

The present form of *X. schousboei* agrees well with the type species in diameter and in all essential morphological characters. The species *X. schousboei* was distinguished from its allied species i.e. *X. kernerii* Hansgirg because of the former's of epiphytic habit and colonies being not irregularly expanded.

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OCCURRENCE OF THE CYST-FORMING NEMATODE, *HETERODERA GRAMINIS* IN INDIA.

S. B. SHARMA, D. K. HANDA* AND
A. N. SRIVASTAVA

Division of Nematology, Indian Agricultural
Research Institute, New Delhi 110 012, India.

*University of Udaipur, Durgapura,
Jaipur 302 004, India.

DURING a course of studies on the cyst-forming nematode species recorded in the country, two populations, one from the Golf Links, New Delhi and the other from a private garden lawn at Jaipur, were obtained. Both these were identified as *Heterodera graminis*. Cysts are light to dark brown in colour and are basically lemon-shaped. It is ambifenestrated, with the vulval bridge possessing knob-like structure at the periphery (figures 1 and 2).



Figure 1. Cysts of *H. graminis*.



Figure 2. Vulval cone of *H. graminis*

The species was first described by Stynes¹ from roots of *Cynodon dactylon*, from Australia and this is the first record of the occurrence of the species in India. At Delhi as well as at Jaipur, the grass (*C. dactylon*) exhibited patchy spots of pale yellowish, unthrifty growth which gradually spread to bigger patch the following year.

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OBSERVATIONS ON FUNGAL INFECTION OF *CYPRINUS CARPIO* VAR. *COMMUNIS*

G. C. SRIVASTAVA, S. K. SINHA AND
S. K. SRIVASTAVA

Department of Botany, St. Andrew's College,
Gorakhpur 273 001, India.

DURING the course of investigation on fungi associated with fish diseases some diseased specimens of cultivated fish bearing fungal infections were observed in the garden water-tank of N. E. Railway, Gorakhpur in January 1983. The infected fish showed white cottony patches and black and yellow galls scattered on their body (figure 1). These infections usually resulted in the death of the host.

The fungus causing infection was isolated from the host and raised on the sterile hemp seed halves in sterilized distilled water. Unifungal bacteria-free cultures of the fungus were prepared on the lines des-



Figure 1. *Cyprinus carpio* var. *communis* (L) bearing a gall caused by infection of *Saprolegnia diclina* (Humphrey)

cribed earlier¹⁻³. The isolates were identified using the monographs of Coker⁴ and Seymour⁵. The fish species were identified using the key of Jhingran and Sehgal⁶. The parasite was identified as *Saprolegnia diclina* (Humphrey) and the host as *Cyprinus carpio* var. *communis* (L). Pathogenicity tests were conducted with the isolates at room temperature ranging between 21–26°C on the lines of Scott and O'Warren⁷, using individuals of *Chela laubuca* (Ham.), *Anabas testudineus* (Bl.), *Colisa lalia* (Ham.) and *Channa punctatus* (Bl.) as test fish. Injuries were inflicted by scrapping scales from different regions of the body. Hyphae of the parasite were observed on injured areas of the test fish within 12–18 hr of placing the fish in the infection troughs. These infected fish died within 19–34 hr of the infection test (table I). The specimens kept in the troughs, in which no inoculum was added, remained unaffected and survived.

The identity of the parasitic fungus was verified by comparing with the cultures of the original inoculum.

TABLE I

Controlled laboratory studies demonstrating the infectious ability of Saprolegnia diclina.

Name of fish	Mycosis evident within hr.	Death occurred in hr.
<i>Chela laubuca</i>	14–17	23–25
<i>Anabas testudineus</i>	12–14	19–21
<i>Colisa lalia</i>	15–17	29–31
<i>Channa punctatus</i>	16–18	32–34
Control		

The number of fish tested and those in which mycosis was evident and died was 3.

In the available literature there is no previous report of the occurrence of *Saprolegnia diclina* on *Cyprinus carpio* var. *communis*. The present communication, therefore, extends the host range of *Saprolegnia diclina* to *Cyprinus carpio* var. *communis*.

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VARIABILITY FOR SEED OIL CONTENT IN DIPLOID GENETIC STOCKS OF COTTON

PHUNDAN SINGH AND V. V. SINGH
Central Institute for Cotton Research,
Nagpur 440 010, India.

REFINED cotton seed oil is one of the best edible oils and is used in most parts of the world including USA, USSR, China and middle East. Genetic improvement in the seed oil content without bringing reduction in lint yield will be an added advantage. The knowledge of genetic variability present in the gene pool is of utmost importance for a breeder for this purpose. However, little information on this aspect is so far available and that too based on a few genotypes only¹⁻⁴. The pattern of variability for seed oil content was studied in 337 lines of *Gossypium arboreum* L. and 96 *Gossypium herbaceum* L. by non-destructive NMR using Newport analyser and is reported in this paper.

The success of genetic improvement depends upon the extent of variability present in the genetic stocks for the character to be improved. In the present study,