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Hybrids of *Aegilops* sp. × Wheats

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Professor Percival exhibited ears of several species of *Aegilops*, and hybrids of *Aegilops* species × wheats mentioned below.

1. *Aegilops ovata* L.; *A. ovata* L. var. *triaristata*; *A. triuncialis* L.; *A. cylindrica* Host.; *A. speltoides* Jaub. et Spach.; *A. Aucheri* Boiss.; *A. squarrosa* L.; *A. crassa* Boiss.; *A. ventricosa* Tausch.; *A. longissima* Schw. et Musch.

2. Hybrids a) *A. ovata* L. ♀ × *Triticum monococcum* L. ♂
b) ,, ♀ × *T. dicoccoides* Körn. ♂
c) ,, ♀ × *T. dicoccum* Schub. ♂
d) ,, ♀ × *T. durum* Desf. ♂
e) ,, ♀ × *T. polonicum* L. ♂
f) ,, ♀ × *T. turgidum* L. ♂
g) ,, ♀ × *T. vulgare* Host. ♂
h) ,, ♀ × *T. compactum* Host. ♂
i) ,, ♀ × *T. sphaerococcum* Perciv. ♂
k) *T. vulgare* ♀ × *A. ovata* L. ♂

3. Hybrid *A. triuncialis* L. ♀ × *T. vulgare* Host. ♂
4. ,, *A. ventricosa* Host. ♀ × *T. dicoccum* L. ♂
5. ,, *A. cylindrica* Host. ♀ × *T. polonicum* L. ♂
6. ,, *A. ovata* L. ♀ × *A. cylindrica* Host. ♂
7. *A. triuncialis* ♀ × *A. ovata* L. ♂

In commenting on the exhibit Professor Percival observed that the hybridisation of *A. ovata* with all races of wheats is readily effected when *A. ovata* is made the female parent; the reciprocal crosses are more difficult, although a few have been obtained.

In the majority of morphological characters the hybrids are intermediate between the two parents. All were sterile except a single ex-

ample of the cross *A. ovata* ♀ × *T. turgidum* ♂, from which a few grains were secured.

Pollen-formation is very irregular in all the hybrids, pollen-grains of many different sizes and forms being produced.

Hitherto the cytology of only a few of the hybrids has been studied; in these the reduction divisions are abnormal and at the metaphase only univalents or a few loosely paired bivalents were observed, scattered irregularly throughout the cytoplasm of the mother-cells.

In these hybrids the anthers do not open, and Professor Percival suggested that their sterility may be due to the indehiscence of the anthers rather than to the anomalous pollen-formation, since Professor Tschermak's fertile *A. ovata* × wheat hybrids exhibit an irregular pollen-formation similar to that of the sterile hybrids but differ from the latter in possessing pollen-sacs which dehisce and shed their pollen freely.

Detailed accounts of the morphology and cytology of the *Aegilops* × wheat hybrids will be published later when the investigations are completed.