Stictis bengalensis (Stictidaceae, Ostropales) – A new addition to fungal genera and species for Turkey

İSMAIL ACAR
Department of Organic Agriculture
Başkale Vocational High School
Yüzüncü Yıl University
Van, Turkey
E-Mail: iacar2011@gmail.com

YUSUF UZUN
Department of Pharmaceutical Sciences
Faculty of Pharmacy
Yüzüncü Yıl University
Van, Turkey

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Key words: *Ostropales, Stictidaceae,* Hakkâri, Türkiye.

Zusammenfassung: Die Gattung *Stictis* wird mit der Art *Stictis bengalensis* erstmals aus der Türkei aus dem Bezirk Şemdinli in der Provinz Hakkâri belegt. Der Fund wird anhand seiner morphologischen Merkmale beschrieben und illustriert. Die Artabgrenzung wird kurz angerissen.

Abstract: The genus *Stictis* is documented for the first time from Turkey with the species *Stictis bengalensis* from the district of Şemdinli in the province of Hakkâri. The finding is described and illustrated on the basis of its morphological characteristics. The species delimitation is briefly outlined.

The genus *Stictis* PERS. of the family *Stictidaceae* FR. within the order *Ostropales* comprises around 270 (http://www.indexfungorum.org/) accepted taxa, is cosmopolitan and found on decaying leaves, wood, bark, herbaceous stems, grass culms and fern rachises from many hosts (WHITTON & al. 1999). The family *Stictidaceae* usually contains both lichenized and non-lichenized fungi (WEDIN & al. 2005) fungi. The genus *Stictis* is characterised by apothecia which originate as immersed structures in the host tissues, but open by a pore, or are erumpent as a result of irregular splitting of the host tissue. The hymenium typically remains immersed or deeply immersed in the host. It is often pale and can split away from the apothecial margin, when dry.

The margin typically consists of three layers, the inner layer is composed of filamentous, branched or simple periphysoids. Outside of this, is a layer of extruded crystalline material, which is in turn coated by a hyaline wall consisting of interwoven, sometimes gelatinous hyphae. The asci are cylindrical, typically contain 8, or sometimes 4 cylindrical to filiform, septate ascospores, and have a thickened apical cap, which is pierced by a J– apical pore. The paraphyses are filiform, hyaline, sometimes brown towards the apex, simple or branched, and sometimes apically enlarged. The ascospores may have gelatinous sheaths, and in some species coil, when released from the ascus (SHERWOOD 1977, JOHNSTON 1983).

Stictis bengalensis U. P. SINGH & PAVGI was collected from Şemdinli district of the province Hakkâri in 2015. Tracing the current checklists (SESLI & al. 2020) and latest records (ACAR & al. 2018, 2020; DOĞAN & KURT 2016; GÜNGÖR & al. 2015; IŞIK &

TÜRKEKUL 2018a, b; KAYA & UZUN 2018; UZUN & KAYA 2018, 2019, 2020; KAYA & al. 2018; KABAKTEPE & al. 2019; KELEŞ 2019; SADULLAHOĞLU & UZUN 2020; ACAR 2021; ÇETINKAYA & UZUN 2021; KAPLAN & al. 2021; KESICI & UZUN 2021) the genus *Stictis* was not recorded from Turkey before and is thus a new contribution to the Turkish mycobiota.

Materials & methods

Microfungi specimens were collected in different localities of Hakkâri province in 2015. The morphological and ecological features and GPS data were recorded. The specimen was photographed with a Canon EOS 60D camera equipped with a Tokina 100 mm macro lens in the field and with a Leica EZ4 stereo microscope in the laboratory.

Microscopic characters were observed on the dried specimen in distilled water with a Leica DM500 research microscope. At least 30 ascospores and 20 asci were measured using the Leica Application Suite (version 3.4.0) program following SINGH & PAVGI (1966). The specimen is deposited in the Fungarium of Van Yüzüncü Yıl University (VANF).

Results

The Turkish specimen is described below supplemented by data on locality, collection date, fungarium number and figures.

Stictis bengalensis U. P. SINGH & PAVGI – Figs. 1–2

A p o t h e c i a : 0.4–1 mm diam., inside disc pale yellow, pale ochraceous, margin narrow, partially fragmented, sunken inward, strongly white-pruinose, usually formed in close groups, short stipe present or absent.

A s c i : 250–320 × 7–12 µm, 8–spored, hyaline, cylindrical, thin-walled, tapering towards the base, apex blue with iodine.

A s c o s p o r e s : 250–320 × 1.5–2.5 µm, hyaline, cylindrical to filiform, septate, cells 2.8–4.5 µm long, thin-walled, fasciculate, outside the ascus divided into spiral, sometimes coiled small part spores, epispore or gelatinous sheath absend.

H y m e n i u m : blue with iodine.

