

OCCURRENCE OF *GYMNOCONIA PECKIANA* IN TURKEY

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Abstract

Gymnoconia peckiana (Howe) Trott., a rust fungus belonging to the family *Pucciniaceae* collected during a field trip around Trabzon in 1999 is reported as a new record for Turkey.

Introduction

Higher plants of Turkey have been well studied but the mycobiota has not been extensively investigated and most of the studies deal with macromycetes generally Agaricoid fungi. Reports on micromycetes, including rust fungi, has been made (Bremer *et al.*, 1947, 1952; Petrak, 1953). Data concerning the Uredinales are fragmentary which has been published as diseases of cultivated plants (Karel, 1958) and on mycoflora of Turkey (Göbelez, 1963). As a result of these and other studies (Henderson, 1957, 1959, 1961, 1964; Tamer *et al.*, 1998; Kırbağ *et al.*, 2001; Hüseyin & Kırbağ, 2003), about 290 species of rust fungi are recorded from Turkey. The present reports describes the occurrence *Gymnoconia peckiana* from Turkey.

Materials and Methods

The plant material was collected from different localities of Trabzon province during July-August 1999. The host specimens were prepared according to established herbarium techniques. Microscopical examinations of fungi were performed using Nikon research microscopes. The specimens were identified after reference to related literature (Gäumann, 1959; Azbukina, 1974, 1975; Cummins & Hiratsuka, 2003; Bremer *et al.*, 1952; Göbelez, 1963; Öner *et al.*, 1974). The host specimen was identified using Flora of Turkey (Davis, 1965-1985).

The collection is deposited at Gazi University, Kırşehir Sciences and Arts Faculty Herbarium in Kırşehir Province (KRFEF) of Turkey.

Results

Severe disease symptoms have been observed on *Rubus sanctus* Schreber growing around of the Trabzon city. The spots on the upper surface are rounded, rarely oblong, 1-3 mm diam., numerous, confluent, slightly dome shaped, on the lower surface are little conspicuous. The causal agent of this disease has been identified as *Gymnoconia peckiana* (Howe) Trott. [= *Gymnoconia nitens* (Schwein.) F. Kern & H. W. Thurston; = *Kunkelia nitens* (Schwein.) Arthur] (Azbukina, 1974, 1984; Kuprevich and Ulijanizhev, 1975; Cummins & Hiratsuka, 2003). In the light of the literature on Turkish rust fungi (Tamer *et al.*, 1998), this genus is reported for the first time from Turkey. This is an autoecious rust producing spermagonia on the upper surface while aecia and telia are produced on the lower surface of leaves. The collections concerned are characterized by the following microscopical features:

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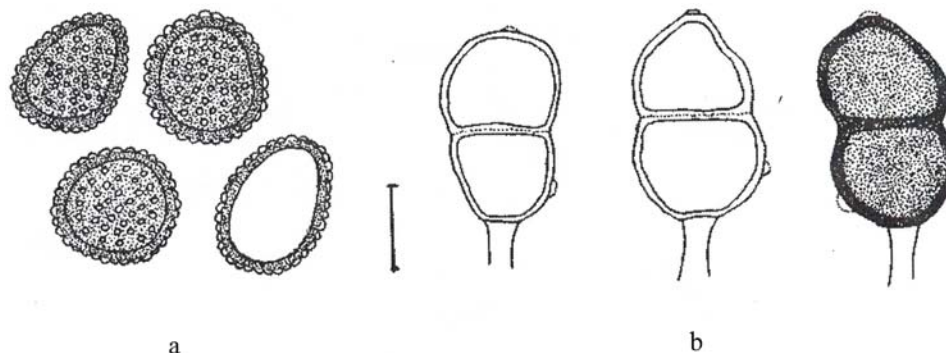


Fig. 1. *Gymnoconia peckiana*: a. *Aeciospores*; b. *Teliospores*

Spermogonia numerous, scattered, generally epiphyllous, subcuticular, spherical-conoidal, brownish yellow, then brownish. *Aecia* hypophyllous, often covering the whole surface of the leaf, often confluent, at first covered by the epidermis, then denudate, orange yellow, without peridium and paraphyses, caeomoid; *aeciospores* in chains, spherical, oval or ellipsoid, (20) 22.5-27.5 (30) x (17) 21-22.5 (25) μm ; wall densely verruculose, colourless, 1.5-2.5 μm thick with 6-10 germ pores (Fig. 1a). *Urediniospores* absent. *Telia* hypophyllous, scattered, pulverulent, small, dark brown; *teliospores* two-celled, variable in shape, generally oblong-ellipsoid or ellipsoid, 41-48 x 24-27.5 (30) μm , apex rounded or tapered, base rounded or attenuate, slightly constricted at the septum; wall smooth, yellowish brown or brown, 3.5-4 μm thick, with 1 pore in each cell. Pedicels colourless, 37.5-65 x 10-12 μm , easily break down (Fig. 1b).

Opsi-species

Turkey, Trabzon, 41°1'39.5''N, 39°7'56.9''E, 10 m a.s.l., on leaves of *Rubus sanctus* (Rosaceae), leg. F. Selcuk and E. Hüseyin, 31. 7. 1999. EH 1166.

Discussion

Gymnoconia peckiana is known from Europe, Asia, North America, New Zealand and Tasmania on different species of *Rubus* (Azbukina, 1974, 1984; Kuprevich & Ulijanzishev, 1975, Farr *et al.*, 1995). This fungus is hitherto unknown from Turkey's neighbouring countries.

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