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United States Treasury Department. Bureau of narcotics . [Album de 31 photographies d'une plantation de chanvre] Marihuana photomicrographs, Departement of Agricultural Experimental Farm, Arlington, Virginia

Washington : Bureau of narcotics, 1938.
Cote : Res 106100

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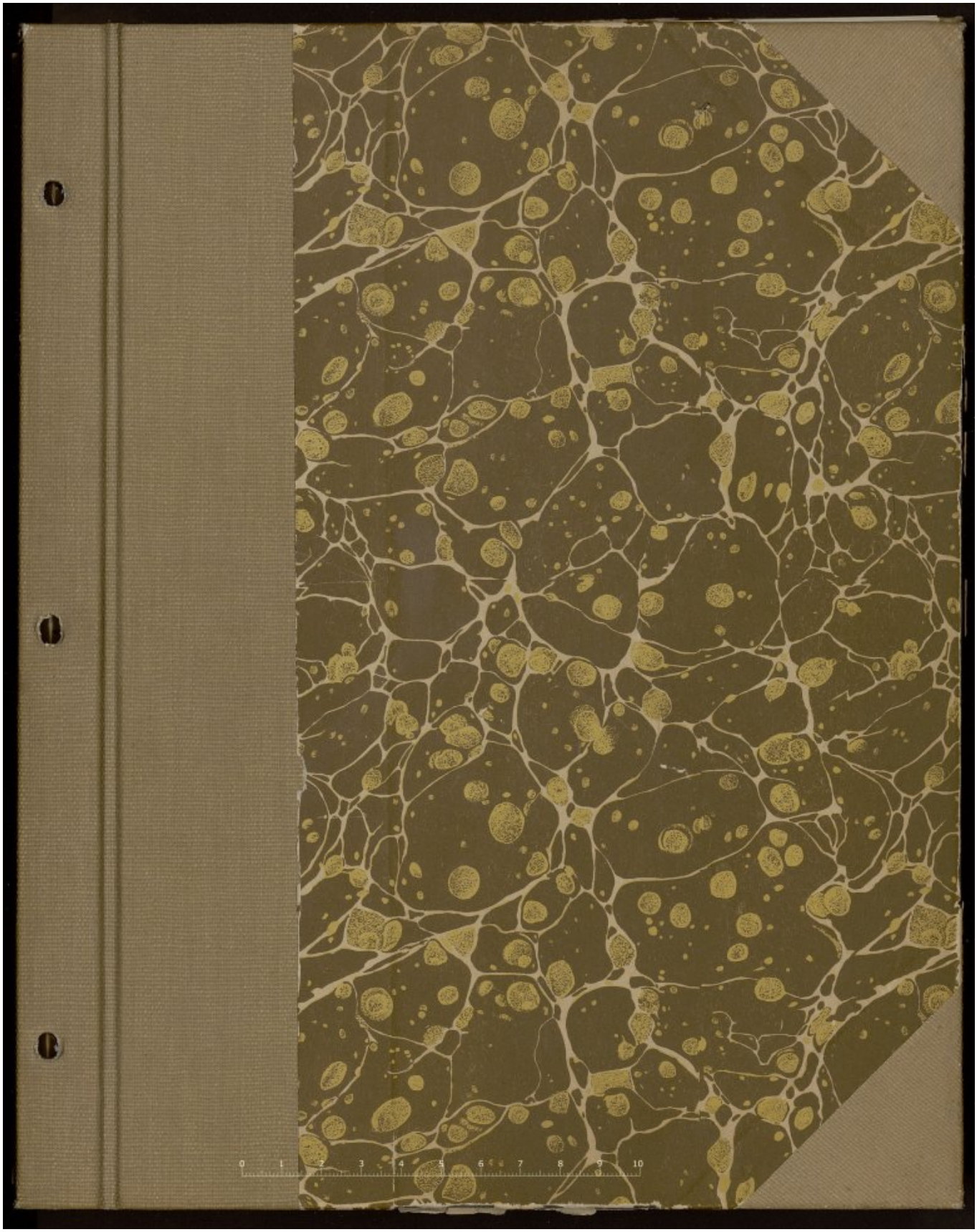

RES 106100

with the compliments of
H. J. Anslinger
U.S. Commissioner of Narcotics
Washington, D.C.
Sept. 10 - 1938

MARIHUANA PHOTOMICROGRAPHS

The term MARIHUANA (scientifically designated as Cannabis sativa) is used herein for the reason that it is the term denoting the drug in recent Federal tax legislation, and the term by which the drug is popularly known in this country.

The specimens used in the following photomicrographs were all from plants grown at the Department of Agriculture Experimental Farm at Arlington, Virginia, in the Summer of 1937, and were of a variety of hemp cultivated for fiber production in Kentucky.

The average height of the plants from which these specimens were taken was fifteen feet.

United States Treasury Department
Bureau of Narcotics
1938

FIGURE 1. Plant 4 Weeks Old

Marihuana plant four weeks from the time the sprout appeared above the ground. Note the opposite pairs of leaves which appear on the stalk, almost at right angles to one another. Vein structure and serration of the compound leaves are clearly shown. Branches have not yet appeared.

