Coniochaeta ershadii, a new species from Iran, and a key to well-documented Coniochaeta species

by

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With 1 figure


Abstract: A new species of Coniochaeta from dead pistachio twigs, C. ershadii, is described from Varamin district, Tehran Province. C. ershadii differs from the similar C. gamsii by possessing smaller ascocarps covered with setae, a peridium with an irregular texture, longer and narrower asci, shorter ascospores, and by producing numerous crystals when cultivated on Leonian agar and other media. It is particularly distinguished by its ascospores with protruding ends up to 1.7-2.5 μm long. The conidiophores of the nodulisporium-like anamorph of C. ershadii produce 2-3 conidiogenous loci and cylindrical blastoconidia with attenuated bases. A dichotomous key for identification of 54 sufficiently documented Coniochaeta species is provided.

Key words: Ascomycetes, Coniochaeta, pistachio, taxonomy.

Introduction

Coniochaeta (Sacc.) Cooke was originally introduced by Saccardo (1882) as a subgenus of Rosellinia De Not. for species with hairy perithecia. Cooke (1887) raised it to genus level. The genus was lectotypified with C. ligniaria (Grev.) Massee (Clements & Shear 1931, von Arx & Müller 1954). Malloch & Cain (1971) established the family Coniochaetaceae to include Coniochaeta and Coniochaetidium. Coniochaeta differs from the xylariaceous genus Rosellinia by the absence of an amyloid apical apparatus in the asci. In the recent literature the family Coniochaetaceae

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is placed under Sordariales (Lee & Hanlin 1999, Kirk et al. 2001). The Coniochaetaceae differ from the Sordariaceae in having ascospores with longitudinal germ slits. The species of Coniochaeta have dark brown to black ascocarps with a peridium that may or may not be setose. They have ellipsoidal to fusoid or nearly globose ascospores with a germ slit extending over the narrow side (Mahoney & LaFavre 1981, Hanlin 1990). Associated anamorphs belong to the phialidic genus Lecythophora Nannf. (Weber 2002, Weber et al. 2002) or are polyblastic and nodulisporium-like (Hawksworth 1978, Asgari & Zare 2006).

Coniochaeta species are known to produce antibacterial and antifungal metabolites. Coniosetin and coniochaetone-a and -b, compounds with considerable antibacterial and antifungal activity, have been obtained from Coniochaeta spp. Specifically, coniosetin is produced by C. ellipsoidea (Segeth et al. 2003), while the coniochaetones are obtained from C. saccardoi (Wang et al. 1995). C. tetraspera has been studied in an attempt to elucidate the mechanism of programmed ascospore death in homothallic ascomycetes (Raju & Perkins 2000). Raju & Perkins (2000) showed that C. tetraspera is homothallic and ascospore death, disintegration of two pairs of ascospores in each mature ascus, is nonrandom. They showed that one of the two haploid nuclei entering each functional zygote must carry the altered element a specific chromosome locus, which is segregated into two of the four meiotic products and is eliminated when ascospores that contain it disintegrate.

During an investigation on the mycoflora of pistachio tree (Pistacia vera L.) mycoflora in Iran (2004–06), an isolate of Coniochaeta with distinctive characteristics was obtained. Coniochaeta gamsii and C. velutinosa, are the only Coniochaeta species known from Iran. They were isolated from barley leaves (Asgari & Zare 2006). Mahoney & LaFavre (1981) gave a list of Coniochaeta species on different substrata and a synopsis of ascospore characters. Hawksworth & Yip (1981) provided a key to 11 species known in culture. Checa et al. (1988) and Romero et al. (1999), respectively, provided keys to Spanish and Argentinian Coniochaeta species. Based on these and other recent publications, we present an identification key to well-documented Coniochaeta species. This key is clearly not a substitute for a necessary critical revision of all described species of this large and highly diversified genus.

