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Hybrids of *Aegilops* sp. \times Wheats

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Professor Per cival exhibited ears of several species of Aegilops, and hybrids of Aegilops species × wheats mentioned below.

1. Acyilops 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) $\varphi \times T. dicoccoides K\"{o}rn. \eth$

c) $\varphi \times T$. dicoccum Schub. 3

d) ,, $\varphi \times T$. durum Desf. δ

e) ,, $\varphi \times T$. polonicum L. δ

f) $\varphi \times T$. turgidum L. δ

 φ) , $\varphi \times T$. vulgare Host. δ

h) $\varphi \times T.$ compactum Host. δ

i) $\varphi \times T$ sphaerococcum Perciv. 3

k) T. vulgare $9 \times A$. ovata L. 3

3. Hybrid A. triuncialis L. P × T. vulgare Host. &

4. .. A. ventricosa Host. $\mathcal{L} \times T$. dicoccum L. 3

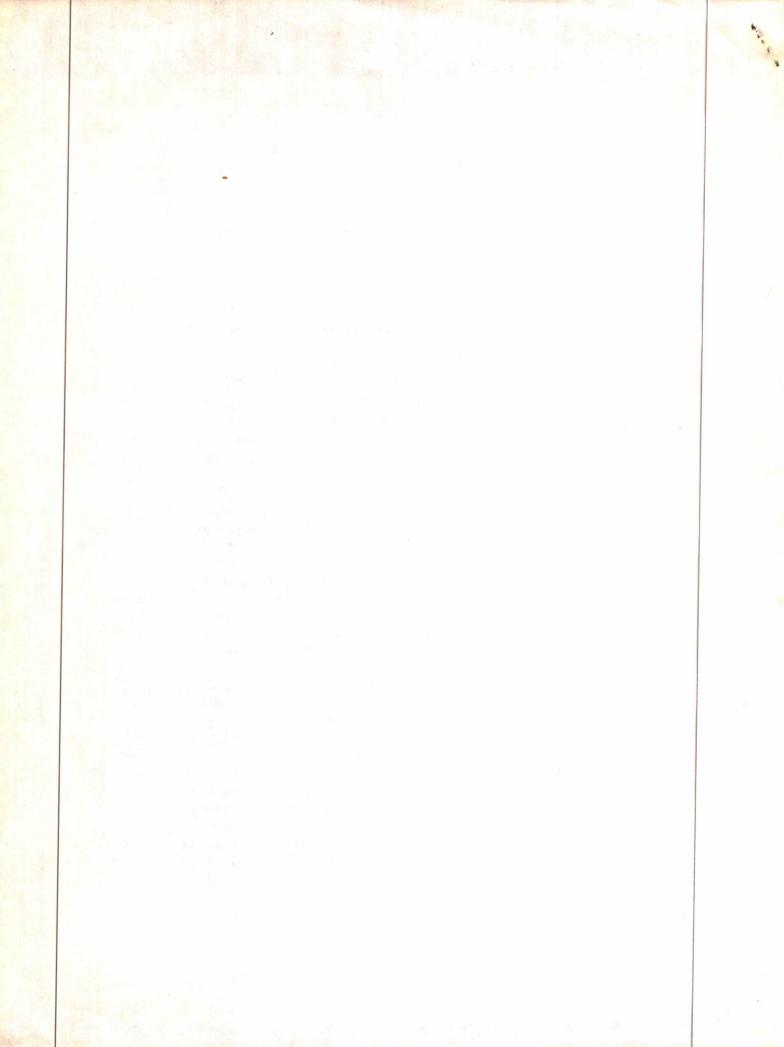
5. A. cylindrica Host. $\mathcal{P} \times T$. polonicum L. \mathcal{S}

6. .. A. ovata L. $\mathcal{L} \times A$. cylindrica Host. 3

7. A. triuncialis ♀ × A. ovata L. ♂

In commenting on the exhibit Professor Percival observed that the hybridisation of A. orata with all races of wheats is readily effected when A. orata 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 $9 \times T$. turgidum 3, 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 x wheat hybrids will be published later when the investigations are completed.

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