FIGURE 2. Plants 8 Weeks Old

Marihuana of the same growth as that shown in FIGURE 1, but pictured 4 weeks later. Leaves and branches may be discerned in their characteristic relationship in the upper portions of the plant. The rank growth, obscuring individual branches on the lower part of the stalk, is apparent.

FIGURE 3. Plants 12 Weeks Old

A third view of the same growth of marihuana 12 weeks after the appearance of sprouts above ground. Most marihuana does not grow as tall as this.

FIGURE 4. Stalk, xl

A portion of dried marihuana stalk. Note the lengthwise fluting and especially the relationship of leaves and branches.

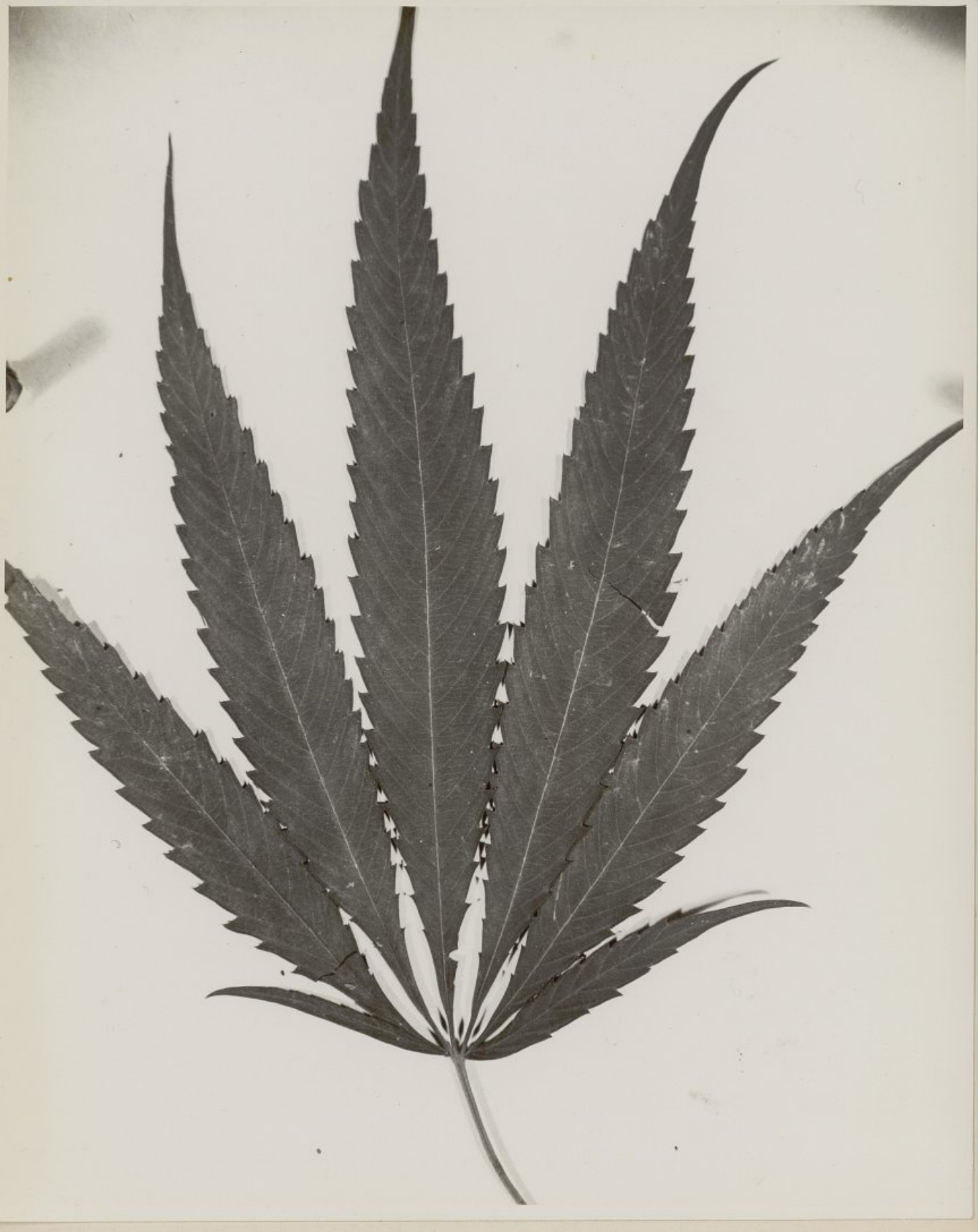

FIGURE 5. Leaf, xl

The upper side of a rather large dried and pressed leaf showing the seven leaflets in their natural relationship. Note the serration and vein structure.

FIGURE 6. Leaf, xl

A view of the under side of the leaf shown in FIGURE 5. Vein structure is more readily observed on the under side of leaves.

FIGURE 7. Leaflet, x6

A portion of upper side of a single leaflet from the leaf shown in FIGURES 5 and 6.

FIGURE 8. Leaflet, x6

The under side of the portion of leaflet shown in FIGURE 7.

FIGURE 9. Leaflet, x31.5

The under side of a single notch of the leaflet shown in FIGURE 8. Note the small vein branching from the larger one and terminating at the indentation of the notch.