Material and methods

The isolate of C. ershadii was obtained from pistachio (Pistacia vera L.) twigs by placing unsterilized pieces of twigs on PDA (potato-dextrose agar, Merck) containing antibiotics. Colony morphology and microscopic features of the teleomorph were recorded for colonies grown on Leonian's agar (Gams et al. 1998) at 24°C in the dark. The anamorph was studied using single-ascospore cultures on PCA (potato-carrot agar) incubated at 24°C. Microscopic measurements were taken from material mounted in water. Ascocarps were hand-sectioned using a razor blade. Photographs were taken using an Olympus digital camera (C-4000), a BH2 Olympus microscope and a Zeiss (STEMI SV8) stereo microscope. Mean averages and standard deviations were calculated for 20 measurements of asci and ascospores and 10 measurements of ascocarps. BioloMICS software was used for the calculations (provided by Dr V. Robert, BioAware, S.A., 2003, Version 1.0.2).
Results and discussion

Coniochaeta ershadii Zare, Asgari & W.Gams, sp. nov., MycoBank 500785. Fig. 1

ETYMOLOGY: We name this species after our friend Djafar Ershad, Tehran, in recognition of his contributions to Iranian mycology.

Coloniae primum albidae, deinde fuscescentes. Mycelium aerium parcum, hyphis 2.3-2.7 μm latis; crystalla octahedrica copiosa; chlamydosporae nullae. Perithecia post 4-6 hebdomadas maturantia, superficialia, atra, globosa vel subglobosa, 200-500 μm diam., ventro globoso collum breve portante; setis fuscis, crassutunicatis, hebetibus, levibus, 44-46 μm longis obiecta; peridium irregulariter pseudoparenchymaticum, fuscum, cellulis 6-12 μm; paraphyses numerosae, filiformes, septatae, simplices, hyalinæ, 8-9.5 μm latae, sursum ad 2.5-4 μm attenuatae, acutatae, ascos superantes; asci cylindrici, 8-spori, breviter stipitati, 110-150 × 10.5-12 μm; ascosporae oblique uniseriatae, cito brunescentes, leves, ellipsoideo-fusoidae, haud planatae, uno vel ambothus polis ad 2.5 μm protruduntibus, 16-18 × 9.5-10.5 μm, guttulam magnam continentis, fissura germinationis secundum longitudinem extensa; ascosporae in massa globosa per ostiolum exeuntes. Anamorpha Nodulisporii similis; cellulae conidiogenae 4-24 μm longae, e 2-3 denticulis conidia single cylindrica 8-11 × 2-3 μm proferentes.

Colonies reaching 90 mm diam in 9 days on Leonian agar, at first white, then becoming dark brown, reverse uncoloured; mycelium with low aerial growth, composed of hyaline, smooth-walled, septate, often anastomosing, 2.3-2.7 μm wide hyphae; numerous octahedral crystals present in the culture (Fig. 1 r, s); chlamydospores absent. Ascocarp initials arising as interwoven hyphae, soon becoming contorted. Perithecia produced abundantly in the second week, maturing in 4-6 weeks, solitary or aggregated, superficial, black, globose to subglobose, 200-500 μm diam, with a nearly globose venter and a very short neck (Fig. 1 a); covered with dark stiff setae that are thick-walled and blunt-ended, with smooth or rough surface, simple or distinctly branched, mostly swollen near the base, measuring 44-46 × 4.2-4.6 μm (Fig. 1 d, e); peridium irregularly pseudoparenchymatous, dark brown, with cells 6-12 μm (Fig. 1 b, c); paraphyses numerous, filiform, septate, simple, hyaline, 8-9.5 μm wide at the base, tapering to 2.5-4 μm near the apex, with a pointed tip, mostly longer than the ascii; asci cylindrici, 8-spored, with non-amyloid undifferentiated apex, with a short stout stipe, measuring 110-150 × 10.5-12 μm (Fig. 1 f-h); ascospores obliquely uniseriate, hyaline at first but soon turning pale green to greenish brown and finally dark brown or black, smooth, without a sheath, ellipsoidea-fusoid, mostly with rotational symmetry (Fig. 1 i, j), measuring 16-18 × 9.5-10.5 μm, with a distinctive protrusion at one or both ends reaching up to 1.7-2.5 μm (Fig. 1 j), containing a large guttule when mounted in water (Fig. 1 i); germ slits straight, extending over the whole length of the ascospores (Fig. 1 h); ascospores exuded as a large globose mass at the mouth of the ostiole (Fig. 1 a).

