development; and (*ii*) pre-adult parasites in normal numbers dead on account of excessive dry condition of the host egg; in such cases normal emergence of parasites was secured by sprinkling a small quantity of water on the host egg-capsules at intervals of 3-4 days.

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MICROBRACON HEBETOR S., AND *STENACHROIA ELONGELLA* H.

OUR observations have revealed that *Microbracon hebetor* S.—the common Braconid larval parasite of the rice and flour moth—*Corcyra cephalonica* St.—shows marked preference to the caterpillar of *Stenachroia elongella* H., a field pest of jola (Jowar) earhead in Mysore. (*Microbracon hebetor* S. has also been previously recorded in Mysore, as preferring another field pest, namely, *Adisura atkinsoni* M.—Lab-lab pod-borer.[1,2])

As in the case of *Corcyra cephalonica* St. and *Adisura atkinsoni* M. larvæ, this webbing caterpillar, *Stenachroia elongella* H., is also paralysed by *Microbracon hebetor* S., prior to egg deposition. But unlike in the former two cases, where eggs are deposited on the dorsal, lateral (intersegmental) and ventral surfaces of the host-body, the eggs are invariably deposited on the ventral surface of the caterpillar of *Stenachroia elongella* H. Caterpillars of the third instar and onwards upto the prepupal stage are successfully attacked.

Detached caterpillars of *Stenachroia elongella* H., as well as those *in situ* in the jola earhead, are found attacked by *Microbracon hebetor* S. in the laboratory. Field tests are being planned.

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CHROMOSOME NUMBERS IN INDIAN ECONOMIC PLANTS—III

THE cytology of Indian economic plants is being studied on an increasing scale in the various laboratories.[1] In this connection the following list of chromosome numbers counted in some plants are reported. After reference to the Chromosome Atlas[2] and to the recent publications, these are reported as first record for these plants. The list is meant to avoid duplication of work. Incidentally it brings out the prevalence of regularity in chromosome numbers in allied genera and species. It also brings out the part played by polyploidy in angiosperm evolution. Columns four and five give as positive or negative, whether the observed number tallies with recorded numbers in related species, and whether it forms a member in the polyploid series in the plant groups, as classified in the Chromosome Atlas, cited above.

A full discussion of these aspects cannot of course be taken up at the present stage. A few comments on special features are however given.

Serial number	Name of plant	2*n* number	Regularity in group	Polyploid series
	MIMOSACEÆ			
1	*Prosopis juliflora* DC.	52	+	+
2	*Parkia biglandulosa* W. & A.	26	+	+
3	*Leucaena glauca* Benth.	*c.* 104	+	+
4	*Pithecolobium dulce* Benth.	26	+	+
	PAPILIONACEÆ			
5	*Indigofera dosua* Hamilt.	16	+	+
6	*Gliricidia maculata* Benth.	20	+	+
7	*Mucuna pruriens* DC.	22	*	*
8	*Cassia glauca* Lamk.	28	+	+
9	*Cassia angustifolia* Vahl.	28	+	+
10	*Cassia hirsuta* Linn.	56	+	+
11	*Castonospermum australe* A. Cunn.	26	–	–
	PEDALINEÆ			
12	*Sesamum occidentale* Heer & Regel	64	+	+
	GRAMINEÆ			
13	*Eremopogon foveolatus* Stapf.	40	+	+
14	*Andropogon pumilus* Roxb.	20	+	+
15	*Amphilopis pertusa* Stapf.	40	+	+
16	*Cynodon plectostachyum* Pilgr.	18	+	+
17	*Sehima nervosum* Stapf.	34	–	–
18	*Oryza australiensis* Domin.	24	+	+
19	*Oryza stapfii* Roshev.	24	+	+
20	*Oryza latifolia* (?)	48	+	+

The numbers have been counted in sections of actively growing root tips. The maximum possible number obtained from different intact cells are given. One source

of error is the prevalence of polyploid cells in roots of legumes, and necessary caution has been used. In *Castanospermum* (11) an Australian genus, the 2*n* number does not fit in with that of related genera of other continents, and further studies are necessary. In many grasses, ecotypes show chromosome diversity. The number found in *Sehima* (17) may not be the same in other types and species. In view of this type of variability, other fodder grasses, *Panicum antidotale* Retz., *Brachiaria mutica* Stapf., *Cenchrus ciliaris* Linn. and *Dicanthium annulatum* Stapf. were studied cytologically and numbers tallying with record were counted. In the grass *Eremopogon foveolatus* (13) the 2*n* number was 40 and not 45, both numbers having been recorded. In the genus *Mucuna* (7, Syn. *Stizolobium*) other species have to be studied to see if the count made, tallies. In the wild sesamums, a new species *Sesamum occidentale* (12) was procured from Ceylon and grown. The number was counted in root tips as well as pollen mother cells and is a tetraploid compared to *S. laciniatum* and and *S. prostratum*.

In the important genus Oryza, two species *O. australiensis* (18) and *O. Stapfii* (19) were imported and grown for cytogenetical studies. About the species *O. latifolia* (20) there is some doubt. This was identified as *O. latifolia* Desv. but is not *O. latifolia* of Hooker and was obtained from Tropical America. It seeds freely and seedlings have the number 2*n*=48 and not 24 as recorded previously.

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Coimbatore,
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HORMONE INDUCED SET AND PARTHENOCARPY IN MANGO (*MANGIFERA INDICA* L.)

IN mango inflorescence ranging from 2000 to 6000 flowers, hardly 1% reach maturity; the rest are either males or drop off before setting. According to Bijhouwer,[1] Naik[2] and Mukherjee[3] nearly two-thirds of the bisexual flowers are not pollinated; hence the low fruitage in mango.

To investigate the effect of β-naphthoxyacetic acid on mango fruit set, mature buds were selected in *Neelum*, *Bangalore* and *Banganapalle*, three reputed South Indian varieties. The staminate flowers were nipped off and only 20 to 30 bisexual flowers were retained in an inflorescence after emasculating the single stamen. The emasculated flowers were sprayed with water containing 10 p. p. m. of β-naphthoxyacetic acid and were immediately covered with cellophane paper to prevent pollination. A fortnight later, when fruit set was noticed, the covers were removed. The percentage of flowers developing were 26·0, 18·4 and 2·3 per cent. for *Neelum*, *Bangalora* and *Banganapalle* respectively, as against 12·3, 6·9 and 1·3 obtained normally. After reaching marble size the flowers dropped off due to external disturbances.

The fruits on examination showed parthenecarpic development (*vide* photograph).

FIG. 1

The fruits looked like normal ones with well developed mesocarp and endocarp, but the embryo was found completely inhibited in growth with a shallow cavity inside the endocarp or stone. The ovary tissues in mango are found to respond differently to β-naphthoxyacetic acid, resulting in parthenocarpic developent. Some improvement in fruit set was also noticed. These preliminary observations open up a fertile field for improving fruitage in mango through hormone treatment.

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August 17, 1949.

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