FIGURE 10. Pressed Male Flowering Top, xl

Dried male flowering top pressed. Note the arrangement of sprays and leaves and the profusion of flowers.

FIGURE 11. Male Flowering Top, x3

Portions of the flowering top of the male plant showing flowers and mode of attachment.

FIGURE 12. Male Flowering Top, x8

A portion of male flowering top and separate flowers at a higher magnification than in FIGURE 11.

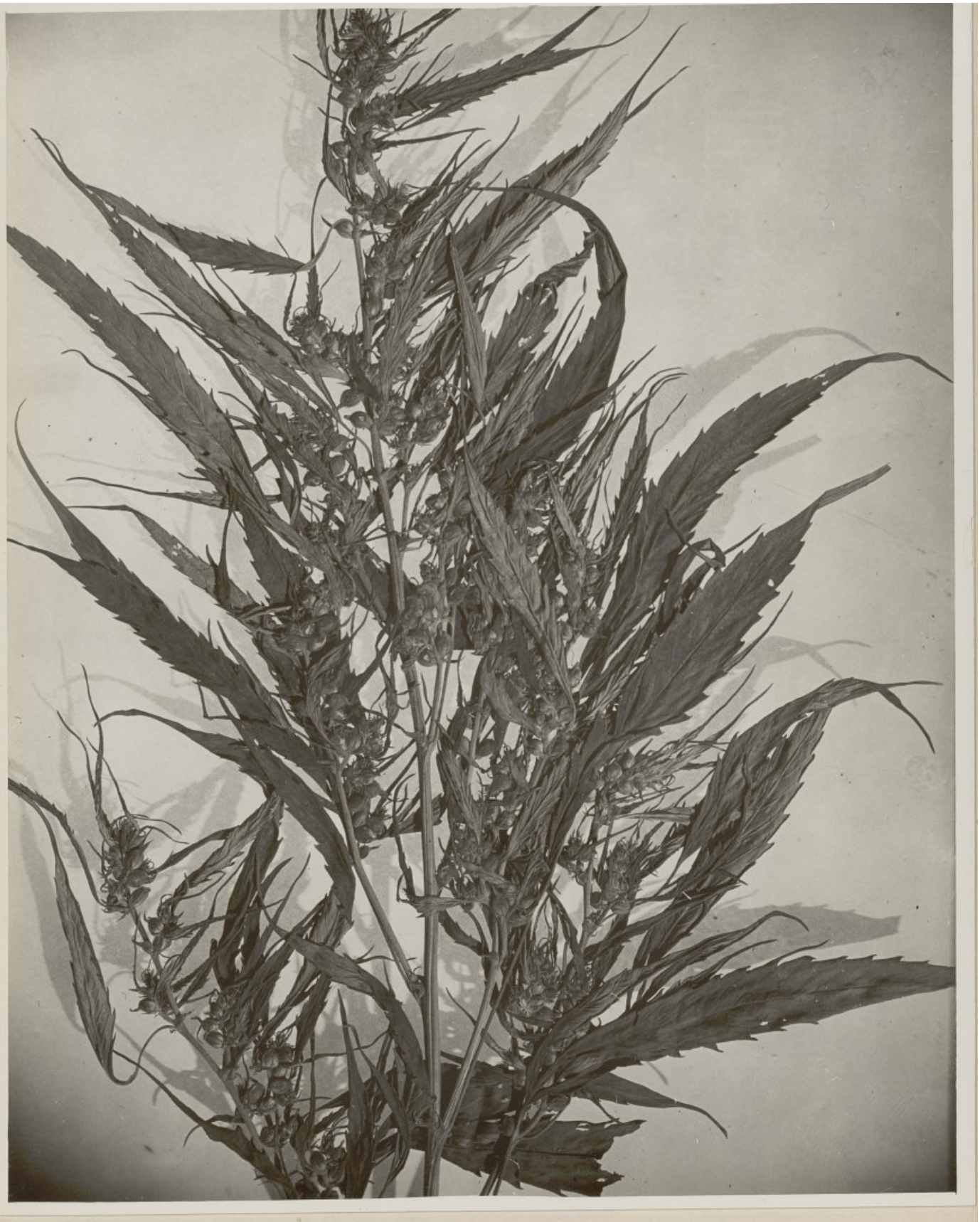

FIGURE 13. Pressed Female Flowering Top, xl

Dried female flowering top pressed. Note the branching of twigs, accompanied by leaves, from the main stem. Each such twig supports a portion of flowering top similar to those shown in FIGURES 14, 15 and 16.

FIGURE 14. Female Flowering Top, x3

A portion of dried female flowering top. Note the branching and sub-branching of the main twig and the positions of fruit and leaves.

FIGURE 15. Female Flowering Top, x3

Portions of dried female flowering tops.

FIGURE 16. Female Flowering Top, x2

Portions of dried female flowering tops.

