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New Description of *Acaulospora scrobiculata* Collected in Korea

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한국에서 발견된 *Acaulospora scrobiculata*의 再記載

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ABSTRACT: New description of *Acaulospora scrobiculata* was conducted. based on the azygospores collected from the soils of four different plant communities in Korea.

KEYWORDS: *Acaulospora scrobiculata*

Acaulospora scrobiculata Trappe was widespread in North America and Japan, being first reported at the roots of *Saccharum officinarum, Zea mays, Festuca viridula* by Trappe (1977). It was also reported to collected from the soils of *Persicaria thunbergii* communities in Korea (Eum & Lee 1990). Also, azygospores of *A. scrobiculata* were also collected from the soils of different plant communities; *Themeda triandra var. Japonica* (솔새), *Orostachys japonicus* (바위솔), and *Cassia mimosoides var. nomame* (차풀). The previous description for *A. scrobiculata* was, however, so succinct, and its detail photographies not provided for the identification. This experiment was subjected to redescribe azygospores of *A. scrobiculata* found at the above in Korea.

Specimes tested

Serveral specimens of its species were collected from different regions at the areas in Chung Cheong Do; KNUE S 54-60 collected from the soils of *Persicaria thunbergii* communities near KNUE (Cheon Won Kun, Chung Puk). KNUE S 174-184 Collected from the soils of *Themeda triandra var. japonica, Orostachys japonica,* and *Cassia mimosoides var. nomame* communities in Too Nae Ri, Tae Ahn Eub, Tae Ahn Kun, Chung Nam.

Description

Sporocarps not found in soils collected from four different plant communities. *Azygospores* singly found in the soils or occassionally attached to the sporiferous saccule or its remainings. The vesicles (sporiferous saccules) sized 100-140 μm with pale yellow globose form. The distance between the mouths of vesicle and azygospore 37-87 μm in youth. Azygospores globose to broadly ellipsoil, 120-150 × 100-160 μm and transparent when young, becoming light yellow under polyvinyl alcohol lactophenol (PAL) mountings. The diameter of hyphae attached to azygospores 17-25 μm. Spore surface evenly pitted with irregular and circular forms 1-2.5 μm diameter and 1-2.5 μm depths. When broken, the composits spore wall composed of two wall groups (outer called 'A' and inner 'B') and each wall groups composed of two wall layers; A wall group are white yellow to pale yellow laminated 6-7 μm thick (outer A) and

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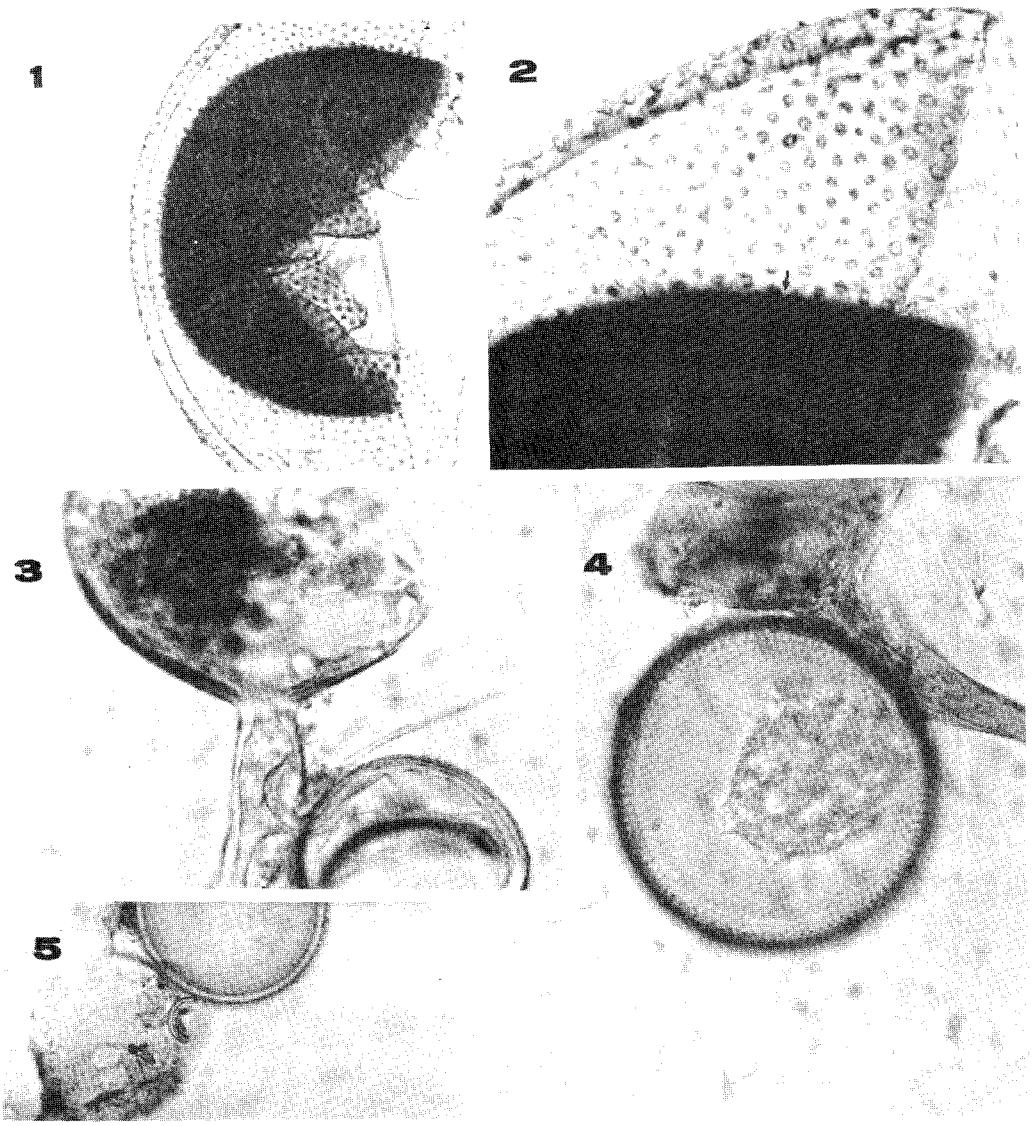
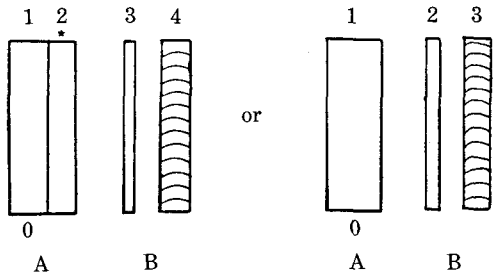


