MYCOTAXON

Volume 107, pp. 263–265 *January–March 2009*

A new species of *Phyllachora* on *Cyperaceae*

Haiju Lu[1, 4], Tao Zhang[2], Rong Zhang[3],
Hairu Chen[1] & Zhongyi Zhang[1]

*luhaiju2004@126.com *zyzhang2003cn@yahoo.com.cn*

[1]Key Laboratory of Plant Pathology of Yunnan Province, Yunnan Agricultural University, Kunming 650201, China

[2]Kunming Research Institute of Edible Fungi Kunming 650223, China

[3]College of Plant Protection, Northwest A & F University Yangling, Shaanxi712100, China

[4] Key Laboratory of Natural Pharmaceutical & Chemical Biology of Yunnan Province Honghe College, Mengzi 661100, China

Abstract—*Phyllachora caricis-jaluensis* sp. nov. on *Carex jaluensis* (*Cyperaceae*) is reported. Latin diagnosis and illustration of the new species are provided. The type specimen is deposited in the Herbarium Mycologicum Universitatis Agriculturalis Boreali-Occientalis (HMUABO).

Key words—*Sordariomycetidae,* identification, taxonomy

Introduction

A new species of *Phyllachora* on leaves of *Carex jaluensis* from Zhejiang province was collected in 1980. Only four species of *Phyllachora* have been previously recognized in genus of *Carex*: *P. baldensis* Petr. (Petrak 1929: 399–400), *P. lapponica* Petr. (Petrak 1936: 448–449), *P. tirolensis* Petr. (Petrak 1947: 320–321) and *P. sphaerospora* Pat. (Patouillard 1887: 126). The new species of *Phyllachora* reported here is distinguished from four earlier named species by the ovoid to (rarely) ellipsoidal shape of its ascospores.

Phyllachora caricis-jaluensis H.J. Lu & T. Zhang, **sp. nov.** **Fig. 1**
MycoBank MB512236

Maculis nullis. Stromatibus amphigensis, gregariis v. rarius discretis, irregularibus, atris, fuligineis, nitidulis, 0.1–0.5 × 0.2–1.5 mm. Peritheciis in mesophyllis, 2–4 aggregatis,

* Corresponding author

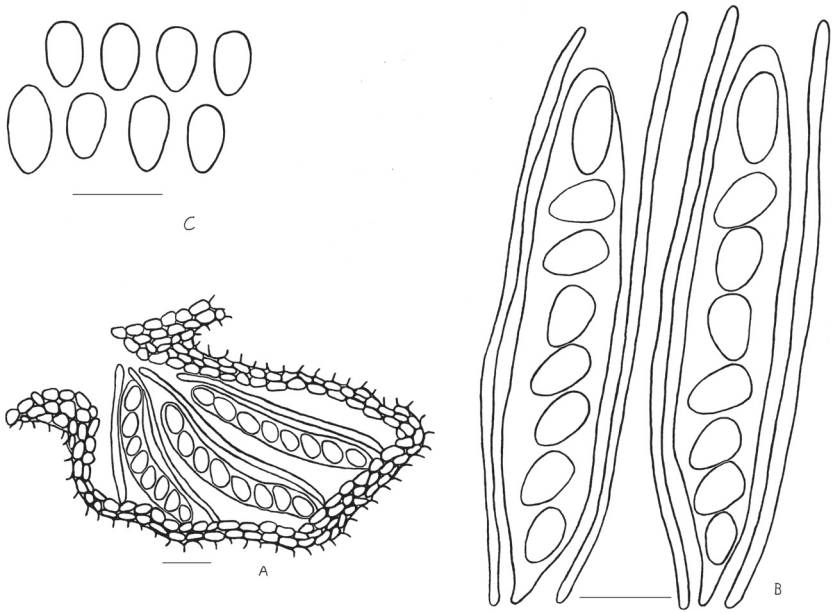

Fig.1.A: Ascoma, paraphyses, asci and ascospores of *Phyllachora caricis-jaluensis*;
B: Paraphyses, asci and ascospores of *Phyllachora caricis-jaluensis*;
C: Ascospores of *Phyllachora caricis-jaluensis*.
Scale bars: A=20μm; B, C = 10 μm.

irregularibus, pertusis, 112.2–142.8 × 71.4–122.4 μm. Paraphysibus filiformibus, aseptatis, longioribus.Ascis cylindratis, octosporatis, 51.4–76.6 × 10.3–12.9 μm, av. 61.8 × 11.7 μm, a = 8, brevitibus stipitibus, 3.9–12.3 ×3.9–4.6 μm . Ascosporidiis ovoideis vel. rarius ellipsoideis, irregalariter monostichis, unicellularibus, hyalinis, 7.7–12.9 × 4.6–7.7 μm, av. 9.9 × 5.4 μm, a = 30.