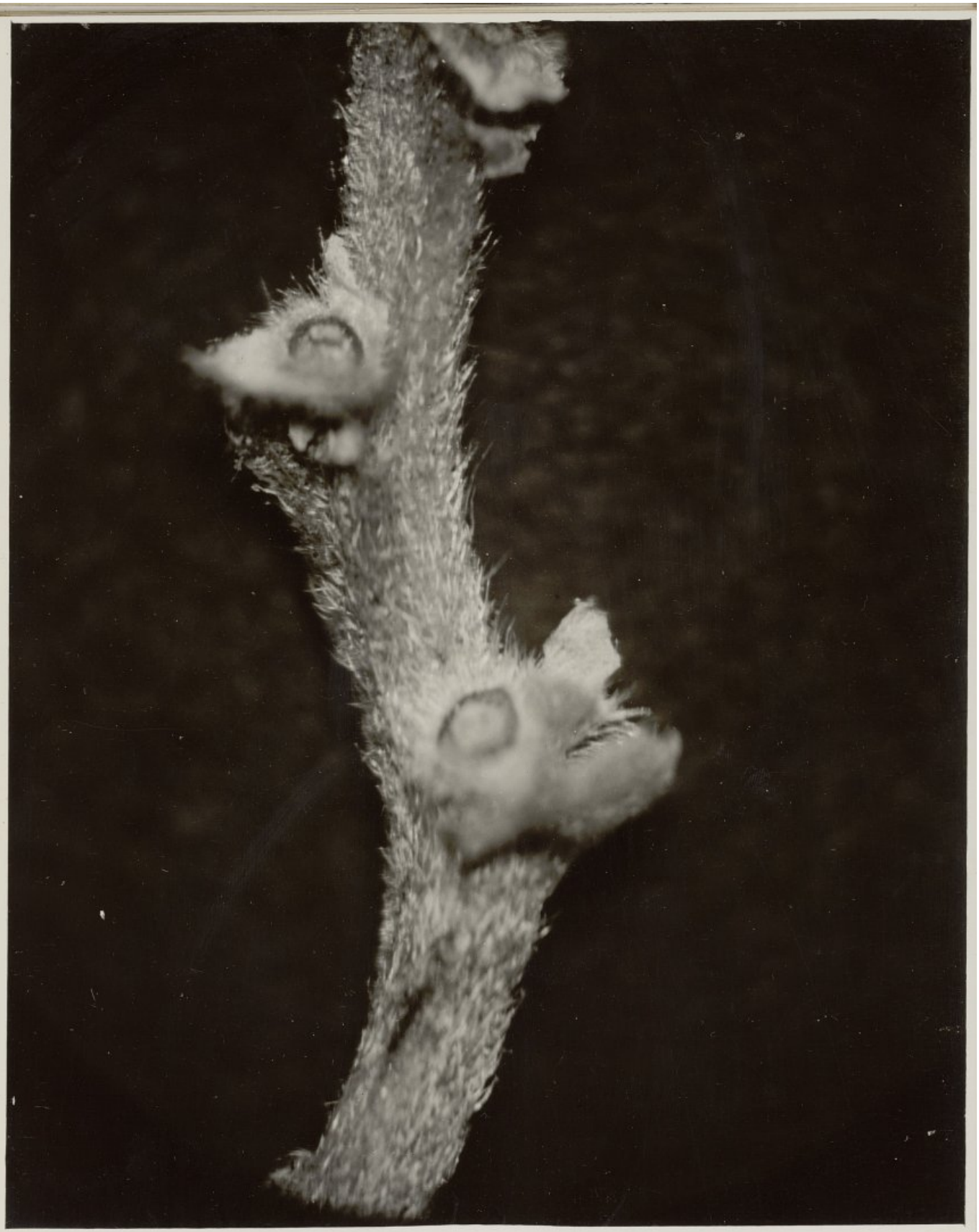

FIGURE 17. Twig, x31.5

A portion of tiny dried twig or branch from a female flowering top. Note the profusion of hair and the point of attachment of fruit and leaves.

