TO: Purchasers of Symposium Proceedings

Two pages, 111 and 181, in the original printing were in error. Correct copies are enclosed

STORIUM
ITIC
PLANTS
NEWSLETTER
OLD DOMINION UNIVERSITY

No. 4 Official Organ of the International Parasitic Seed Plant Research Group

December 1979

Rafflesiaceae in Libya

On April 1979 during a field trip to Gebel Akhdar area (Cyrenaica) in the region of Ra Helal, Kubba and Derna, the plant collectors were attracted by bursts of brilliant yellow a red among the green beneath the shrub; Cistus parviflorus L. Dr. M. H. Jafri of the Herbar in the Faculty of Science, Tripoli identified it as Cytinus hypocistis L. which infects the roots of the above shrub.

This holo-root parasite is restricted to the Old World, It occurs in the Mediterranea region, Madagascar, and Cape region of S. Africa. The species has been known since the tim the Greek Herbals as reported by R. T. Gunther in his book Dioscorides (1968). It has been orted by H. G. Keith in Libyan Flora (1965) and also in Italy by D. E. Baroni in Guida Botanica D'Italia (1955), in France by E. Burnat in Prodrome ~~de al Flore Corse~~, Tome I, (19 and in Lebanon and Syria by P. Mouterde in Nouvelle ~~Flore du Liban et~~ de la Syrie, Tome Premier, Atlas, (1966),

As indicated by Kuijt in The Biology of Parasitic Flowering plants, (1969), little is known about the host range, seed germination and the manner in which entry into the host is affected, These problems are now under investigation,

M. A. Abou-Raya

Variations in metabolites and pretreatment requirement in different samples of Striga asiatica (L.) Kuntze

Seed samples of Striga asiatica (L.) Kuntze collected from sorghum and pearl millet fie. of Mandya (sample A) and Bellary (samples B and C) districts, Karnataka, India were found to differ in their seed weight, proteins, phenolic level and germination per cent in response t host root exudates, kinetin and GR 7, Extended studies show that these samples also differ their metabolite levels before and after the pretreatment and the minimum pretreatment perio required to induce germination.

Prior to pretreatment sample B showed the maximum levels of reducing sugars and RNA whe as, A ranked the highest with regard to free amino acids. Total protein content was at the s e level in A and B but Less in B. Following pretreatment there was significant increase reducing sugars, which came to almost the same level in all the three samples, amino acids to the maximum in B and RNA to the highest in A and C. Proteins declined to a great extent i and B and phenolics in A and C.

With regard to the electrophoretic pattern of proteins following pretreatment, in sample A, out of the *six* bands that were present, one completely disappeared, the intensities of the other five were decreased and two new bands appeared. In B the pretreatme caused the disappearance of all the three bands and appearance of four new bands and in C, out of the five bands two disappeared, the intensities of the other three were lowered and new bands appeared. Among the new bands that appeared subsequent to pretreatment, one of t two in A corresponded with one of those in B and the other with one of those in C,

The minimum pretreatment period required to induce germination was four days in A, sev days in B and **six** days in C.

These findings reinforce the inference drawn from our earlier data that the samples A, and C are different populations.

Bharathlakshmi and Jayachandra

Orobanche Research at ICARDA

The International Centre for Agricultural Research in the Dry Areas has as an overall mandate the improvement of the agricultural production and consequently the standard of liv for the rural population of West-Asia and North-Africa, by means of agricultural research. To this end the center follows a farming systems approach integrating crop improvement, agronomic practices and other relevant approaches.

