khia Pokhri, Darjeeling, W. Bengal, Oct. 6.1964.

This species is characterised by light orange apothecia, fusoid, nonseptate, biguttate ascospores, phialeoid excipulum and its occurrence on dead log of *Crypto*- meria Japonica. From Helotium Lutescens [(Hedw.) Fr.] Fr. (see Dennis, 1956, p.90) it differs in having slightly smaller and narrower asci, nonseptate, guttate, ascospores, separate host substratum and different excipular structure.

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INHERITANCE OF ANTHOCYANIN PIGMENTATION IN SEPTUM, JUNCTURA BACK, LEAFTIP AND STIGMA IN RICE (ORYZA SATIVA L.).¹

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ABSTRACT

The F_2 segregation in a cross between a purple (AC 806) and a green (AC 37) variety of rice with regard to anthocyanin pigmentation gave a trigenic complementary ratio of 27 purple: 37 green in the septum, a tetragenic complementary ratio of 81 purple: 175 green in junctura back and leaf tip, and a trigenic inhibitory ratio of 9 purple : 55 green in the stigma.

The genetics of anthocyanin pigmentation in rice has attracted keen interest

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The present investigation was undertaken to find out if some new gene action could be discovered for the expression of anthocyanin pigmentation in different parts of rice plant.

MATERIALS AND METHODS

Seeds of F₁ plants of a cross involving AC806 (a purple variety) and AC 37 (a green variety) were obtained from the Central Rice Research Institute, Cuttack The F₂ generation was raised 1964. in Kharif season of 1964. (Julyduring December) at the Agricultural Research Institute, Kanke, Ranchi. Four week old seedlings were transplanted singly in lines 25cm. apart and the plant to plant distance was kept at 25cm. Observations on the pigmentation in leafsheath, leafaxil, auricle, ligule, junctura, junctura back, leaf blade, leaf tip, leaf margin, internode and septum were taken a week before flowering. The colour of lemma and palea, apiculus and stigma was noted at the time of flowering.

RESULTS AND DISCUSSION

Of the 14 characters studied, new ratios

for the inheritance of pigmentation were obtained in four parts only, viz., septum, juctura back, leaf tip and stigma, and thus these only have been reported in this paper (Table 1). The pattern of inheritance observed for pigmentation in rest of the ten characters was in conformity with earlier works and thus has not been reported herein.

As shown in the table, the F_2 segregation with regard to anthocyanin pigmentation gave a trigenic ratios of 27 purple: 37 green in the septum, tetra-genic ratios of 81 purple: 175 green in junctura back and leaf tip and a trigenic ratio of 9 purple: 55 green in the stigma.

As these ratios are new they need to be explained. The ratio 27:37 (obtained for septum) is a three gene ratio. The genes, say, A, B and C are complementary in nature, and hence to produce pigmentation the presence of all the three genes is necessary. In the absence of any of these genes the septum will be green in colour. The ratio 81:175 (obtained for pigmentation in junctura back and leaf tip) involves four pairs of complementary genes, say, A,B,C, and D. All of them are essential for the expression of pigmentation. In the 9:55 ratio (obtained for stigma) the parents differ in three pairs of genes, say, A, B, and C, where A and B are complementary and C is the inhibitory factor. For the expression of pigmentation the presence of both A and B is essential. But if the inhibitory factor C happens to be present it inhibits the complementary effects of A and B in producing pigmentation. Due to such a gene action only A B c genotype is pigmented and the rest of the genotypes are non-pigmented.

	Ratios reported by earlier workers			3:1 (Ghose et al., 1960, Saran and Srivastava, 1969).	9:7, 27:37, 45:19, 54:10 and 162:94. (Ghose et al., 1960); 27:37 (Rahman, 1964); 9:7 (Saran and Srivastava, 1969)	3:1 (Mitra and Ganguli, 1932); 3:1 9:7, 27:37, 54:10, 45:19 and 162:94 (Ghose et al., 1960); 45: 19 (Rahman 1964); 27:37 (Saran and Srivastava, 1969)	3:1, 9:7, 15:1, 27:37, 45:19, 81: 175 and 162:94 (cf. Nagai, 1921; Hector 1922; Parnell et al., 1922; Chao, 1928; Mitra et al., 1928; Ramiah, 1953; Butany et al., 1959; Ghose et al., 1960; Kadam and D' Cruz, 1960; Butany and Bha- ttacharya, 1962; D' Cruz and Dhulappanavar, 1963; Rahman, 1964; Srivastava et al., 1968; and Saran and Srivastava, 1969).
PHENOTYPIC CHARACLENS OF PREMIUM IN RICE.		Value (P)		0.10-0.05	0.50-0.30	0.30-0.20	0.50-0.30
		Chisquare value		3.40	0.66	1:59	0.61
		Total		364	364	364	364
	ev of F.	ation		193	256	260	318
	Frequenc	segreg	(+)	171	108	104	46
		2 ratio	(-)	37	175	175	S S
		щ	ŧ	27	81	81	σ
		F ₁ -		+	+	+	+
		Its	AC 37	1	I.	I	1
		Paren	AC 806	+	+	+	+
		Plant Part		Septum	Junctura back	Leaf tip	Stigma

TABLE 1

, racters of parents, their F_1 and the mode of F_2 segregation for anthocyanin

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(+), Presence of Pigmentation ; (-), Absence of Pigmentation.

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STUDIES ON THREE ISOLATES OF HELMINTHOSPORIUM ROSTRATUM DRECHSLER FROM SORGHUM IN INDIA.1'2

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INTRODUCTION

Sorghum is an important cereal both for

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staple food and fodder in many rural areas of India. A new leaf spot disease of the crop caused by H. rostratum was reported during 1964 (Mahendra Pal and Suryanaryana) from India, but no detailed investigation of the pathogen was carried out. During the course of survey the authors observed the disease from three distant localities viz., Shamshabad (ISV new 53) and Amberpeth (ISV71) in Hyderabad and Chianki (Bihar) (ISV 62). To study the range of variability within the isolates and find out whether there is any physiologic specialization within the pathogen,

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