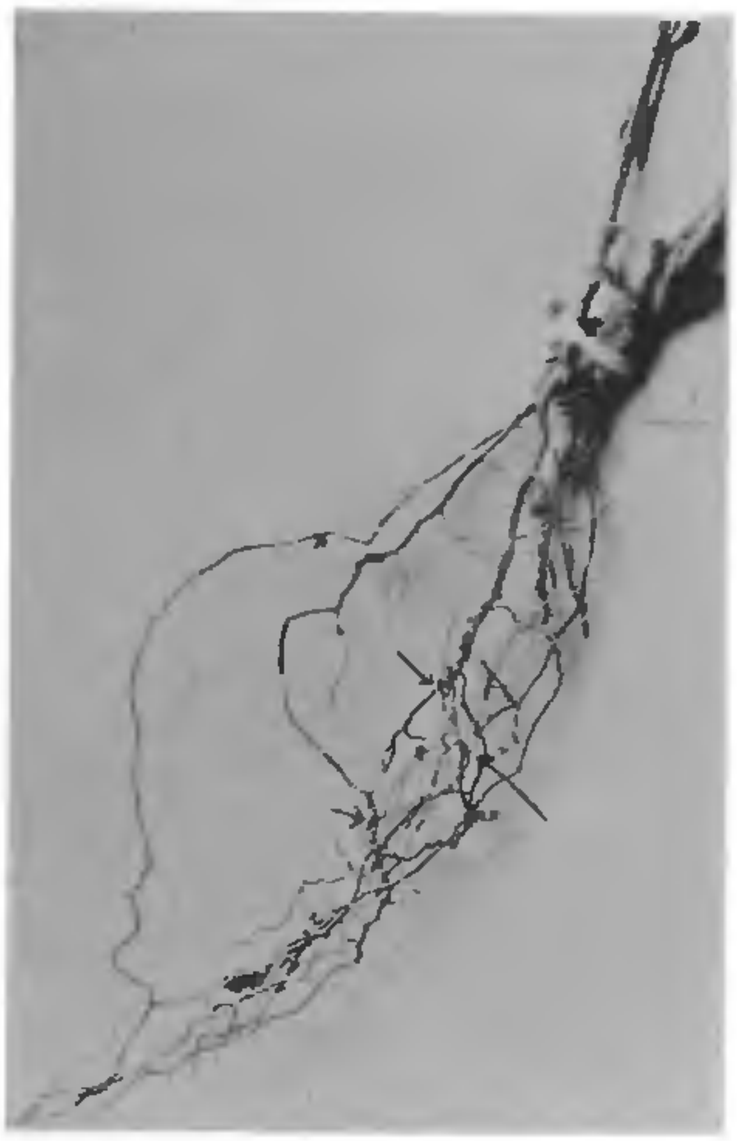

FIG. 2

An enlargement of root system seen in Fig. 1. The arrows point to places where knots have been formed due to the haustoria of the parasite (*S. densiflora*) penetrating the tissue of the host (*P. typhoideum*).

The species of *Striga* found to attack *bajri* so far are *S. lutea* as observed by Van Buuren and *S. densiflora* reported for the first time in this note. Besides these species there is a third, *viz.*, *S. euphrasioides* and it is not known whether this too attacks *bajri*.

Several persons since Van Buuren who have worked on *S. lutea* have not definitely confirmed his observation. It is the purpose of this note to confirm not only Van Buuren's observation regarding *S. lutea* but to state that *bajri* affected by *S. densiflora* has been observed in the open on a perceptible scale during the *kharif* season of 1938.

L. S. S. KUMAR.

Agricultural College,
Poona,
June 20, 1939.

[1] Saunders, A. R., *Dept. Agri. Union of S. Africa, Sci. Bull.* No. 128, 1933.

[2] Sawyer, A. M., *Dept. Agri. Burma, Bull.* No. 18, 1931.

[3] Van Buuren (Jr.), H., *Poona Agricultural College Mag.*, 1915, 5 and 6.

Insects as Test Animals for Nutritional and Vitaminic Studies

ALTHOUGH several investigators in the past, have employed insects for nutritional and vitaminic studies, the problem has not received any sustained and systematic attention. *Drosophila malanogastor* has been widely employed in such studies by Loeb,[1] Loeb and Northrop,[2] Bogdonow,[3] Guyénot,[4] Wollman,[5] Sweetman and Palmer[6] and more recently by Hoog.[7,8] Loeb and others demonstrated the dependence of *Drosophila* on a supply of yeast for their normal development and completion of their life-cycle. The floor beetle, *Tribolium confusum* Duval, was employed by Sweetman and Palmer[6] as an indicator animal for vitamin research. They found that a growth-promoting factor analogous or closely allied to the vitamin B complex, was necessary for the normal development of these insects. Hoog[7,8] has reared *Drosophila* under aseptic conditions and used them for vitamin investigations. He has shown the response of these insects to the vitamin B complex and also to an active factor in the unsaponifiable portion of fats, and indicated that these insects are of value in the biological assay of vitamins B_1 and B_2. Trager and Subbarow[9] have shown that the larvæ of the yellow fever mosquito (*Ædes ægypti*) require certain accessory growth factors, vitamin B_1 and B_2 which they normally obtain from living micro-organisms. While our work was in progress Rubinstein and Shekun[10] announced that "the development of the newly hatched *Galleria* larvæ can serve as a most sensitive biological test for detecting minute quantities of nicotinic acid".

It is clear from the above, that insects are capable of serving as experimental animals for researches on Nutrition and Vitamins. With the recent and spectacular advances achieved in the field of ultra-micro technique,[11] it was felt that the problem of employing insects in such studies should be viewed in an altogether new perspective. The new technique offers us