any previous session, and the attendance at the meetings had averaged about fifty, also an increase over previous records. The Section was then adjourned until October.

DURAND WOODMAN,
Secretary.

TORREY BOTANICAL CLUB, MAY 11.

DR. N. L. BRITTON presided in absence of the President. Three new members were elected. Three successful field-meetings were reported. Resolutions were adopted commemorative of Dr. Emily L. Gregory, the late honored professor of botany at Barnard College, an active worker in the Club. Announcement was made of the recent gift, by President Low to the botanical department of Columbia, of a valuable set of water-color plates prepared by the late lamented Wm. Hamilton Gibson, in illustration of his projected work on mushrooms.

The paper of the evening followed, by Mr. Marshall A. Howe, entitled 'A Preliminary Comparison of the Hepatic Flora of California with that of Europe and of the eastern United States.''

The total number of Californian species now known is 77, of which 45 occur in the Mediterranean region, but only 37 in the Gray-Manual region of the United States.

It was shown that the hepatic flora of California has more in common with that of northern and central Europe than with that of the eastern United States, and is still more allied to that of the Mediterranean region. In particular, species of *Asterella* and *Riccia* are better developed in California and southern Europe than in the eastern United States.

The apparent absence in California of *Bazzania* and *Mylia*, which are especially characteristic of medial and boreal regions, serves to heighten the similarity to southern Europe.

The paper was followed by exhibit of photomicrographs of sections of Cryptomitrium, illustrating the development of the archegonia. In the discussion following, Professor Underwood said that the Hepatic species are most numerous in the Amazon region, the eastern slope of the Andes, and in Java. Insular tropical regions have furnished many where examined, as Cuba and Jamaica. Quite a number are peculiar to Australia. New Zealand is well supplied with species. Many have been recently collected in Africa, and have been described by Herr Stephani, of Leipsic, whose industry has doubled the number of described Hepaticæ. As a whole, the maximum development of the Hepaticæ is tropical, though some genera and certain groups within genera are wholly high-temperate or subarctic.

Professor Britton, remarking the indications of circumboreal and circumtropical distribution of certain species, referred to the argument for an equatorial distribution of flowering plants and of ferns, and queried if there were anything corresponding among Hepaticæ. He expressed the belief that it is the immediate environment which at present exerts the principal influence on distribution, whatever the original cause or mode of distribution may have been.

Professor Underwood referred to the influence of the Gulf Stream in permitting the existence of the subtropical genus *Lejeunia* on the coast of Ireland, a genus not elsewhere found in Europe. Comparing the Hepaticæ of Florida, they are only in part known; a few species are in common with the Appalachian flora; most of the Florida Hepaticæ are close-creeping forms found on bark, as *Frullania* and *Lejeunia*, having water-sacs on their leaves as aids in resisting drought. Some tropical *Marchantiaceæ* occur in Florida, and also, especially, species of *Riccia* and *Anthoceros*. *Thallocarpus* is known only from Florida and South Carolina.

EDWARD S. BURGESS,
Secretary.

NEW BOOKS.

Formation de la Nation Française. GABRIEL DE MORTILLET. Paris, Alcan. 1897. Pp. iv + 336. 6 Fr.

Introduction to the Study of Economics. CHARLES JESSE BULLOCK. New York, Chicago and Philadelphia, Silver, Burdett & Co. 1897. Pp. 511. $1.28.

Grundprobleme der Naturwissenschaft. ADOLF WAGNER. Berlin, Gebrüder Borntraeger. 1897. Pp. vi + 255.