

of course, be readily conceded as an article of broadmindedness; meanwhile we must wait for a specific case where it can be shown that males and females may be turned out in these different ways. For, while no one doubts that such things as blue flowers, let us say, may be due to different pigments that go back in origin to different factors, yet so far as known to the reviewer there is no case in the whole Mendelian literature where it has been *proved* that the same (not merely similar) product is the result of different factors.

A somewhat similar question comes up in connection with certain attempts that have been made to account for departures in the sex ratio on the basis that the sex factor has become "weakened." The result would lead to complete mix-up of the chromosome relations and would lead to chaos in subsequent generations if the same kind of "weakness" kept up. In contrast to such speculations the relative constancy of the chromosome number must appear an impressive fact. Doncaster himself, while lending a sympathetic ear to those who find difficulties in applying the chromosome interpretation to sex determination, takes in general the stand with which most of us will heartily agree, namely, to hold fast to what has been most clearly demonstrated and not let the fact that there are still unsolved problems confuse the issue. Progress in the difficult field of biological research seems to start from those points where the situation is clear. The ever-present attempts of the obscurantist to befog the issue by over emphasizing what is not understood is a procedure too familiar to call for more than passing comment. Doncaster's book will therefore serve to give balance to the situation that is "developing normally."

There are few minor points in the book that call for comment. The author has, on the whole, most judiciously assigned special discoveries to their authors without overburdening the text with names. The omission of Stevens's name on page 63 in connection with the discovery of the XY chromosomes in relation to sex determination is an oversight, but some fuller mention might have been ex-

pected in connection with the history of these chromosomes when much less important matters receive their historical setting.

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The Butterfly Guide: a Pocket Manual for the Ready Identification of the Commoner Species found in the United States and Canada. By W. J. HOLLAND, LL.D. $3\frac{1}{2} \times 5\frac{3}{4}$ inches; pp. 237; 295 figures in color. Doubleday, Page & Co. Cloth. \$1.

Any guide book to the identification of 255 species of butterflies, that contains 295 finely colored figures, that costs only a dollar and actually does go into a vest pocket, may truthfully be called a great little book. This, in a few words, is a fair description of Dr. W. J. Holland's "Butterfly Guide." Apparently it is the first of its kind, and also the last word (and picture) in butterfly books for availability in the field and home.

The thirty-thousand-copy success of Dr. Holland's original "Butterfly Book" may justly be regarded as the inspiration for the present elegant booklet; and the author's point is well taken. This manual is built on the same general lines as Chester A. Reed's Pocket Bird Guide Series, and the "Birds of New Jersey." True enough, these volumes are none of them "reading books," and in the business of furnishing means to ends in identifying species they stick closely to their trails.

The purpose of this almost bewildering array of colored butterfly pictures is to promote identification of strange species, literally in a moment; and right well do they serve their purpose. Remembering as we do the breezy and rare freshness of the author's literary style, the only regret about this volume is that it does not and can not furnish room for unlimited Hollandesque gossip and disquisition on the more interesting species.

W. T. H.

SPECIAL ARTICLES

A NEW DISEASE OF GERMINATING WHEAT

WHILE examining some wheat fields on April 16 of this year it was noted that there was a

considerable unevenness of the stand, there being quite a proportion of very weak plants. It was known during the season of 1914 that these fields were infested by the wheat straw worm, *Isosoma grande* Riley, and it was thought that the weakened plants were due to infestations of this insect. Careful examination, however, did not reveal the presence of larvæ in the unthrifty plants. While making observations two weeks previous to this time it was noted that the emerged females of the wheat straw worm, *Isosoma grande*, were ovipositing in the wheat plants, and it was naturally our first thought, on examining the fields the second time, that the weakening of the plants was due to the attack of the larvæ. It may be said in passing that the wheat plants were largely volunteer, although some additional seed had been sown in the field.

A number of these plants were carefully examined in the laboratory and it was found that the attached wheat kernels were infected with a fungus which had apparently destroyed their contents at or near the time of germination. Pure cultures of the organism were made and it was found that the fruiting was typical in every respect excepting on nutrient agar cultures, or cultures which tended to become dry too readily.

A search of the literature indicates, in so far as I have been able to determine, that this disease has not been heretofore noted and that the organism has not been previously described. The fungus clearly belongs to the genus *Podosporiella*. We find only one other species under this genus, namely, *Podosporiella humilis* Ell. & Ev. The fungus is not truly parasitic, but seems to attack the wheat kernel about the time of germination, completely destroying the contents in very much the same way that the kernel is destroyed by smut. The result is that the wheat seedling, not getting the proper food supply in the early stages of growth, is permanently dwarfed and produces few stools. The crop yield is much reduced.

An extended description of the fungus and the characteristics of the disease will be given in the near future, at which time the fungus

will be named as a new species of *Podosporiella*.
P. J. O'GARA

OCCURRENCE OF *THIELAVIA BASICOLA* AS A ROOT
PARASITE OF WATERMELONS IN THE SALT
LAKE VALLEY, UTAH

DURING the current season my attention was called to a serious trouble of watermelons, *Citrullus vulgaris* Schrad., in which all the plants in an entire field had been lost and even a second planting had largely died. Many of the plants came above the ground in an apparently healthy condition, but soon wilted or "damped off." Some that did not wilt had a chlorotic appearance and upon carefully removing them from the soil it was found that the lower part of the root system had been destroyed. These plants had developed many lateral roots above the point of injury. Examination showed that the roots were badly infected with the fungus *Thielavia basicola* (B. & Br.) Zoph. In going over the literature I find that Gilbert¹ gives a considerable list of hosts and the distribution of the fungus. This list does not include the watermelon and it is therefore apparent that the watermelon is a heretofore unreported host for this fungus. So far as the writer has been able to determine, *Thielavia basicola* has not been found in any part of the United States west of the Mississippi River; at least, it has not been found as an active parasite.

The fungus has been isolated in pure culture and has fruited characteristically, agreeing perfectly with the descriptions as given in the literature.
P. J. O'GARA

OCCURRENCE OF THE BACTERIAL DISEASE OF SUDAN
GRASS IN THE SALT LAKE VALLEY, UTAH

ONLY very recently has Sudan grass, *Andropogon sorghum*, been introduced into Utah, and with it apparently has been introduced the bacterial disease. Very recently some specimens were brought to the laboratory for examination, where it was found that they were badly diseased. The elongated, red-brown blotches were extremely numerous and had caused the death of many of the leaves.

¹ Bulletin 158, Bureau of Plant Industry, U. S. Department of Agriculture, October 7, 1909.