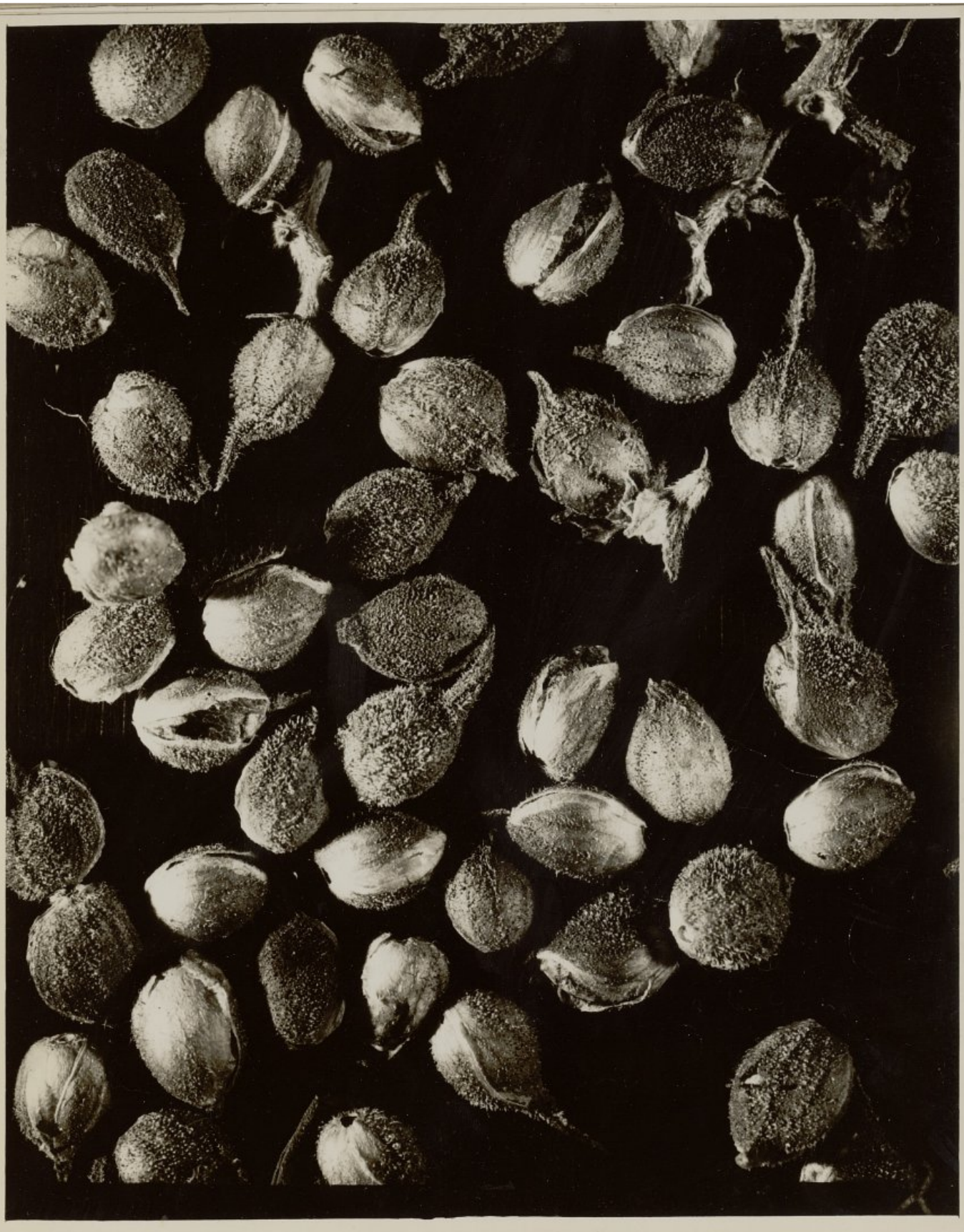

FIGURE 18. Fruit in "Hulls," x6

Dried mature fruit in "hulls." Note the "warty" appearance due to hair. A portion of flowering top twig is included to illustrate the mode of attachment. The "hulls" are characteristic and should be studied with care.

FIGURE 19. Fruit in "Hulls," x31.5

Dried immature fruit in "hulls" showing hair and a few of the glistening globules more apparent in FIGURE 20.

FIGURE 20. Fruit in "Hull," x31.5

A single dried mature fruit in "hull." Note the profusion of hair and the glistening globules which are the almost spherical heads of the glandular hairs.