One of the main crop improvement programs is on food legumes, such as lentil (Lens culinaris) and faba (Broad) bean (~~Vicia faba~~). One serious constraint in improving product of these crops in the region is their susceptibility to the parasitic weeds broomrape (Orobanche spp.) which are present over the main areas where food legumes are grown,

ICARDA has therefore embarked on a control program with financial assistance from **IDRC** (International Development **and** Research Centre, Ottawa, Canada) involving the part-time expertise of two scientists (Mr. F. Basler and Prof, A. R. Saghir) and the full-time work o research assistants, The work is carried out at the centre's facilities in Aleppo, Syria a at the American University in Beirut, Lebanon. In Aleppo research concentrates on field work, in Beirut mostly laboratory and greenhouse experiments are carried out,

The program involves:

1) Selection of Orobanche resistant cultivars from a large genetic stock available in ICA of faba bean (against O. crenata) and lentil (against O. aegyptiaca and O. crenata) an lentil (against O. aegyptiaca and O. crenata) as well as tomato (against—O. ramosa) fr various sources,

2) Testing synthetic stimulants such as **GR-7** (provided by Prof. A. W. **Johnson,** Sussex University, Brighton, UK).

3) Developing chemical control means.

4) Study the usefulness of trap crops, also referred to as false host crops,

5) Stud:: of the seed behavior of Orobanche with emphasis on dormancy and periodicity pat- **terns.** (This study has been taken up in collaboration with Dr. Pieterse at the Royal Tropical Institute in Amsterdam, outside the **IDRC** financial assistance.)

Some progress has been made lately with some of the control approaches studied.

New biological control newsletter

The Commonwealth Agricultural Burezux (CAB) have just released a sample issue of t new "Biocontrol News and Information". This contains several pages of news items on bi control and some 500 relevant abstracts selected from their various abstract journals, issue will also contain a review article and the topic of this first issue is by chance potential for biological control in the suppression of parasitic weeds" by D, J. Girlin J. Greathead, A. I. Mohyuddin and T, Sankaran all of Commonwealth Institute of Biologic Control (CIBC). This gives an excellent overview of the present possibilities and pros for biological control of all four main groups of parasitic weeds - Striga, Orobanche, Cuscuta and mistletoes,

The sample is free, and the journal will appear quarterly from March 1980 priced £ in the first year. Further information can be obtained from D. J. Girling, CIBC, Inform Service, 56 Green's Gate, London SW7 5JR, UK.

C, Parker

Annotated bibliographies on parasitic weeds

Four new bibliographies are now available in the WRO series. These consist of sets of a stracts mainly reproduced from CAB "Weed Abstracts". They are:-

No 133 on Orobanchaceae (91 abstracts, 1977-79). Price £4.00 in UK, 4.80 overseas

No 134 on Scrophulariaceae (including Striga) and Santalales (59 abstracts, 1977-79) Price 3.50 in UK, 4.20 overseas.

No 135 on Cuscuta species (69 abstracts, 1976-79). Price £3.50 in UK, 4.20 oversea

No 136 on mistletoes (111 abstracts, 1974-79). Price £4.00 in UK 4.80 overseas,

Please send remittance made payable to ARC Weed Research Organization with your orde For those in developing countries who would have difficulty in sending payment please add requests direct to me at, Weed Research Organization, Yarnton, Oxford OX5 1PF, UK. Lis of earlier bibliographies in the series are also available.

C. Parker

IPSPRG Sews and Notes

Symposium proceedings - Copies are still available from Prof. A. D. Worsham, Crop Sci Dept., Box 5155, N.C. Univ., Raleigh, N.C. 27607. Cost is $8.00 for the proceedings and supplenent.

Symposium group picture - contact L. Musselman for details as to cost, etc.

Six Symposium on Morphology, Systematics, Univ. Ulm 9-12 March 1981 - Parasitic flowering plants will be the theme of meeting. For information contact: Dr. H. C, Weber, Bio. V. Univ. Ulm, D-7900 Ulm, West Germany.

Index of Current Research - Response to this program (see HAUSTORIUM No, 3) has been ncouraging and we can now provfde names, addresses, publications, etc. of researchers upon

request. Contact L. Musselman.

Previous issues of HAUSTORIUM - these are all exhausted,

From the Editors

Very best wishes for the mistletoe season and for the coming year!