Anamorph: not seen.

Teleomorph: Parasitic on leaves of *Carex jaluensis* Kom., forming subepidermal clypeus, aggregated, rarely sparse, irregular, 0.1–0.5 × 0.2–1.5 mm, shining black, clypeus may be visible from both sides of the leaves. Ascomata immersed in the upper epidermal layer of the leaves, 2–4-loculate, irregular, the ostiole conspicuous, 112.2–142.8 × 71.4–122.4 μm. Paraphyses filamentous, aseptate, longer than asci. Asci cylindrical, 8 ascospores, 51.4–76.6 × 10.3–12.9 μm, av. 61.8 × 11.7 μm, a = 8, short pedunculate 3.9–12.3 × 3.9–4.6 μm. Ascospores ovoid, rarely ellipsoid, arranged uniseriate, one-celled, hyaline, 7.7–12.9 × 4.6–7.7 μm, av. 9.9 × 5.4 μm, a = 30.

Specimens examined-On living leaves of *Carex jaluensis,* Tianmushan, Zhejiang, China, alt. 600m, 5 XI 1980, J. Y. Li & T. Y. Zhang, No. 44252, HMUABO 44544 (Holotype).

Discussion

The ovoid ascospore shape differentiates *Phyllachora caricis-jaluensis* from *P. baldensis* and *P. tirolensis,* which are diagnosed by fusiform ascospores. The ovoid shape and smaller sized spores separate the new species from *P. lapponica*, which is characterized by large (18–25 × 7–9 µm), oblong ascospores. *P. caricis-jaluensis* differs from *P. sphaerospora* in having ovoid ascospores, while the latter has spherical ascospores. Comparison of the new species with the four other *Carex*-associated species is provided in TABLE 1.

TABLE 1. Comparative morphology of *Phyllachora* species on *Carex*

Phyllachora species	HOST	ASCI (µm)	ASCOSPORES (µm)	REFERENCE
P. baldensis	*Carex baldensis*	70–80 × 10–12 —	12–20 × 3.5–5 fusiform	Petrak 1929
P. lapponica	*Carex panicea*	75–90 × 12–17 clavate or fusiform	18–25 × 7–9 oblong or ellipsoidal	Petrak 1936
P. tirolensis	*Carex firma*	45–60 × 9–11 clavate	15–20 × 3.5–5 fusiform or oval-oblong	Petrak 1947
P. sphaerospora	*Carex* sp.	80–100 × 15 cylindrical	10 spherical	Petrak 1936
P. caricis-jaluensis	*Carex jaluensis*	51.4–76.6 × 10.3–12.9 cylindrical	7.7–12.9 × 4.6–7.7 ovoid rarely ellipsoidal	this paper

Acknowledgements

The authors would like to express their thanks to Prof. N. S. Talekar reading the manuscript and gave suggestions, to Prof. Guangyu Sun and Prof. Xutong reading the manuscript and serving as pre-submission reviewers. This study was supported by the National Natural Science Foundation of China (No. 30499340) and the Special Fund from Key Subject of Yunnan Province (Organic Chemistry).

Literature cited

Patouillard NT. 1887. Contributions à l'étude des champignons extra-européens. Bull. Soc. mycol. France 3: 119–131.

Petrak F. 1929. Mykologische Notizen. X. Ann. Mycol. 27(5/6): 324–410.

Petrak F. 1936. Neue Pilze aus Finnisch-Lappland. Ann. Mycol. 34(6): 444–455.

Petrak F. 1947. Kleine Beiträge zur Pilzflora von Tirol. Sydowia 1(4/6): 313–327.