ANAMORPH: Conidiogenous cells, produced predominantly on hyphal coils and also on aerial hyphae, simple, hyaline, variable in length, measuring 4-24 × 2-2.3 μm, monoblastic or polyblastic, usually producing 2-3 conidiogenous denticles bearing single blastoconidia (Fig. 1 k-q); phialides absent; conidia rarely formed on aerial hyphae, remaining attached to the conidiogenous locus for a long time, smooth, subhyaline, oblong, regularly cylindrical, sometimes slightly constricted in the middle, with rounded apex and distinctly attenuated base (0.5-1.2 μm long), with truncated basal scar (Fig. 1 t, u), measuring 8-11 × 2-3 μm.
Fig. 1. *Coniochaeta ershadii* and its nodulisporium-like anamorph. a-j. Teleomorph. a. Ascocarps viewed from above exuding ascospore masses; b, c. peridium of irregular structure; d, e. setae; f-h. asci; i-j. ascospores. k-u. Anamorph. k-q. Conidiogenous cells; r, s. crystals; t, u. conidia.

**HOLOTYPE:** **IRAN 1841 F** (ex-type strain **IRAN 972 C = CBS 119785**), isolated by M. Mirabolfathy from dead twigs of *Pistacia vera*, from Varamin, Tehran Province, Iran.

*Coniochaeta ershadii* is very similar to *C. gamsii* Asgari & Zare in colony morphology, shape of ascocarps, asci, ascospores and paraphyses. The most striking features shared by both species are the protruding ends in the ascospores and the nodulisporium-like anamorph. *C. gamsii* has much larger ascocarps (500-800 μm diam.) than *C. ershadii*, the ascocarps lack setae and have a regularly textured...
peridium, relatively shorter and wider asci (110-130 × 12-14 μm), and longer ascospores (16-19 × 6-11 μm). Ascocarps in *C. ershadii* need more time to mature than those of *C. gamsii* (4-6 vs. 3-4 weeks). Crystals were not produced by *C. gamsii* but they were abundant in *C. ershadii* when it was grown on Leonian’s agar (see also Asgari & Zare 2006).

The nodulisporium-like anamorph of *C. gamsii* differs slightly from that of *C. ershadii*. Conidia in *C. gamsii* are not as markedly attenuated at the base, and are mostly aggregated in clusters at the tip of the conidiogenous cells (see Asgari & Zare 2006), while the conidiogenous cells in *C. ershadii* proliferate laterally once or twice.

In spite of intense searching, only a single isolate of this species could be obtained.