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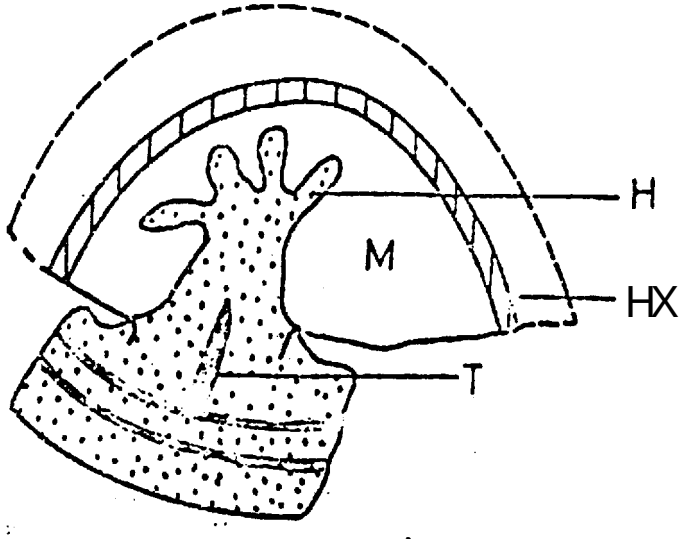

Fig. 3

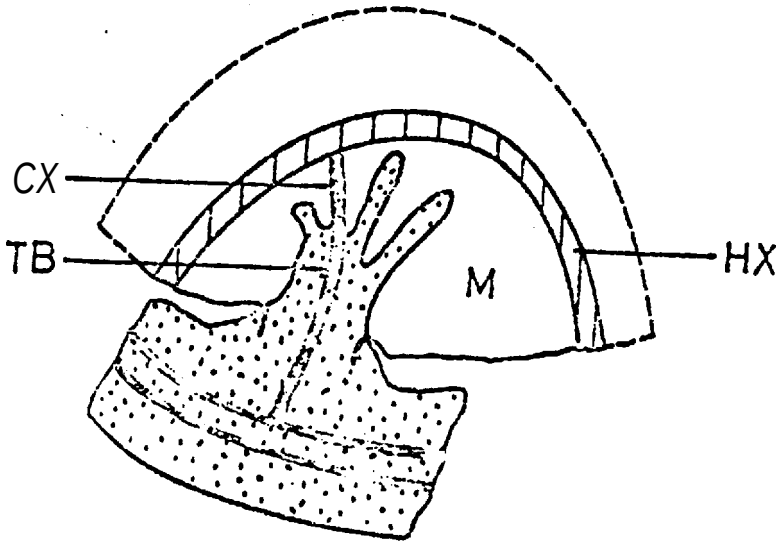

Fig. 4

Table 1

Cuscuta and Viscum species, their host:, intensity of infestation and location in the middle and nortern parts of Jordan

Parasite Generic Name	Host Generic Name	Intensity of Infesta-tion	Location[7]
C. campestris Yunk.	Alhagi maurorum (W)[1] 3	S[2]	Jordan Valley
	Corchorus olitorius (C)	L[4]	Alroussaifa
	Prosopis fracta (W)	S	Jordan Valley
	Trifolium alixandrinum (C)	L	Zarqa
C. epilinum Whiehl.	Artemisia herba alba (W)	S	Yajouz
	Nicotiana tabacum (C)	L	Greenhouse
C. monogyna Vahl.	Citrus deliciose (C)	L	Kreimeh
	Vitis vinifera (C)	M[5]	Irbid
C. planiflora Ten.	Capparis spinosa (W)	L	Karak
V. cruciatum Sieb.	Amygdalus communis (C)6	S	Wadi Shu'aib, Ajl
	Crataegus azarolus (F)	L	Ajlun
	Olea europea (C)	None/S	Jarash to'Ajlun
	Punica granatum (C)	M	Wadi Shu'aib
	Quercus sp. (F)	L	Kufr abil
	Retama raetam (F)	L	Arda Rd.
	Rhamnus palaestina (F)	S	Ajlun to Wadi rum

[1] W = wild

[2] S = severe

[3] C = cultivated

[4] L = light

[5] M = moderate

[6] F = forest treet

[7] ... on the attached map.