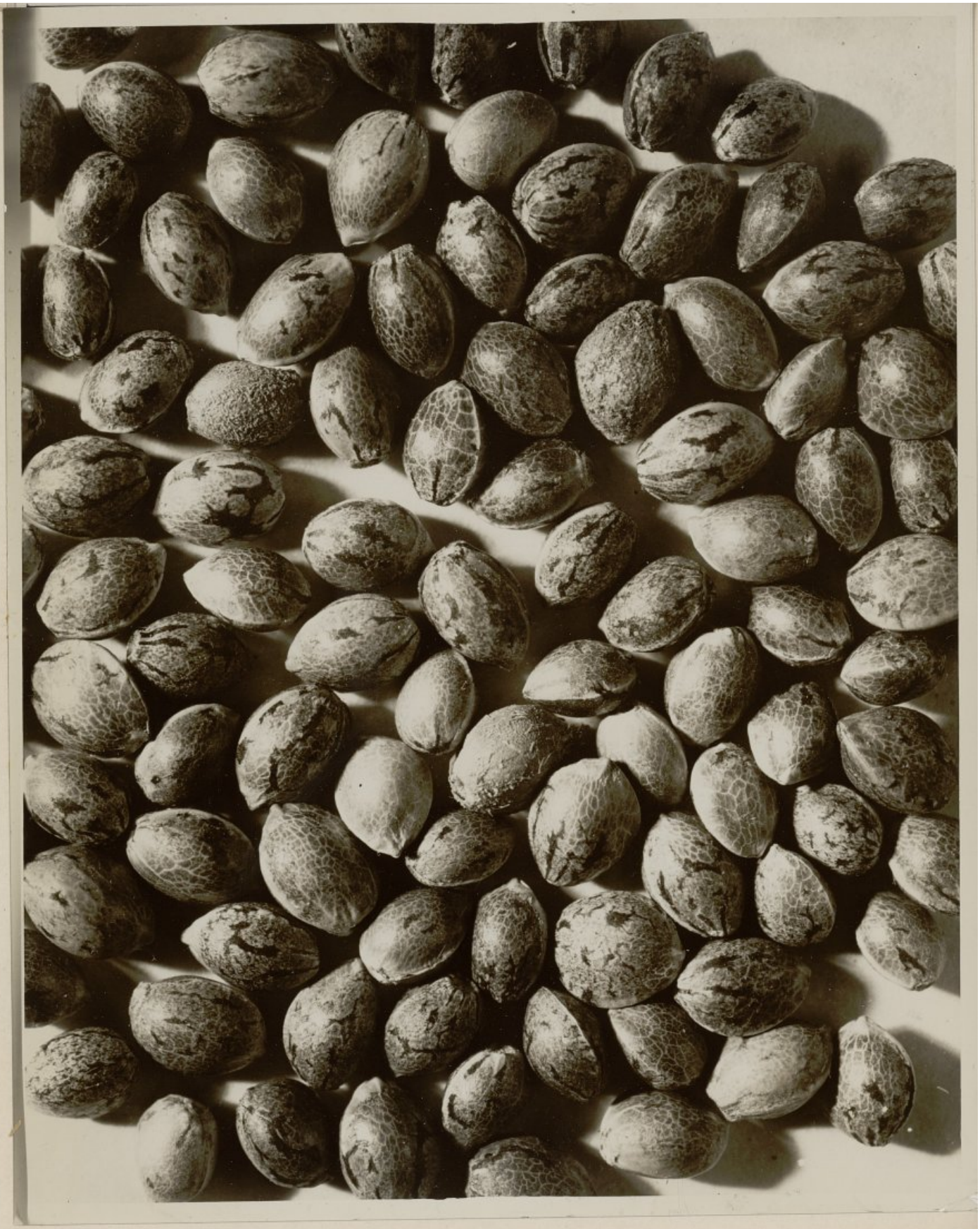

FIGURE 21. Fruit, x6

Dried mature fruit without "hulls." Note the encircling ridges, the mottling, and especially the lacy markings covering the surface.

FIGURE 22. Fruit, x31.5

A view of dried mature fruit at higher magnification than in FIGURE 21. The ridges and lacy markings are particularly noteworthy.

FIGURE 23. Fruit, x31.5

A dry mature fruit split to show the white meaty contents frequently described as resembling cocoanut meat.

FIGURE 24. Leaflet, x31.5

A portion of the upper side of a small dried leaflet from the female flowering top. The "warty" appearance is due to the cystolith hairs. The edges had curled during drying, hence no serration appears in the photograph.

FIGURE 25. Leaflets, x31.5

Portions of tiny dried leaflets from the female flowering top. Note the profusion of cystolith hair on the upper sides and the "wooly" appearance of the hairy under sides.