**Key to well-documented Coniochaeta species**

1. Asci multispored.................................................................................................................. 2
   1. Asci 4-8-spored................................................................................................................ 6
2. Asci with 128 or fewer spores.......................................................................................... 3
   2. Asci with more than 128 spores..................................................................................... 5
3. Ascospores discoid with germ slit around the circumference, 13-16.5 x 9.5-13.5 x 5.5-9 μm; asci with 64 spores.................................................................................................................. *C. polymegasperma*
   3. Ascospores narrowly elliptical in side view.................................................................. 4
4. Ascospores broadly elliptical to subcircular in face view, 8 x 6-8 μm; asci with 32 spores.............................................................................................................................. *C. philocoproides*
   4. Ascospores broadly elliptical to circular or ovate in face view, 6-9 x 5-9 x 4-7 μm; asci with 64-128 spores.................................................................................................................. *C. hansenii*
5. Asci with 512 spores; ascospores circular to broadly ovate in face view, elliptical in side view, 7-8 x 6-8 x 4-4.5 μm.................................................................................................................. *C. polysperma*
   5. Asci with 1000 or more spores; ascospores circular in face view, elliptical in side view, 5-7 x 3-6 μm.................................................................................................................. *C. multispora*
6. Asci 4-spored.................................................................................................................... 7
   6. Asci 8-spored.................................................................................................................. 9
7. Ascospores broadly elliptical in face view, 10-16 x 6-10 x 5-7 μm................................. *C. tetraspora*
   7. Ascospores mostly longer than 15 μm.............................................................................. 8
8. Ascospores ellipsoidal, with slightly apiculate ends, 15-20 x 12-15 x 9-11 μm; anamorph nodulisporium-like........................................................................................................... *C. nodulisporioides*
   8. Ascospores fusiform, 17-20 x 9-11 μm; anamorph unknown........................................... *C. magniquadrispora*
9. Arrangement of ascospores in ascii biseriate................................................................... 10
   9. Arrangement of ascospores in ascii uniseriate................................................................ 15
10. Ascospores equilateral...................................................................................................... 11
   10. Ascospores inequilateral............................................................................................... 14
11. Ascospores mostly narrower than 4 μm; anamorph *Lecythophora*................................. 12
   11. Ascospores mostly wider than 4 μm; anamorph *Lecythophora* or absent.................. 13
12. Ascospores narrowly ellipsoidal with a longitudinal germ slit extending to the tips of the ascospores, 9-11 x 3-5 x 3-4 μm................................................................................................. *C. nepalica*
   12. Ascospores narrowly ellipsoidal, slightly attenuated at the apices, with a raised longitudinal germ slit not extending to the tips of the ascospores, (11.5-12-13.5(-14.5) x (3-)3.5-4 μm......................................................... *C. angustispora*
13. Ascospores fusiform and cymbiform (boat-shaped), 14-17 × 4.5-5.5 × 4-4.5 μm; anamorph Lecythophora................................................................. C. cymbiformispora
13. Ascospores flying-saucer-shaped and cruciform in polar view, 11-13 × 7-8.5 × 5.5-6.5 μm; anamorph unknown................................................................. C. cruciata
14. Ascospores ellipsoidal, convex on one side, almost flat on the other side, apiculate at one or both ends, 10-12 × 6.7-5 × 6-8 μm......................................................... C. arxii
14. Ascospores reniform, convex on one side, flat on the other side, (8.9-11-13.3 × 6.7-8.9(-10) μm ..................................................................................... C. renispora
15. Peridium areolate, reddish; ascospores ellipsoidal with rounded ends, 10-12 × 6.7 × 5-6 μm ........................................................................................................... C. areolatirubra
15. Peridium not areolate........................................................................................................................................... 16
16. Peridium red; ascomata covered with 60 μm long pointed setae; ascospores oblong, 16-19(-21) × 11-12 μm ............................................. C. sangiuinolenta
16. Peridium not red, with isodiametric or angular cells........................................................................................................ 17
17. Ascospores flying-saucer-shaped, broadly elliptical in face view, limoniform in side view and cruciform in end view, 16-18 × 9-12 × 7-9 μm; ascomata covered with a loosely appressed layer of flexuous hairs; anamorph Lecythophora......................................................... C. extramundana
17. Ascospores ellipsoidal in face view, lenticular in side view, 10-14 × 7.5-9 × 5-6 μm; ascomata covered with mace-like and capitulate setae; anamorph Lecythophora....................... C. rhopalochaeta
17. Ascospores narrowly ellipsoidal, fusiform or subfusiform.......................................................... 18
18. Peridium cephalothecoid; anamorph Lecythophora................................................................................. C. cephalothecoides
18. Peridium pseudoparenchymatous; anamorph Lecythophora or deviating................................. 20
19. Ascomata covered with pointed setae; ascospores ovoid to almond-shaped or pyriform, 8-13 × 5-7 × 5-4-5 μm......................................................................................... C. cephalothecoides
19. Ascomata covered with blunt setae; ascospores ellipsoidal to fusiform, with apiculate ends, (13-14-16-(17.5) × 3.5-5 μm................................................................. C. dunosa
20. Peridial cells of irregular shape.................................................... 21
20. Peridial cells of regular shape................................................................................................................. 23
21. Ascospores ellipsoidal-fusoid, with rotational symmetry, measuring 16-18 × 9.5-10.5 μm, with a distinct protrusion at one or both ends reaching 1.7-2.5 μm in length; ascomata covered with blunt setae; anamorph nodulisporium-like......................................................... C. ershadii
