

## A NOTE ON THE CHAROPHYTES OF HICKLING BROAD, E. NORFOLK

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The Norfolk Broads are a very good habitat for plant and animal life and have long been recognised as a rich collecting ground for many species of Charophytes. Gurney (1949) and Lambert (1953) give accounts of the origin and formation of the Broads, and Gurney advances the theory that it is the calcareous, mineral-rich water which drains into them over glacial drift that makes them such a good habitat. Hickling Broad is somewhat brackish owing to the effect of an independent, underground salt-water table from the sea.

In June 1960 a B.S.B.I. party spent a week-end at Hickling Broad and made a collection of Charophytes which is in the herbarium of the British Museum (Natural History). These plants were identified and exhibited at the B.S.B.I. Exhibition in November 1960.

While working on this material from Hickling Broad, a list was made of all previous records of Charophytes from the locality and of all specimens from there in the herbarium of the British Museum. The species which are known from Hickling Broad are: *Nitellopsis obtusa* J. Groves, *Chara canescens* Lois., *C. vulgaris* var. *papillata* Wallr., *C. hispida* L., *C. contraria* Kütz., *C. contraria* × *hispida*, *C. baltica* var. *rigida* Groves & B.-Webster, *C. aculeolata* Kütz., *C. aspera* Willd., *C. connivens* Braun, and *C. delicatula* Ag. A sterile plant found in Hundred Stream, Potter Heigham, in 1881, was believed to have been *C. tomentosa* L., but there was insufficient material to determine the identity, and it has not been collected since (Groves and Bullock-Webster, 1924).

In 1960 the following species were collected:—*Nitellopsis obtusa* J. Groves, *C. hispida* L., *C. contraria* Kütz., *C. contraria* × *hispida*, *C. aculeolata* Kütz., and *C. aspera* Willd.

The identification of the *C. contraria* × *hispida* hybrid was made by G. O. Allen, to whom I am much indebted for his help and interest. In his letter, Mr. Allen refers to *Journ. Bot.*, **24**, 1 (1886) where there are an excellent description and plate by J. Groves under the name *C. papillosa*. Later Groves & Bullock-Webster referred to it as a hybrid. Druce (1908) called it *C. grovesii* but the true identity of the plant is still in doubt and this name is a *nomen nudum*. The material collected by the B.S.B.I. members was sterile, and the ripe oospore depicted by

Groves in 1886 was from Swedish material of *C. papillosa*. It is, perhaps, better to leave the identification as it now stands until fruiting material is found, although Mr. Allen inclines to the view that it should be considered a new species.

## REFERENCES

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