

SHORT COMMUNICATION

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Teleomorph of *Erysiphe necator* var. *necator* on *Vitis vinifera* and *Ampelopsis brevipedunculata* var. *heterophylla* (Vitaceae) newly found in Japan

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Abstract The teleomorph of *Erysiphe necator* var. *necator* [= *Uncinula necator* var. *necator*], hitherto unknown in Japan, was found on *Vitis vinifera* and *Ampelopsis brevipedunculata* var. *heterophylla* (Vitaceae) in Okayama, Japan. Morphological characteristics of the fungus are described and illustrated.

Key words Ascomata · Erysiphaceae · Grape vine · Powdery mildew · Teleomorph · *Uncinula necator*

The teleomorph of *Erysiphe necator* Schwein. var. *necator* [= *Uncinula necator* (Schwein.) Burrill var. *necator*], a powdery mildew fungus of *Ampelopsis* and *Vitis* (Vitaceae), has been reported in Europe, North America (Homma 1937; Braun 1987, 1995; Farr et al. 1989), and China (Chen et al. 1987), but not in Japan (Homma 1937; Otani 1988; Hirata and Wada 1973; Nomura 1981, 1992). We found the teleomorph of the fungus on *Vitis vinifera* L. and *Ampelopsis brevipedunculata* (Maxim.) Trautv. var. *heterophylla* (Thunb.) H. Hara in Okayama Prefecture, Japan. This is the first report of the teleomorph of the fungus in Japan.

Erysiphe necator Schwein., Trans. Am. Philos. Soc. II, 4: 270, 1834. var. *necator*. Fig. 1

Teleomorph: Ascomata 95–105 µm in diameter, peridium cells 15–25 × 10–15 µm. Appendages 15–25 in number, hyaline throughout, occasionally brown or pale brown at lower half, thin-walled, occasionally tortuous, apex unci-

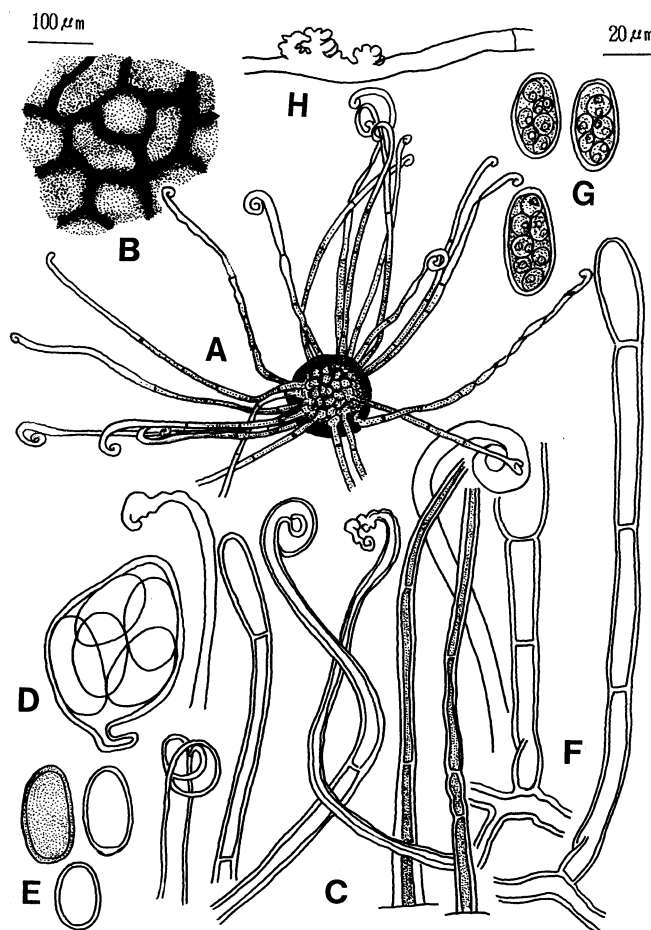


Fig. 1. *Erysiphe necator* var. *necator* on *Vitis vinifera*. **A** Ascoma. **B** Peridium cells. **C** Appendages. **D** Ascus with ascospores. **E** Ascospores. **F** Conidia and conidiophores. **G** Conidia. **H** Appressoria. Bars **A** 100 µm; **B–H** 20 µm

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nate to circinate, sometimes not coiled, 200–450 µm in length, 2–3 µm in width. Asci 4–6 in an ascoma, 55–65 × 25–35 µm. Ascospores 4–6 in an ascus, 10–18 × 10–15 µm.

Anamorph: Mycelium on leaves, amphigenous. Conidiophores erect, 42–75 × 8–10 µm, with a foot-cell one or two

times spirally twisted, followed by one to two cells. Appresoria lobed. Conidia formed singly, ellipsoid-ovoid to doliform, $28\text{--}40 \times 15\text{--}22\ \mu\text{m}$.

Materials examined: On *Ampelopsis brevipedunculata* var. *heterophylla*, Niimi-shi, Okayama Prefecture, Dec. 24, 2000, leg. K. Fujioka, TNS-F-5756, KFMH429; on *Vitis vinifera*, Niimi-shi, Okayama Prefecture, Nov. 8, 2000, leg. K. Fujioka, TNS-F-5755, KFMH425; on *Vitis vinifera*, Niimi-shi, Okayama Prefecture, Nov. 18, 2000, leg. K. Fujioka, KFMH426. (KFMH, Kayoko Fujioka Microbe Herbarium.)

Based on the characteristics, we identify the fungus as *Erysiphe necator* Schwein. var. *necator*.

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