21. Ascospores inequilateral ellipsoidal.................................................................................................................. 22
22. Ascomata covered with hyaline or yellowish brown hyphae; ascospores measuring 10-12 × 6-7 × 5-5-6.5 μm, with apiculate ends; anamorph nacellomyces-like.............................................. C. cypraeospora
22. Ascomata covered with loose hairs or almost glabrous; ascospores measuring 7-10 × 4-5-6 × 4.5-5.5 μm; anamorph nodulisporium-like............................................. C. emodensis
23. Ascospores flattened ellipsoidal to fusoid........................................................................... 24
23. Ascospores ellipsoidal, ovoid or fusiform, with rotational symmetry................................................. 24
24. Inner peridial cells and subhymenium turning green in alkaline solutions; ascospores subfusiform in side view, 12-15 × 8-10 × 5-8 μm; anamorph unknown................................. C. alcalivirens
24. Subhymenium not turning green in alkaline solutions.................................................................................. 25
25. Ascospores lenticular or mill-stone shaped................................................................. 26
25. Ascospores ovoid, fusoid or ellipsoidal..................................................................................... 27
26. Ascospores lenticular, 11-12 × 5-7 × 3-4 μm; ascomata glabrous; anamorph unknown...................... C. phalacrocarpa
26. Ascospores mill-stone shaped, broadly elliptical in face view, narrowly elliptical in side view, 10-14 × 9-13 × 6-8 μm; ascomata densely covered with setae with a broad base and pointed apex; anamorph Lecythophora...................... C. malacotricha
27. Ascospores ovoid, one end round, the other end apiculate, 17-23 × 8-10 × 6-8 μm......... C. ovata
28. Ascospores not ovoid........................................................................................................................................ 28
29. Ascospores fusiform........................................................................................................................................ 30
30. Ascomata apically covered with brown, rigid setae; ascospores fusiform-ellipsoidal, 12-14 × 4-4.5 × 3.5-4 μm; anamorph Lecythophora......................................................................................... C. perangusta
31. Ascospores ellipsoidal or fusoid.................................................................................................................. 46
32. Ascospores ellipsoidal-fusoidal, apiculate at both ends, 12-17 × 6-8 μm; anamorph unknown........ C. arctespora
33. Ascospores ellipsoidal-fusoid, 16-19 × 6-11 μm, with protrusion at both ends and a distinct large guttule; anamorph nodulisporium-like.................................................... C. velutina
34. Ascospores measuring 10-12.5 × 7.5-11.5 × 6-7 μm; anamorph Lecythophora.............. C. velutinosa
35. Ascospores non-guttulate, measuring 7-10 × 5-9 × 4-8 μm; anamorph phialophora-like................... C. leucoplaea
36. Ascospores ellipsoidal-fusoidal, slightly irregular, 8-13 × 6-9 × 5-6 μm; ascocoma apically covered with scanty, undulate, blunt setae...................................................... C. subcorticalis
37. Ascospores ellipsoidal to narrowly ellipsoidal, 14-20 × 6-9 × 5-6 μm; ascocoma entirely covered with sparse setae that are swollen at the base and rounded at the apex................. C. perangusta
38. Ascocoma covered with rigid, straight setae; ascospores circular to broadly elliptical in face view, 16-23 × 10-19 × 8-15 μm; anamorph unknown............................................... C. scatigena
39. Ascospores ellipsoid-fusoid, 16-19 × 6-11 μm, with protrusion at both ends and a distinct large guttule; anamorph nodulisporium-like.......................................................... C. gamsii (see also 21)
40. Ascospores with (sub-)apiculate ends...................................................................................................... 41
41. Ascospores with rounded ends.................................................................................................................. 43
42. Ascospores ellipsoidal with subapiculate ends, 15-19 × 7.5-10 μm; anamorph unknown............... C. caffra
43. Ascospores ellipsoidal or fusoid................................................................................................................. 46
44. Ascospores globose, rarely broadly ellipsoidal or ovoid, 11-16 μm diam. (rarely 19 × 10-15 μm) .......................................................... C. albidomucosa
44. Ascospores not globose.................................................................................................................. 45
45. Ascospores ovoid with obtuse ends, 7-9 × 4-6 μm................................................................. C. williamsii
45. Ascospores slightly flattened, broadly ovoid or ellipsoid, often subglobose, 4-8 × 4-7 μm.............. C. sordaria
46. Ascospores inequilateral ellipsoidal, flattened on one side, 10-15 × 6-8 μm...... C. sarothamni
46. Ascospores equilateral ellipsoidal................................................................................................. 47
47. Ascospores mostly longer than 15 μm............................................................................................ 48
47. Ascospores mostly shorter than 15 μm.......................................................................................... 50
48. Ascomata covered with sinuous, pointed or blunt setae; ascospores broadly ellipsoidal, slightly fusoid, 16-20 × 8-9 μm................................................................. C. niesslii
48. Ascomata covered with rigid, acute setae....................................................................................... 49
49. Asci uniseriate to sub-biseriate; ascospores ellipsoidal without gelatinous sheath, 17-19 × 5-7 μm ................................................................. C. gymnosphorae
49. Asci uniseriate; ascospores ellipsoidal or fusoid with gelatinous sheath, 20-26 × 7-10 μm.............. C. caryotae
50. Ascospores ellipsoidal, very broadly rounded at the ends, 4-6 × 3-4 μm........................ C. kellermanii
50. Ascospores ellipsoidal, mostly wider than 5 μm........................................................................... 51
51. Ascomata covered with dark brown, acute setae; ascospores with gelatinous sheath, 11-13 × 6-8 μm........................................................................................................ C. tilakii
51. Ascomata nearly glabrous; ascospores without gelatinous sheath.............................................. 52
52. Ascospores ellipsoidal to subglobose, 10-12 × 6-8 μm.......................................................... C. ambigua
52. Ascospores broadly ellipsoidal, 9-12 × 5-8 μm............................................................................. C. myricariae