Figs. 1-5. Azygospores of *Acaulospora scrobiculata. 1) 8×40 2) 8×100, two wall layers, especially inner layer stained with Melzer's reagent. 3) 8×40 Speriferous saccule attached with young azygospore, 4) 8×40 mature azygospore with speriferous saccule remamings, 5) 8×25 remainings of vesicles.*

transparent, 0.5 μm thick (inner A). B wall group are composed of two layers, transparent, 1 μm thick and nearly light grey, 3-4 μm thick. The B wall inner layer reacted with Melzer's reagent, to turn the red.

Disscussion

As based on Tappe's description and photographies provided by Hall and Abott, this azygospores was easily recognized: no subtending hyhae, surface ornamentation, and sizes. The sizes of azygospores collected here was relatively smaller than those described by Trappe (1977). The inner wall layers (B wall) were stained with Melzer's reagents, which helped to identification. The spore wall layers were recognized, based on Morton's (1986, 1988) and walker's descriptions. The photographies of azygo-



Muronyms = A(U_0U^*) B(UA) or A(U_0) B(UA)

Fig. 6. Murograph of *Acaulospora scrobiculata.*

spores attached to speriferous saccules and wall layers were newly reported or described in this work.

종의 기재 : 포자과는 발견되지 않았으며, 비접합 포자는 단생으로 때로는 모세포와 부착 혹은 모세포부착 흔적이 있는 상태로 채집되었다. 모세포는 크기가 100~140 μm로써 연한 황갈색으로 구형되었다. 성숙시 모세포와 포자의 거리는 37~87 μm이며, 포자부착된 균사는 직경 17~150×100~160 μm이며, 어릴때는 무색이나, PAL 고정액에는 연한 노란색으로 관찰되었다. 포자표면에는 불규칙한 홈(둘레 1~2.5 μm×1~1.2 μm 깊이)이 균일하게 분포하였다. 포자막층은 두 개의 겹층으로 되어, 모두 네층으로 되었다. 두 개의 겹층(막외층 A와 막내층 B)으로 A막겹층은 2층으로 6~7 μm두께의 연한 노란색 판층과 0.5 μm두께의 무색층이 였다. B막겹층은 2층으로 1 μ의 무색의 층과 1.5~4 μm의 연한 회색층으로 구성되어 있으며, B 막겹층의 안쪽 벽은 Melzer's reagent에 염색되어 붉게됨.

摘 要

여러 식물군락에서 채위된 흙에서 *Acaulospora scrobiculata*가 채취되었으며, 아직 기재되지 않은 부분이 새로이 기재되었다.

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