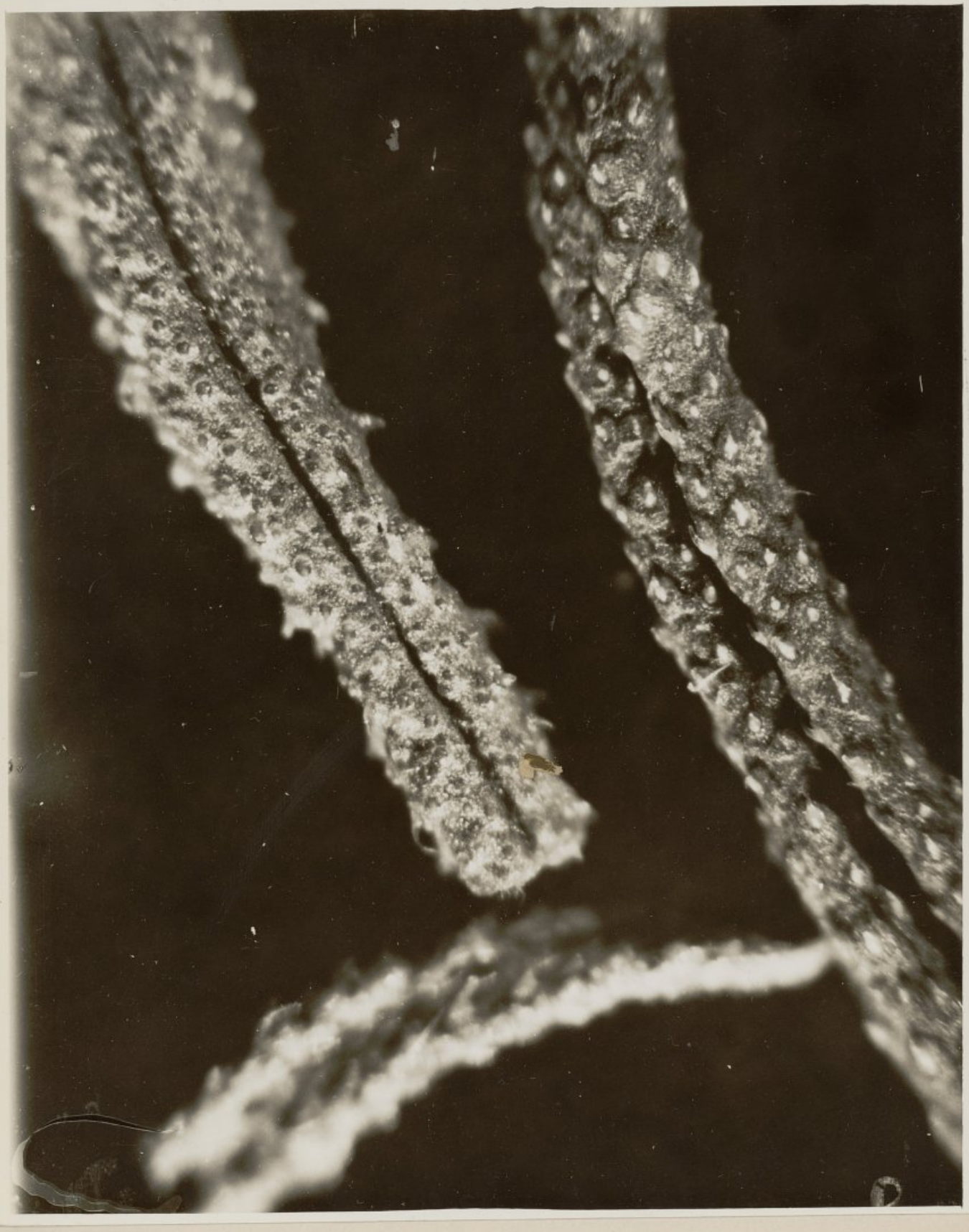

FIGURE 26. Leaflets, x60.75

Curled fragments of small dried leaflets from the female flowering top showing clearly the cystolith hair.

FIGURE 27. Cystolith Hairs, x211.5

A view of one of the fragments shown in FIGURE 26 at higher magnification to more minutely illustrate a few cystolith hairs.

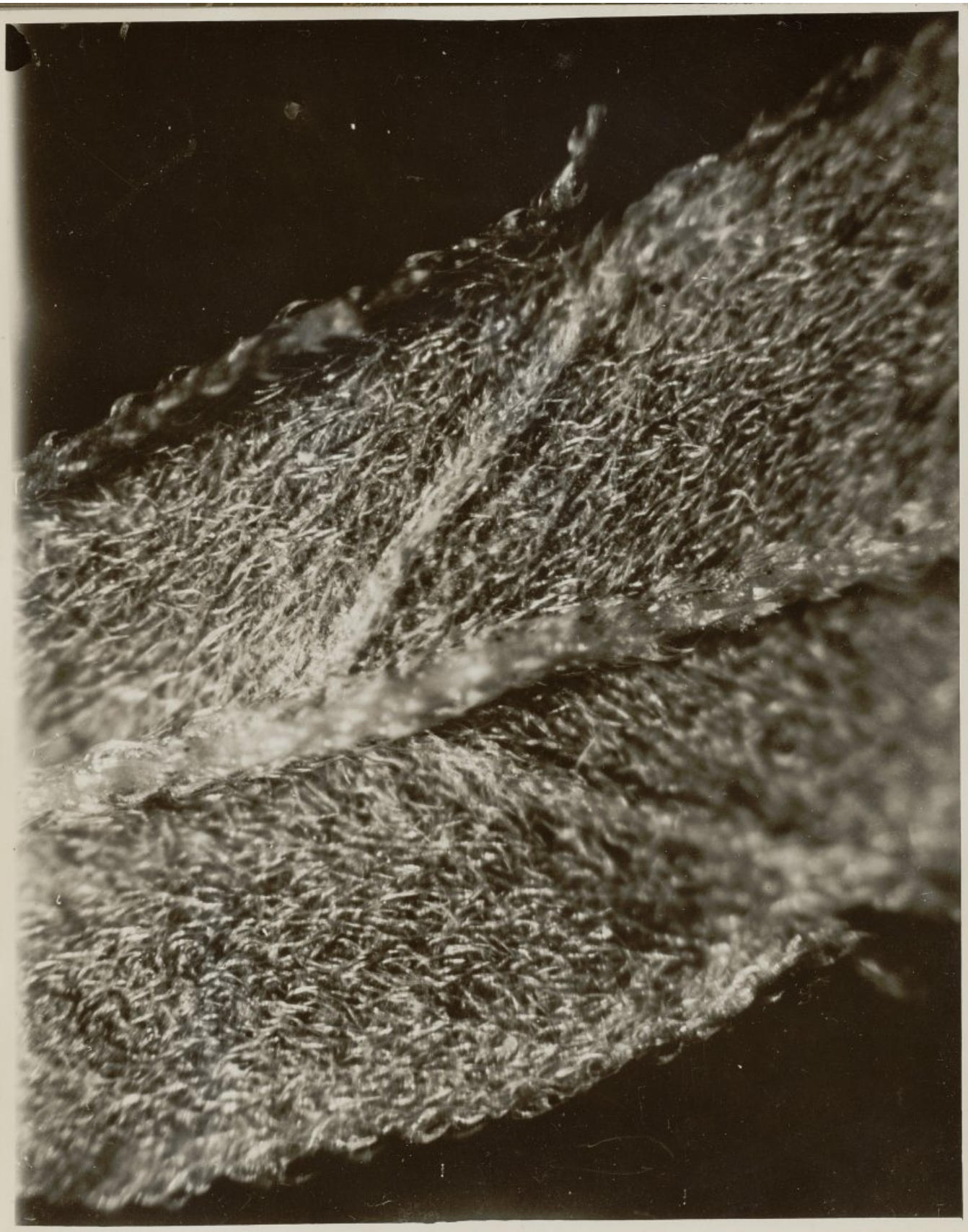

FIGURE 28. Leaflet, x60.75

The under side of a dried leaflet from the female flowering top. Note vein structure and hair, longer and more sharply pointed than that of the upper side.

