SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....$3.50 a year.

Great Britain and Europe..... 4.50 a year.

Science Club-rates for the United States and Canada (in one remittance):

1 subscription	1 year	$ 3.50
2 "	1 year	6.00
3 "	1 year	8.00
4 "	1 year	10.00

Communications will be welcomed from any quarter. Rejected manuscripts will be returned to the authors only when the requisite amount of postage accompanies the manuscript. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guaranty of good faith. We do not hold ourselves responsible for any view or opinions expressed in the communications of our correspondents.

VOL. XIV. NEW YORK, JULY 5, 1889. No. 335.

CONTENTS:

THE SOUTHWARD MOVEMENT OF ICE on the Grand Banks during June was far more decided than for the same month last year and 1886, though scarcely exceeding that of 1887. The probable limit, as forecast on the "Atlantic Pilot Chart" for June, has been well reached in the area lying east of the 50th meridian. Since June 4 there were 16 reports of icebergs south of latitude 45°, and between longitudes 50° and 47½°. Of these, 11 reports fell south of latitude 44°. The southernmost one, a good-sized berg 40 feet high, in latitude 42° 54′ north, longitude 49° 54′ west, came near proving very serious to one big liner, who slightly struck one of its submerged spurs on a foggy evening, June 11. A few bergs are still coming down across the parallel of 50°, but the season on the southern half of the Grand Banks is drawing to a close, and the probable limit for July has accordingly been moved northward. The fact that the fog belt is so apt to overlap the iceberg region at this season makes it doubly desirable that transatlantic lines, both east and west bound, adopt a set of routes that will skirt rather than cross this dangerous field. Such routes are advocated on the "Pilot Chart," and the slight loss of time incurred by following them gives a factor of safety that must in time be recognized by underwriters. It is to be hoped that the coming international marine conference will give this question their wise consideration.

THE GRAIN PLANT-LOUSE IN OHIO.

ONE of the most notable insect-outbreaks that has occurred in Ohio for many years is now taking place in the grain-fields of that State. The insect is one which has long been known as the grain plant-louse (*Siphonophora granaria*), having originally occurred in Europe, whence it was probably introduced into this country early in its history. It has only occasionally ravaged grain-fields here, and, so far as our present information goes, has seldom been injurious in Ohio.

The insect is now present, however, in destructive numbers over a large portion of Ohio, having already seriously injured the wheat, and is now threatening an equally serious injury to oats and other grains. Last year it was present in many of the northern counties, not becoming sufficiently abundant to attract notice until the oats were nearly ripe.

This insect is closely related to the "green fly" of house-plants, rose-bushes, etc. It is a small, greenish, or in some cases brownish, insect, with or without wings, infesting the leaves and heads of plants of the grass family. It obtains its food by inserting a pointed beak into the leaf or stem, and sucking out the sap. As the wheat gets ripe, it migrates to the more succulent oats, and, when these ripen, will go to various grasses. It brings forth living young; and its rate of multiplication is very great, it being estimated that a single louse in spring may become the ancestor of many millions before autumn.

Fortunately this insect has a great many enemies which prey upon it, and are now doing immense good in decimating its ranks. These are of various kinds, and in some places are being mistaken for foes instead of friends of the farmer. The one which is causing the most apprehension is a peculiar dark-colored, six-footed insect, generally with spots of a brighter color on its back, looking, as one person expressed it, "half worm and half bug," which is very abundant in the infested wheat-fields, crawling about over the heads. These are the young or larvæ of various species of lady-bugs, or lady-beetles, and instead of attacking the wheat, as many farmers believe, is really feeding upon the lice themselves, and destroying them by thousands. Another insect that is doing immense good is a very small four-winged fly that deposits an egg within the louse. This egg hatches into a grub that develops at the expense of the louse, destroying it, and emerging again as a four-winged fly. The dead lice "struck" by these parasites become dull brown in color, and adhere to the leaf or stem upon which they were feeding.

Besides these, various other enemies are attacking the lice; and the indications now are that the outbreak will be so checked by the end of the season, that there will be little danger of a repetition of the attack next year.

The presence of English sparrows in the wheat-fields led some to believe that they were feeding upon the lice; but an examination of stomach contents of a number shot while on wheat, showed that the grain itself was what they were after, no more lice being eaten than was necessary to get the grain.

As yet no practical artificial remedy for the grain plant-louse is known. At the Ohio Agricultural Experiment Station at Columbus they have found that kerosene emulsion will destroy them; but the difficulty of reaching them with this substance, when they occur on the under surface of the leaf, or embedded in the chaff of the head, makes the remedy hardly practical. The injury to the wheat will be manifested by the shrivelling of the grain, due to the extraction of the sap necessary for its perfect development.

THE BRUCE PHOTOGRAPHIC TELESCOPE.

THE Astronomical Observatory of Harvard College has received from Miss C. W. Bruce of New York a gift of fifty thousand dollars, to be applied "to the construction of a photographic telescope having an objective of about twenty-four inches aperture, with a focal length of about eleven feet, and of the character described by the director of the observatory in his circular of November last; also to secure its use under favorable climatic conditions in such a way as in his judgment will best advance astronomical science."