P a r a p h y s e s : up to 1.2 µm, hyaline, slender, filiform, multiseptate, simple and straight.

P e r i p h y s o i d s : 10–21.5 × 1.5–2.3 µm, unbranched, septate, not gelatinized.

Specimen examined: Turkey, Bingöl, Genç, Güzeldere village, 38° 40′ 50" N, 40° 24′ 34" E, 1316 m s.m., on branch of *Crataegus*, 21. May 2020, leg. V. A. N. F. ACAR 1194.

Discussion

The hymenium that develops singly along the branch cortex is well isolated. There is an accumulation of crystalline substance embedded in the hyphae, which forms a snow-white border around the apothecium and has a hyaline appearance. The species resembling most closely morphologically is *Stictis stellata* WALLR. However, the hymenium of *S. stella* is not stained blue in iodine, the ascus and ascospores are smaller and the paraphyses simple and straight (SINGH & PAVGI 1966).

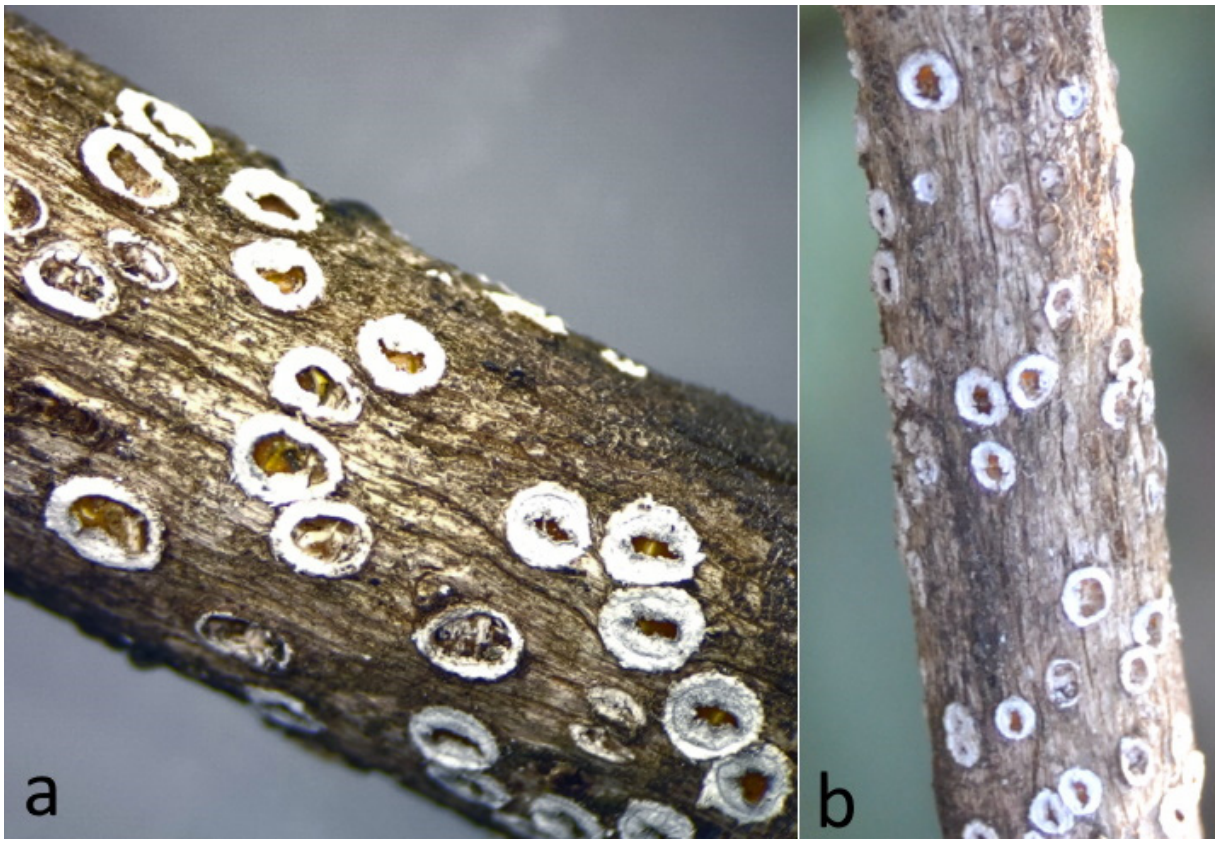

Fig. 1. *Stictis bengalensis,* habit, *a* under Leica EZ4 stereo microscope, *b* natural habitat.

Fig. 2. *Stictis bengalensis,* microcharacters. *a, d* Asci and ascospores in distilled water, *b–c* Asci, ascospores and paraphyses in IKI.

Consulting the checklist and recent studies on Turkish mycobiota, *Stictis bengalensis* is as a new genus and species record for Turkey.

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