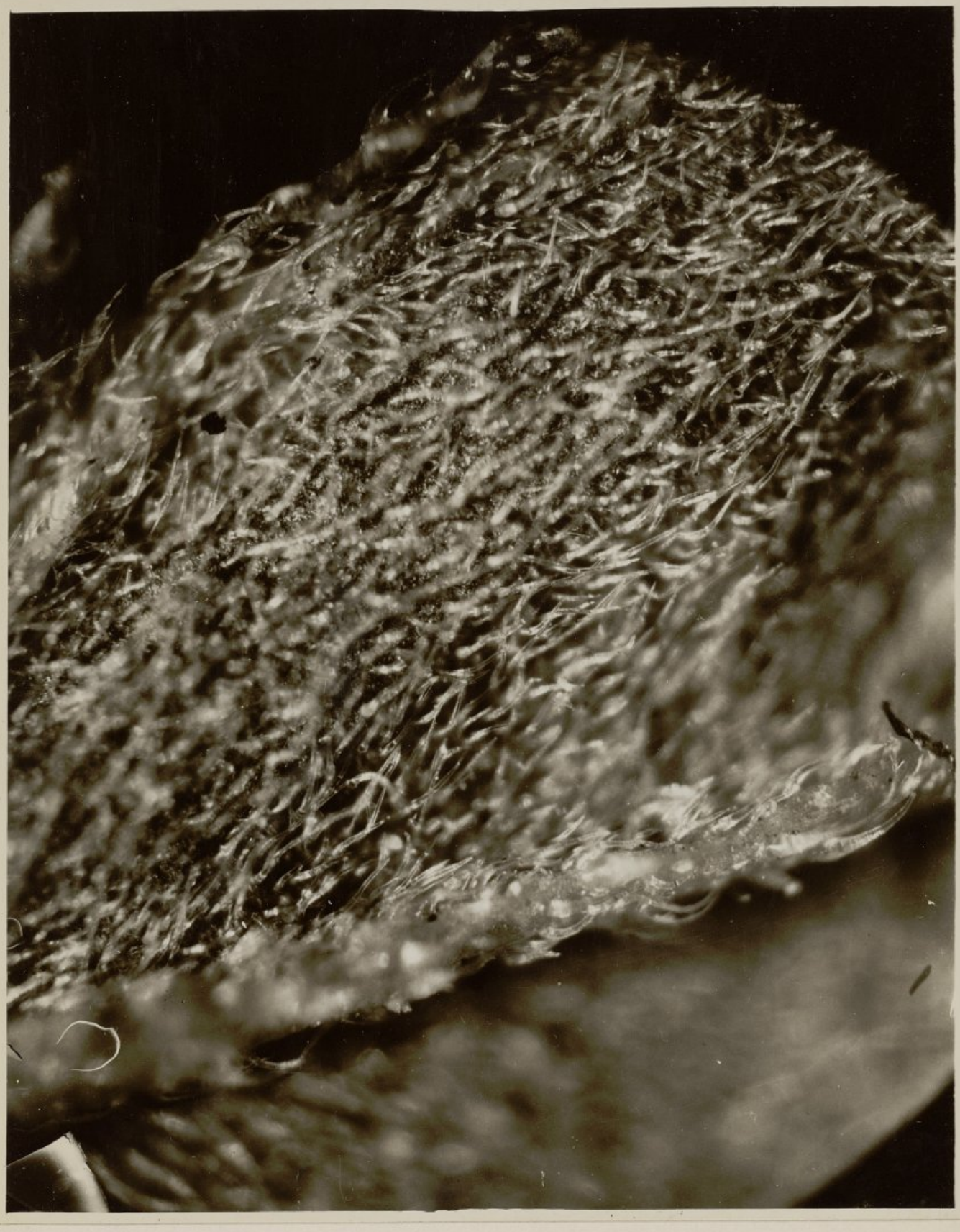

FIGURE 29. Leaflet, x110.25

A portion of the field shown in FIGURE 28, here photographed at higher magnification to show more clearly the hair.

FIGURE 30. "Hull," x211.5

A portion of the outer surface of a "hull" showing glandular hair. Note the cystolith hair in the background.

FIGURE 31. Sample, x8

A typical sample of marihuana such as may be presented for identification. The different plant portions are readily recognized. Note especially the presence of leaves, fruit, and "hulls."

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FIGURE 32. Sample, x8

A typical sample of crushed marihuana and tobacco such as may be found in a cigarette presented for identification.