

A new fungal disease of *Acacia cyclops* in Libya caused by *Phyllosticta* sp.

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ABSTRACT

Leaf and twig blight disease on *Acacia cyclops* A. Conn. caused by *Phyllosticta* sp. Pwrs. was found for the first time in Libya. The disease symptoms appear as light green necrotic spots of 1 - 3 mm in diameter which turned brown later and coalesced to form a blight of 6 - 9 mm in diameter. The fungus produced black pycnidia measuring about 0.178×0.152 mm in average. Pycnidia containing small, hyaline, elliptical, one celled conidia exuded in orange coloured gelatinous matter. The conidia measuring about $12.38 \times 5.0 \mu$ in average.

The Libyan Arab Jamahiriya is giving more attention to forest plantation in large areas because of the importance which these trees play in soil fixation, in addition to, their high economic importance (1). To achieve this aim, millions of forest tree seedlings are now being produced every year in different forest tree nurseries throughout the country. The most popular forest plants in the country are the different species of *Acacia* in which *Acacia cyclops* (Sant cyclop) is one of the important species. Recently these *Acacia cyclops* seedlings in Ajeulat forest tree nursery were found showing leaf and twig blight symptoms. Earlier reports described the *Acacia* spongy rot caused by *Fomes badius*, *F. conchatus* and *F. lignosus* (2, 5, 6) and *Acacia* rust caused by *Uromyces* sp. and *Urocladium* sp. (6). However, information about leaf and twig blight disease of *Acacia* species particularly *A. cyclops* is lacking. Therefore, the present study was undertaken to identify the causal organism of the disease.

The symptoms of the disease appear on leaves and twigs as light green necrotic spots of 1 - 3 mm in diameter which turned brown later. These spots coalesce to form a blight of 6 - 9 mm in diameter (Fig. 1). Fructification (pycnidia) of the fungus appear on the upper surface of the spots as brown to black bodies.

The fungus was isolated using PDA on which it grew moderately, forming a grey coloured colony. Dark pycnidia appeared in large numbers in the infected tissues as well as on medium (Fig. 2). Identification of the causal agent was done according to morphological characters. Pathogenicity of the fungus was also tested on healthy plants of *A. cyclops* by artificial inoculation using spore suspension in sterilized distilled water.

Symptoms of the disease appeared on the 10th day after inoculation as light green spots which became brown on the 7th day following the appearance of the first symptoms. The pycnidia were dark brown to black rounded bodies with a small beak measuring about 0.178×0.152 mm. The pycnidia contained small, one celled, hyaline elliptical conidia (approx. $12.38 \times 5.0 \mu$) exuded in an orange coloured gelatinous matter (Fig. 3).

The fungus was identified as *Phyllosticta* sp. Although this fungus has been reported

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Fig. 1 — Leaf and twig blight symptoms on *Acacia Cyclops* caused by *Phyllosticta* sp.



Fig. 2 — Growth of the fungus on medium and the presence of pycnidia with orange coloured gelatinous matter.

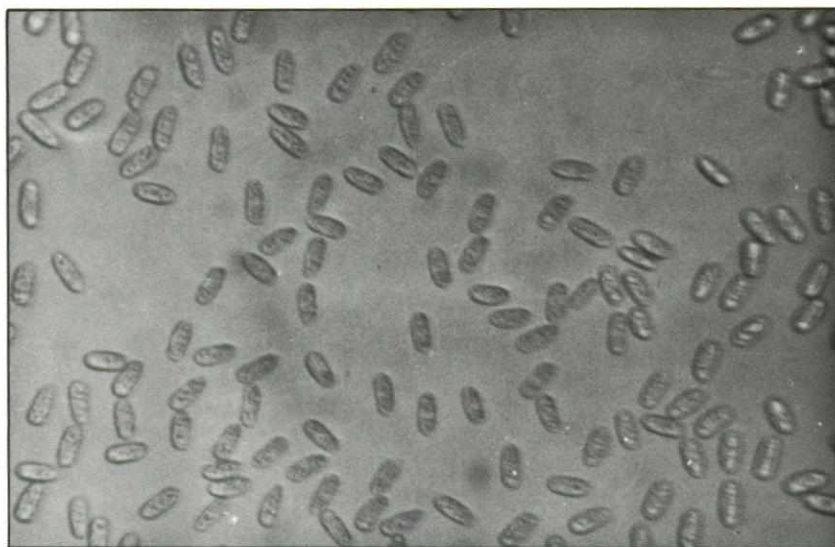


Fig. 3 — Conidia of *Phyllosticta* sp. ($0.699 \times 0.224 \mu$).

as a pathogen on many plants (3,7) and also on *Eucalyptus gomphocephala* causing leaf and twig blight (4), but the presence of this fungus on *A. cyclops* where it caused leaf and twig blight symptoms is a new record that has not so far been reported.

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مرض فطري جديد على أحد أنواع الأكاشيا في ليبيا

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المستخلص

شُهِد لأول مرة في ليبيا مرض لفحة الأوراق والسيقان المتسبب عن الفطر فيللوستكتا *Phyllosticta* spp. على شتلات الأكاشيا نوع *Acacia cyclops* بمشتل العجيلات للغابات، وظهرت أعراض المرض بشكل بقع خضراء باهتة اللون حجمها من 1-2 ملم تتحول بعد ذلك إلى اللون البني، ثم ما لبثت أن تلتحم لتعطي مساحات بنية ميتة حجمها 6-9 ملم تقريبا.

يكون الفطر المسبب للمرض أوعية بكنيدية سوداء اللون أبعادها حوالي 3.02×3.16 ميكرون في المتوسط، وتحتوي على جراثيم كونيديية صغيرة وحيدة الخلية شفافة متطاولة حجمها 0.224×0.699 ميكرون في المتوسط وتخرج من الوعاء البكنيدي في إفرازات جيلاينية برتقالية اللون.