First Report of Chromosome Number in Four Taxa Belonging to the Genus *Chara* Linn.

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Common occurrence and big size of the chromosomes in *Chara* have made it an ideal material for the nuclear cytology. Taking this privilege, the chromosome numbers in as many as 51-taxa belonging to this genus have been reported so far (cf. Lindenbein 1972, Hotchkiss 1958 and 1963, Guerlesquin 1961 and 1967, Khan and Sarma 1967, Noor 1965, Ramjee 1968, Chatterjee 1971, Verma 1974, Sinha and Verma 1970, Ramjee and Bhatnagar 1978, Noor and Mukherjee 1977, Griffin and Proctor 1964, Tindal and Sawa 1964). However, the number of investigated taxa is pretty less compared to the number of taxa known under this genus. In the present communication, chromosome numbers have been reported in such four taxa of *Chara* which do not bear any previous report on this line.

Materials and methods

The four taxa under study were collected from three districts of North Bihar where they were growing in the temporary pools during different seasons of the years (cf. Table 1). Identification of the taxa have been done as per Wood and Imahori (1965).

Fixation of the healthy vegetative filaments bearing antheridia was made on the collection spot during the morning hours (8-10 A.M.). Acetic-ethanol (1 : 1) was used as the fixative and iron-alum-acetocarmine method (cf. Godward 1948) was adopted for cytological preparations.

The chromosome numbers were ascertained in the actively dividing antheridial filaments.

Observations and discussion

In the present investigation, a count of 14 chromosomes has been ascertained for *C. braunii* f. *cormandelina* (Fig. 1), 28 for *C. vulgaris* var. *nitelloides* (Fig. 2) as well as for *C. zeylanica* var. *zeylanica* f. *trichantha* (Fig. 3) and 42 for *C. setosa* f. *intermis* (Fig. 4). From the available literatures it appears that the chromosome number has not been reported so far in any of the above noted four taxa. Therefore, the present counts are first record for the respective taxa.

The chromosome numbers reported so far in this genus are in multiple of 7 i.e. 7, 14, 28, 35, 49, 56 and 70 (vide infra). Three chromosome numbers ascertained

by the authors also confirm the above series. It is further evident from the literatures that there has been a large scale variations of chromosome nubmer both at interspecific as well as at intraspecific level and thus it does not seem to be of taxono-

Figs 1-4. Metaphase plates showing countable chromosomes. 1, *C. braunii* f. *cormandelina*—14 $\times$ 5000. 2, *C. vulgaris* var. *nitelloides*—28. $\times$ 3000. 3, *C. zeylanica* var. *zeylanica* f. *trichantha*—28. $\times$ 3200. 4, *C. setosa* f. *intermis*—42. $\times$ 3700. Below: each photographs are their outline drawings.

mic importance.

Out of the 71-euploid counts reported so far among 51 investigated taxa, the frequency of the chromosome number 14 has been calculated about 40% and that of 28 and 42 as 24% and 17% respectively. Therefore, it may be safely concluded that the 14 is the most common count for the genus and that of 28 is next to it.

Summary and conclusions

Four taxa belonging to the genus *Chara* have been cytologically investigated and the chromosome numbers have been ascertained as 14 for *C. braunii* f. *cormandelina*, 28 for *C. vulgaris* var. *nitelloides* and *C. zeylanica* var. *zeylanica* f. *trichantha* and 42 for *C. setosa* f. *intermis*. The four investigated taxa bear no previous report of chromosome numbers and hence the present counts are the maiden reports.

Table 1.

S1. No.	Name of the taxa	Place of collection	Time of collection
1	<i>C. braunii</i> f. <i>cormandelina</i> (A. Br.) Zanev. R.D.W.	University campus, Muzaffarpur	January 1978
2	<i>C. vulgaris</i> var. <i>nitelloides</i> (A. Br.) R.D.W.	Kumarbag, West Champaran	March 1977
3	<i>C. zeylanica</i> var. <i>zeylanica</i> f. <i>trichantha</i> (A. Br) H. and J. Gr. R.D.W.	Ram Dayalu Nagar, Muzaffarpur	November 1977
4	<i>C. setosa</i> f. <i>intermis</i> R.D.W.	Madhubani	December 1977

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* Original not seen.

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