

Ustilago Vaillantii, Tul., on Chionodoxa  
Luciliae, Boiss.

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With one figure in the text.

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DURING March 1913, *Ustilago Vaillantii*, Tul.,\* was found by one of us on flowers of *Chionodoxa Luciliae*, Boiss., growing in the Botanic Garden.

Up to the present this smut has been recorded on *Gagea fascicularis*, Salisb., *Scilla bifolia*, Linn., *Urginea anthericoides*, Steinh., *U. Scilla*, Steinh., *Muscari comosum*, Mill., *M. botryoides*, Mill., *Hyacinthus romanus*, Linn., *H. trifolius*, Tenore,† and *H. ciliatus*, Cyrill.‡

In Great Britain§ it commonly occurs in the anthers and ovaries of *Scilla bifolia*, and it is present on this plant in the Botanic Garden. It was recorded on *Chionodoxa* at Kew in 1893.|| In the case of *Chionodoxa* we have discovered it only in the anthers. According to W. G. Smith,§ infected plants of *Scilla* remain vigorous for a year or two, but succumb to repeated attacks. He adds that plants of *Chionodoxa* fall an easy prey to the fungus. Since no previous record on *Chionodoxa* has been made in Scotland and as the disease appears to do considerable harm, a further investigation of the fungus was undertaken. In colour and in structure the spores agree with the description of those of *Ustilago Vaillantii*, given by Saccardo;† in size they fall within the limits of measurement quoted by him. On *Chionodoxa* the spores measured 10–13  $\mu \times$  8–10  $\mu$ . When fresh

\* L. and Ch. Tulasne, Ann. des Sci. Nat., sér. 3, vii (1847), p. 90.

† P. A. Saccardo, Sylloge Fungorum, vii (1888), p. 465.

‡ H. and P. Sydow, Ann. Mycol., vi (1908), p. 528.

§ Worth. G. Smith, Gard. Chron. xv (1894), p. 463.

|| G. Massee, Grevillea, xxi (1892–93), p. 120.

the spores readily germinate in water (text-fig. 1), and produce a three-celled promycelium.\* After drying for about a fortnight, they no longer germinated in water, but in plum decoction

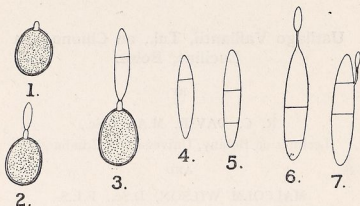


FIG. 1.—*Ustilago Vaillantii*, Tul.

1. Germinating spore.
2. Formation of promycelium.
3. First division in promycelium.
4. Promycelium detached from spore; one division.
5. " " " two divisions.
6. } Formation of sporidia.
7. }

quickly gave rise to the promycelium. In both cases sporidia were shortly afterwards formed.

At present no information is available regarding the method of infection; whether spores from the anthers of *Scilla bifolia* can bring about infection of *Chionodoxa* is not known.

\* Cf. O. Brefeld, Unters. aus dem Gesamtgeb. der Mykologie, Heft xii (1895), p. 111, Taf. vi, figs. 32-38.