

resistant than cellulose, is mainly, digested by potato sprouts.

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- ¹ Strausbaugh, *Plant Physiol.*, 1929, 4, 157.
² Hutchinson and Richards, *J. Min. Agr.*, 1921, 28, 398
³ Norman and Jenkins, *Biochem. J.*, 1933, 27, 818.
⁴ Cross and Bevan, *Cellulose* (London), 1918.

Green-Seeded Gram (*Cicer arietinum* L.) in Central Provinces.

AN exhaustive collection of local grams from all over the Central Provinces and Berar is in progress at the Oil Seeds Research Station, Nagpur. In the samples collected so far, a new type of gram was noticed. It is chiefly characterised by the presence of variable grades of green coloured seed-coat. This gram is reported to have been observed in 1932-33 by one Laharia, a cultivator of the village Bagaspur in Narasinghpur Tahsil, C.P., in a field of D 8 gram (*Gulabi Chana*). Subsequently it was tried on a large scale by one Choudhary Moolchand of Gotegaon and since then the area under this gram has been rapidly increasing due to a very high price it fetches in the market. The estimated area in 1936-37 has been reported to be 1,500 acres in that tract.

During the year 1937-38 this type was tried at the Government Experimental Farm, Adhartal. The seeds obtained bred true in respect of the various grades of green seed-coat. A few seeds of this type were sown during the rainy season of the current year for some experimental purposes at the Oil Seeds Research Laboratory and were observed to be breeding true. The plants were harvested when fully matured and the seeds obtained were healthy and showed cent. per cent. germination. The green condition, therefore, does not represent an early stage of maturity of any gram type.

The chromosome counts were made from the root-tip cells which showed $2n = 16$ (Fig. 1). In temporary aceto-carmin preparation eight bivalents were clearly observed

at I metaphase in polar view. chromosome number in this species has been

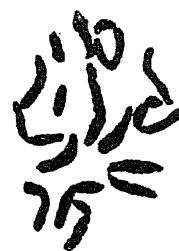


FIG. 1.

Somatic chromosomes in green-seeded gram (*Cicer arietinum* L.). $2n = 16$.

reported to be $2n = 14$ by Rau.¹ Dixit² studied the chromosomes of the Pusa types 1, 2, 18 and 25; in the first two types (the "Kabuli" gram types) the chromosome number was observed to be $2n = 16$ while the remaining two (the "Desi Gram" types) showed $2n = 14$. In a giant mutant form of type 22 the chromosome number was recorded as $2n = 16$ by Dixit.³

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- ¹ Rau, N. S., *Jour. Ind. Bot. Soc.*, 1929, 8, 201-206.
² Dixit, P. D., *Ind. Jour. Agri. Sci.*, 1932, 2, 385-390.
³ Dixit, P. D., *Ibid.*, 1932, 2, 391-408.

On the Occurrence of *Isarachnactis* in the Arabian Sea.

EARLY in 1935, Mr. S. Jones, of Trivandrum handed over to me a small collection of a certain larval Cerianthid which he obtained in August 1933, from the neighbourhood of Kovilam on the Travancore coast. Detailed study of these specimens could not then be attempted owing to other pre-occupations. Recently, I have obtained specimens of the same form collected off the coast of Alleppey and Ambalapuzha in Travancore, and with the material gathered from the three localities, I have been able to make a fairly complete study of the anatomy of this interesting Cerianthid,

from serial sections as well as dissections of the specimens.

These Cerianthids are from 20 to 30 mm. long (inclusive of the tentacles) and from 4 to 6 mm. broad; and they are of a yellowish brown colour in the preserved state. In the earlier stages, the tentacles are almost as long as the body, and occasionally even longer, but in the older stages the column is comparatively more prominent. There are both marginal and oral tentacles; the latter are much smaller than the marginals and occur close to the stomodæal opening. The directive and the two adjoining chambers are provided with oral tentacles.

In view of the absence of botrucnidæ and the occurrence of acontia, the larvæ belong to the family Arachnanthidæ and they have the general appearance of *Dactylactis* and other allied genera. The presence of oral tentacles corresponding to the early protomesenterial chambers, definitely indicates that the larvæ in question belong to the genus *Isarachnactis* Carlgren. This fact is also borne out by other anatomical details like the structure of the syphonoglyph, the nature of the mesenteries, and origin and position of the acontia.

The genus *Isarachnactis* is known from two species, *I. lobiancoi* (originally described as *Arachnactis lobiancoi*) from the gulf of Naples¹ and *I. longipes* obtained by the German Deep Sea Expedition from the neighbourhood of Gibraltar.² The genus is so far known only from the Mediterranean, and its occurrence in the Arabian Sea, as far down as the Travancore coast, is an interesting new information in connection with its distribution.

Detailed accounts of the anatomy and systematics of this interesting Ceriantharian will be published elsewhere.

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¹ Carlgren, O., "Über Ceriantharien des Mittelmeers." *Mitt. Zool. Stat. Neapel*, 1921, Bd. 20, 356-394 and Pl. 15-17.

² Carlgren, O., "Die Larven der Ceriantharien, Zoantharien und Actiniarien," *Wiss. Ergebn. Deutschen Tief-See Expedition, Valdivia*, 1924, Bd. 19, Hft. 8, 341-475 and Pl. 1-6.

The Chromosome Complements in Eight Species of Locustidæ.

WE have investigated the chromosome complements of eight species of Locustidæ mentioned in the following table. The specimens from which testes were dissected out and fixed were collected from two localities, near Gujarat College, Ahmedabad, North Gujarat and Jogeshwari about 20 miles north of Bombay. Both these localities are situated in the Bombay Presidency, Western India. The accompanying table also contains the main particulars, namely the

TABLE.

	Diploid chrom. Number	No. of V's contained	Shape of X-chrom.
Subfam. Phaneropterinae			
1. <i>Ducetia japonica</i> ..	29	..	R
2. <i>Elimæa securigera</i> ..	27	1	V
3. A sp. of Phaneropterinae	31	..	R
Subfam. Mecopodinae			
4. <i>Mecopoda elongata</i> ..	27	5 (at least)	V
Subfam. Pseudophyllinae			
5. <i>Sathrophyllia</i> sp. ..	35	..	R
Subfam. Conocephalinae			
6. <i>Conocephalus</i> sp. ..	33	5	V
Subfam. Listroscelinae			
7. <i>Hexacentrus mundus</i>	31	1	V
8. <i>H. annulicornis</i> ..	(31)	1	V

R = rod-shaped chromosome : V = V-shaped chromosome.

In *Hexacentrus annulicornis* (No. 8), the diploid number is inferred from the haploid condition observed in the primary spermatocyte.

diploid number, the number of V-shaped elements and the X-chromosome as shown in the accompanying figures of the spermatogonial complexes of the species investigated.

In every species studied the sex-chromosome, the x -element is either V-shaped or has