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Pollen of Iowa Honey

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POLLEN OF IOWA HONEY

S. M. PATTEE

Pollen that is preserved in honey reveals the identity of the plants which bees visit in gathering nectar and to some extent the place of origin and season in which it is collected.

In 1944 a study of pollen in Iowa honey was made by the author and the present paper describes some of the pollen types encountered in that study. A few of the common types with descriptions are here presented and the sizes given are those of the pollen grains which had been in honey and treated according to the method outlined in the earlier paper.

ZEA MAYS L. CORN Fig. 1.

Radial symmetry; monoporate; nearly spheroidal; diameter 95-115 μ , pore circular 6.8-91 μ in diameter, operculum irregular; exine finely granular.

TRIFOLIUM HYBRIDUM L. Alsike Clover Fig. 2.

Radial symmetry, polar lengthened; tricolpate with pores; ellipsoidal; length 30-34 μ , diameter 25-26 μ ; each furrow thickening interrupted for an irregular pore; exine faintly reticulate.

TRIFOLIUM PRATENSE L. Red Clover Fig. 3.

Radial symmetry, polar lengthened; tricolpate with pores; ellipsoidal; length, 40-56 μ , diameter 30-46 μ ; furrows long with equatorial pores extending into marginal thickening; pores without distinct or regular margins; exine with distinct reticulate network of low ridges.

FAGOPYRUM ESCULENTUM Moench. Buckwheat Fig. 4.

Radial symmetry, polar lengthened; tricolpate with pores; long ellipsoidal to subspherical; length 47-80 μ , diameter 35-50 μ ; furrows long and tapering, membrane irregularly granular; germ pores elliptical; exine pitted with coarse underlying granular structure.

MELILOTUS sp. Sweet Clover Fig. 5.

Radial symmetry, polar lengthened; ellipsoidal; *M. alba* length 26-30 μ , diameter 21-22 μ ; *M. officinalis* length 30-33 μ , diameter 24 μ ; furrow thickening discontinuous at the equatorial pore; exine finely granular; *M. alba* is smaller than *M. officinalis* but otherwise indistinguishable.

TRIFOLIUM REPENS L. White Clover Fig. 6.

Radial symmetry, tricolpate, ellipsoidal; length 37-46 μ , diameter 25-30 μ ; furrow ridges long, notched or with flange in the equatorial region on the poral side; exine finely granular and not reticulate.

ULMUS AMERICANA L. American Elm. Fig. 7.

Radial symmetry, oblately flattened; pentaporite; diameter 32-41 mu; pores arranged around the equator generally five but varying from three to seven; exine with wavy reticulation but otherwise smooth.

TILIA AMERICANA L. Basswood Fig. 8.

Radial symmetry, oblately flattened; triporite; diameter 45-49 mu; pores generally three, deeply sunken, and equally spaced around the equator; intine greatly thickened under each pore.

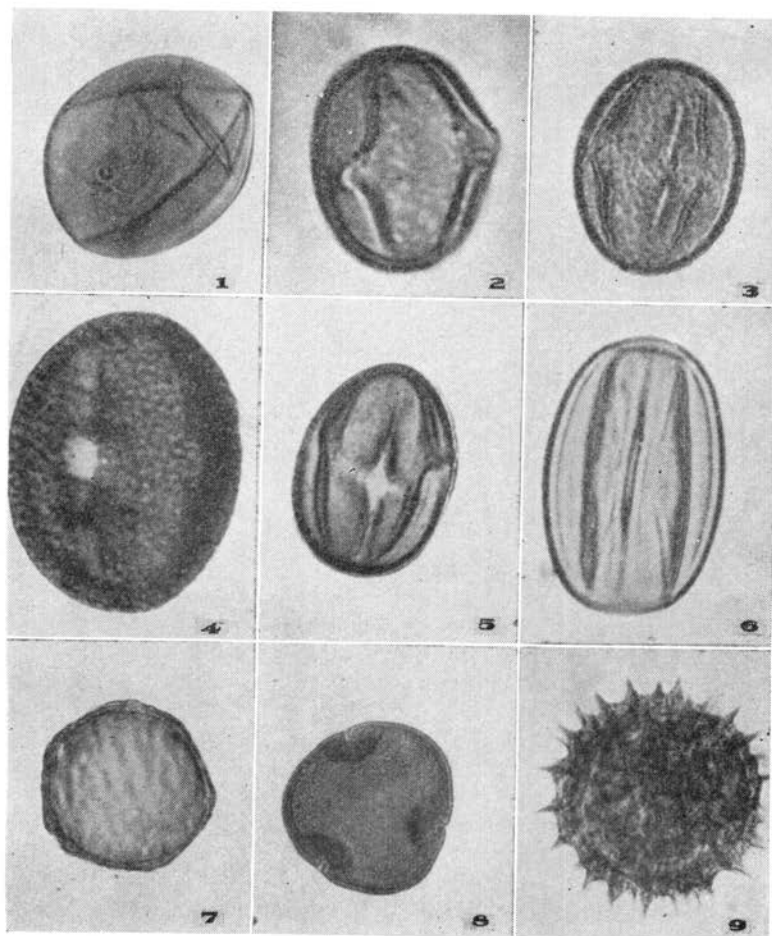
ASTER sp. Fig. 9.

Radial symmetry; tricolpate; spheroidal; diameter 17-32 mu; furrows of medium length, membranes smooth and pores circular; exine rather thick and finely granular; spines uniform in size and arrangement short-conical and sharp pointed 2.5-3.4 long and 4.6-5.7 mu. apart.

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LITERATURE CITED

- Erdtman, G. 1943. An Introduction to Pollen Analysis. Chronica Botanica Company, Waltham, Mass.
Hoffman, Charles A. 1930. The Morphology of the Pollen Grains of Some Honey Plants. p. 977, Bull. No. 7, Iowa Geol. Surv.
Pattee, S. M. 1945. Pollen Content of Iowa Honey. Iowa Acad. Sci. Proc. 52:155-158.
Wodehouse, R. P. 1935. Pollen Grains. McGraw-Hill Book Co., New York.



LEGEND TO PLATE I

| | Length | Diameter |
|--|-------------|--------------|
| Fig. 1. <i>Zea Mays</i> L. | | 95-115 μ |
| Corn | | |
| Fig. 2. <i>Trifolium hybridum</i> L. | 30-34 μ | 25-26 |
| Alsike Clover | | |
| Fig. 3. <i>Trifolium pratense</i> L. | 40-56 | 30-46 |
| Red Clover | | |
| Fig. 4. <i>Fagopyrum esculentum</i> Moench. Buckwheat | 47-80 | 35-50 |
| Fig. 5. <i>Melilotus</i> Sp. | 26-33 | 21-24 |
| Sweet Clover | | |
| Fig. 6. <i>Trifolium repens</i> L. | 37-46 | 25-30 |
| White Clover | | |
| Fig. 7. <i>Ulmus Americana</i> L. | 32-41 | 30-40 |
| American Elm | | |
| Fig. 8. <i>Tilia Americana</i> L. | | 45-49 |
| Basswood | | |
| Fig. 9. <i>Aster</i> Sp. | | 17-32 |