List of Coniochaeta species mentioned in the key and some synonyms

= C. niesslii fide von Arx & Müller (1954), see below.
≡ Sphaeria arctespora Cooke & Ellis, Grevillea 5: 93 (1877).
≡ Sphaeria xylariispora Cooke & Ellis, Grevillea 6: 94 (1878) [as ‘xylariaespora’].
≡ Rosellinia xylariispora (Cooke & Ellis) Sacc., Syll. Fung. 1 : 727 (1882) (morphological details by D.L.Hawksworth, pers. comm.).
≡ Coniochaeta xylariispora (Cooke & Ellis) Cooke, Grevillea 16: 16 (1887) [as ‘xylarispora’].


C. cypraeispora Van der Linde, Mycol. Res. 95: 510 (1991) (Gramineae) [as ‘cypraeaspora’ (Gramineae)].


≡ Rosellinia elaeidicola Henn., Engler’s Bot. Jahrb. 22: 77 (1895) [as ‘elaeicola’].


C. ershadii Zare, Asgari & W.Gams, this paper.

C. extramundana Mahoney & La Favre, Mycologia 95: 510 (1991) (Gramineae) [as ‘cypraeaspora’ (Gramineae)].

C. gamsii Asgari & Zare, Nova Hedwigia 82: 228 (2006) (Gramineae).


≡ Sphaeria leucoplaca Berk. & Ravenel, North Am. Fungi no. 913 (1876).

≡ Sordaria microspora Plowr., Brit. Fungi, Grevillea 6 [1877-78]: 28 (1878).

≡ C. velutina (Fuckel) Munk fide Checa et al. (1988) (q.v.).

C. ligniaria (Grev.) Masssea, Grevillea 16: 37 (1887) (dung and wood).


   ≡ Sphaeria pulversceae Ehrh. in Persoon, Syn. Meth. Fung.: 83 (1801).
   = C. sarothamni (J. Schroet.) Arx & E. Müll. fide Checa et al. (1988), but see below.
   ≡ Hypocopra saccardoi Marchal, Fungi coproph.: 23 (1885).
   ≡ Rosellinia sanguinolenta (Wallr.) Sacc., Syll. Fung. 1: 272 (1882)
C. sordaria (Fr.) Trav. in Ferraris, Fl. Ital. Crypt., Fungi, Pyrenomycetes: 472 (1906) (wood). To be compared with C. velutina.
≡ Rosellinia sordaria (Fr.) Rehm, Ascom. no. 192 (1873).
≡ H. sordaria (Fr.) Rehm, Ascom. no. 192 (1873).
C. subcorticalis (Fuckel) Cooke, Grevillea 16: 16 (1876) (bark, soil, dung).
C. velutina (Fuckel) Cooke, Grevillea 16: 16 (1887) (dung, wood, Stereum).

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References


185


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Addendum

The authors transfer *Coniochaeta gamsii* to a new genus, *Coniolariella*, a member of the Xylariales. They are using the names *Coniolaria murandii* and *Coniolariella gamsii* somewhat inconsistently but decide that they are synonymous. At that time *Coniochaeta ershadii* was not yet published. Now we see that the synonymy of *C. murandii* with *C. ershadii* is more likely than that with *C. gamsii*. Although we do not yet have molecular evidence, we assume that both these species are congeneric. The apiculate ascospores may be an additional characteristic feature of the genus. García et al. are expanding the generic concept of *Coniochaeta* considerably, including also species with cleistothecia and others with pitted ascospores. Our key will, however, only be helpful for identifying species with ostiolate perithecia and smooth ascospores. We regret that, in spite of our request to obtain a copy of this forthcoming paper, the authors were not prepared to inform us in time about their intentions.