

Several controls that were set apart, all remained healthy. The infections on *Plectronia* were produced under laboratory conditions nearly two months in advance of their natural appearance in the field.

The aëciospores produced by sporidial inoculation of *Plectronia parviflora* were used for reinoculating spear grass. Successful infections have been obtained the uredia developing twelve to eighteen days after inoculation. A detailed account is being published separately.

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INHERITANCE OF PETAL-BASE
COLOUR IN LADY'S FINGER, *HIBISCUS*
ESCULENTUS LINN.

WORK on the improvement of lady's finger crop in Bihar has been carried out from 1942 and as a result of these studies, a large number of true breeding cultures for various characters have been established. The present investigations deal with the inheritance of colour at the base of the petal, studied in the following two cultures.

Culture No. 9: The petal at the base is coloured pink on both sides. The culture was isolated from the material, collected locally.

Hawaii No. 1: The petal at the base is coloured pink on the inner side, whereas on the outer side it is yellow. The culture was isolated from the material, obtained from Hawaii.

Thus the parents differed in colour on the outer side of the petal base, viz., in No. 9 it is red and in *Hawaii No. 1*, yellow. It may be added that none of the cultures under observations showed complete absence of pink colouration on both sides of the petal-base.

The cross made during 1946 succeeded only with No. 9 as female, after cross-pollinating four flowers, giving one well-developed fruit which produced fifteen seeds. The seeds germinated well and fifteen F_1 hybrids were thus raised.

All the F_1 hybrids developed pink colour on both sides of the petal-base. Thus the pink petal-base of *Culture No. 9* was dominant to the yellow petal-base of *Hawaii No. 1*, on the outer side.

Only eleven F_1 hybrids were carried forward in F_2 . Germination was rather poor, as this generation was raised during the winter months which is

not the normal season for this crop in these parts of the country. But those which germinated grew well and an F_2 population of 111 hybrids was raised, which were classified into 80 pink and 31 yellow, a close approximation to a 3:1 ratio, as shown in Table I.

TABLE I
Petal-base colour segregation in F_2 of a cross between culture No. 9 \times No. 1

	No. of hybrids with pink petal-base	No. of hybrids with yellow petal-base	Total
Observed	80	31	111
Expected on 3:1 basis	83.25	27.75	111

In F_3 , progenies of twelve F_2 hybrids, three with yellow petal-base and nine with pink petal-base, were studied. The former bred true for yellow petal-base and the latter behaved, as summarised in Table II.

TABLE II
Petal-base colour segregation in F_3 of a cross between Culture No. 9 \times No. 1

	No. of segregating families	No. of pure breeding families (pink petal-base)	No. of plants segregating in different families		
			Pink	Yellow	Total
Observed	5	4	35	15	50
Expected on monogenic inheritance basis	6	3	37.5	12.5	50

The F_3 population studied is small, but it satisfies the expectation, based on monogenic inheritance.

Thus the F_2 and F_3 data definitely show that pink petal-base differs from yellow petal-base (outer side) by a single factor, pink-base being dominant.

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MUTATION IN *BRASSICA CAMPESTRIS*
LINN. VAR. SARSON PRAIN

In one of the brown seeded varieties of *B. campestris*, an abnormal plant, having

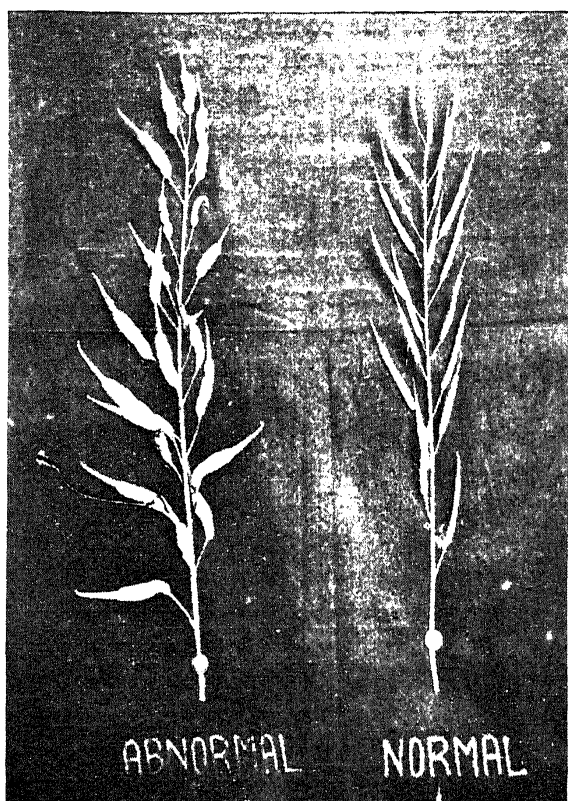


FIG. 1

unusually curved and inflated pods (Fig. 1) appeared during the year 1945-46. An examination of the pods revealed that their inflated condition was due to the presence of one to two extra pods of smaller size which were completely telescoped into the outer-most bigger pod (Fig. 2). The inner pods



FIG. 2

looked normal and had the normal quota of ovules, though the ovules were much contorted and had smaller size than those of the outer pod. All the inner pods occurring in this plant yielded only two mature seeds, from which it appears that very few ovules in them were finally fertilized.

A cytological examination of this abnormal plant revealed the chromosome number to be

$\bar{n}=10$, which is the same as that of normal *B. campestris* plants. The bulk seeds produced in the following year normal and abnormal plants in the ratio of about 3:1. The actual number of plants being 42 and 16. The recessive plants resembled the mutant type very closely. These facts indicate that this is a case of a natural recessive gene mutation.

Anatomical structure of the pods, morphology of the chromosomes and further breeding behaviour are being studied to reveal its true nature.

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ON THE OCCURRENCE OF *CORDYCEPS*
SPHECOCEPHALA (KL.) SACC.
NEAR CALCUTTA

THE genus *Cordyceps* includes about 200 species,⁷ and that they usually parasitise on insects, the bodies of which are transformed into sclerotia. The sclerotia usually preserve the shape of the insects and under favourable conditions give rise to stalk-like sterile stroma, with the perithecia at the distal end. The fruiting stage usually develops after the death of the host.

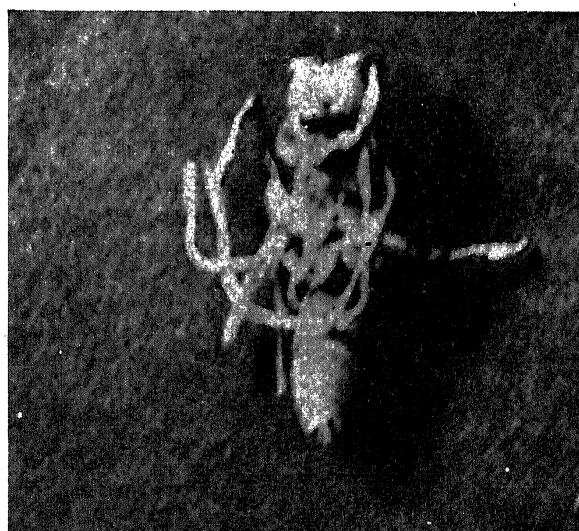


FIG. 1

In India only 2 species—*C. falcata* Berk. and *C. racemosa* Berk.—have so far been recorded on dead caterpillars from Khasi Hills¹, while Petch⁶ described a number of species from Ceylon. It is now proposed to add another species to the very short list of Indian *Cordyceps*, and thus bringing the total upto 3.

The *Cordyceps* specimens referred to were found in Agarpara, near Calcutta (Fig. 1).