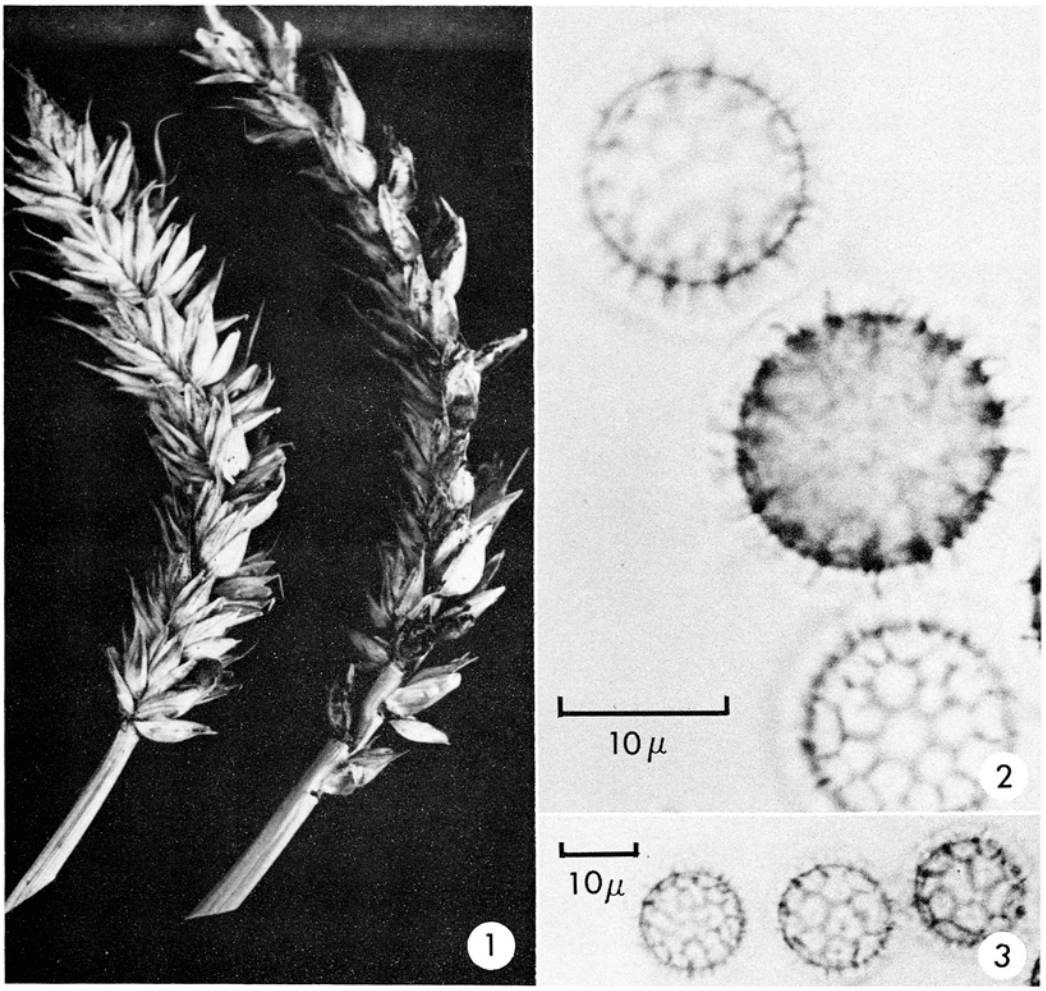
TILLETIA CONTROVERSA



1, Healthy (L) and Smutted (R) head of winter wheat (approx. × 1.5); 2, spores showing sheath; 3, spores showing reticulations. All figures from DAOM 133775.

Tilletia controversa Kühn, *in* L. Rabenhorst, Fungi europaei exs. no. 1896. 1874, Dresden. Hedwigia 13: 188-189. 1874.
= *T. brevifaciens* G.W. Fischer, Res. Stud. State Coll. Wash. 20: 11. 1952.

SMUT SORI in the ovaries causing them to become globose, covered by pericarp which eventually ruptures to expose the black spore mass, host plants usually considerably stunted. SPORES globoid, 17.5-26(-28) μ including sheath, yellow-brown to grey-brown, wall reticulate with meshes 0.7-2.1 (-2.8) μ high and 2.1-7.0 μ diam., hyaline gelatinous sheath usually overtopping the mesh, 1.4-4.2 μ thick. Sori occasionally contain a few sterile cells, up to 20 μ diam., hyaline, smooth-walled with gelatinous sheath, 2-4 μ thick.

HOSTS: *Triticum aestivum* L., on the winter wheat cultivars "Blueboy", "Cornell 595", "Dawsons Golden Chaff", "Genesee", "Talbot" and "Yorkstar".

DISTRIBUTION: Ontario: Huron, Perth, Middlesex, Dufferin, Simcoe, Gray, Bruce and Victoria counties, all ± southwestern; British Columbia in the Okanagan and Creston valleys.

COLLECTIONS: (selected) *Triticum aestivum*: Ont.: Huron Co., Exeter, July 1970, DAOM 133770; Perth Co., Staffa, July 1970, DAOM 133783; Middlesex Co., Kerwood, July 1970, DAOM 133785; York Co., Keswick, 26 July 1947, DAOM 39405; Bruce Co., Paisley, 10 July 1953, DAOM 38131; Simcoe Co., Alliston, 13 July 1953, DAOM 38130; Grey Co., Neustadt, 2 July 1954, DAOM 43803. B.C.: Armstrong, 6 July 1931, DAOM 862 and 14 July 1948, DAOM 44116; North Okanagan Valley, 17 July 1950, DAOM 35821; Creston, 4 Aug. 1953, DAOM 38704 and 21 July 1954, DAOM 45833.

NOTES: The description is based on spores observed in Shear's mounting fluid. This medium permits the spore sheath to return to normal thickness; in lactophenol, the sheath is hardly visible.

Conners has pointed out (in conversation) that stunted plants are conspicuous when growing along the edge of fields or in furrows, but within the main planting they are over-topped by healthy plants.

Dwarf bunt was first recognized in Ontario in 1952 and reported by Conners and Skolko the following year (Can. J. Agr. Sci. 33: 597-605. 1953) as *T. brevifaciens*. Prior to this in Canada, the smut had been confused with *T. caries* (DC.) Tul., the cause of common bunt of wheat. The earliest specimen in DAOM is the 1931 collection from Armstrong, B.C., but the fungus probably occurred in Ontario before this date. Conners (Can. J. Bot. 32: 426-431. 1954) compared European and North American specimens, concluded that they were identical and accepted the earlier European name *T. contraversa* (now generally acknowledged an orthographic variant of "*controversa*" - see Savile, Mycologia 54: 109-110. 1962).

Other grasses reported as hosts in other countries include the genera *Aegilops, Agropyron, Alopecurus, Arrhenatherum, Bromus, Dactylis, Elymus, Festuca, Hordeum, Koeleria, Lolium,* and *Secale.* Species within these genera and countries of collection are given by Duran and Fischer (The genus *Tilletia,* Washington State University. 1961).

J.A. Parmelee

National Mycological Herbarium, Biosystematics Research Institute
Research Branch, Agriculture Canada
Ottawa, Ontario K1A 0C6

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