CZECH MYCOLOGY 78(2): 125–136, JULY 2, 2026 (ONLINE VERSION, ISSN 1805-1421)

First records of *Coleroa robertiani* and *Sporocadus rosigena* (*Ascomycota*) from the South Caucasus

DILZARA AGHAYEVA[1]*, KHADIJA APBAYEVA[1], PARVIN AGHAYEVA[1], TETIANA ANDRIANOVA[2]

[1] Institute of Botany, Public Legal Entity, Ministry of Science and Education of the Republic of Azerbaijan, A. Abbaszade str. entrance 99, Baku, AZ-1073, Azerbaijan
[2] M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine, 2, Tereshchenkivska street, Kyiv, UA-01601, Ukraine
*corresponding author: a_dilzara@yahoo.com

Aghayeva D., Apbayeva Kh., Aghayeva P., Andrianova T. (2026): First records of *Coleroa robertiani* and *Sporocadus rosigena* (*Ascomycota*) from the South Caucasus. – Czech Mycol. 78(2): 125–136.

The plant-associated fungi *Coleroa robertiani* (*Venturiales*, *Dothideomycetes*) and *Sporocadus rosigena* (*Amphisphaeriales*, *Sordariomycetes*) are reported from Azerbaijan for the first time. Both genera are still poorly studied in the country, and some previously recorded species in these genera have been reassigned to different genera. The study examines the global distribution of *C. robertiani* and *S. rosigena*, based on reviewed publications and consultation of major databases. Detailed morphological descriptions and illustrations of the collected specimens are supplied, accompanied by notes on the species' distribution, host plants, and characters distinguishing them from related species. Other species recorded in Azerbaijan under *Coleroa* and *Sporocadus* are also discussed, along with information on fungi associated with *Geranium robertianum* and *Rosa canina* from the region.

Key words: Azerbaijan, fungal diversity, *Geranium*, morphology, *Rosa*, *Sporocadaceae*, taxonomy, *Venturiaceae*.

Article history: received 29 April 2026, revised 4 June 2026, accepted 16 June 2026, published online 2 July 2026.

DOI: https://doi.org/10.33585/cmy.78202

Aghayeva D., Apbayeva Kh., Aghayeva P., Andrianova T. (2026): První nálezy *Coleroa robertiani* a *Sporocadus rosigena* (*Ascomycota*) z jižního Kavkazu. – Czech Mycol. 78(2): 125–136.

Článek přináší první záznamy o výskytu druhů *Coleroa robertiani* (*Venturiales*, *Dothideomycetes*) a *Sporocadus rosigena* (*Amphisphaeriales*, *Sordariomycetes*) na rostlinách v Ázerbajdžánu. Oba rody jsou v zemi dosud málo známé; některé dříve zaznamenané druhy byly mezitím přeřazeny do jiných rodů. Studie rozebírá celkové rozšíření *C. robertiani* a *S. rosigena*, založené na literární rešerši a údajích z hlavních databází. Poslytuje detailní morfologické popisy a ilustrace sebraných položek, doplněné poznámkami o jejich rozšíření, hostitelských rostlinách a znacích, jimiž se odlišují od jiných druhů. Jsou též diskutovány další druhy, zaznamenané v Ázerbajdžánu pod jmény *Coleroa* a *Sporocadus*, spolu s informacemi o jiných houbách rostoucích v oblasti na *Geranium robertianum* a *Rosa canina*.

INTRODUCTION

Systematic investigations of plant-associated fungi in the South Caucasus began at the early 20th century. Since then, significant efforts have been devoted to exploring and documenting the fungal diversity of Azerbaijan. Several monographic works include studies of biotrophic fungi such as smuts, rusts, and downy mildews (Ulyanishchev 1952, 1959, 1960, 1962, 1967) as well as hemibiotrophic and saprotrophic ascomycetous hyphal fungi (Akhundov et al. 2008).

Tree-associated fungi have been particularly well studied (Akhundov et al. 1971, Guseinov 1988a, 1988b, Hüseyin 2001, Aghayeva 2023). However, despite these contributions, the available publications do not adequately represent the actual diversity of fungi in the country. The fungarium collection of the Institute of Botany PLE, MSERA, Baku, Azerbaijan (BAK), houses about 3,000 dried specimens of *Ascomycota*, with leaf- and twig-associated fungi being the most abundant. Ascomycetous fungi have been investigated under various research programmes, but comprehensive Azerbaijani monographs or species checklists of these fungi have not yet been published.

During field expeditions conducted in 2024 in the Dashkasan District, located in the northeastern part of the Lesser Caucasus, Azerbaijan, a significant number of fungal species were collected and identified. Among these, two species of the genera *Coleroa* and *Sporocadus*, two taxa poorly documented in the South Caucasus, were recorded for the first time in the mycobiota of Azerbaijan.

This study aims to document new records of *Coleroa robertiani* (*Venturiaceae*, *Venturiales*, *Dothideomycetes*) and *Sporocadus rosigena* (*Sporocadaceae*, *Amphisphaeriales*, *Sordariomycetes*), provides detailed morphological descriptions and notes on the distribution of the two species, and provides some insights into the regional fungal diversity of the South Caucasus.

MATERIAL AND METHODS

Sampling. Fungal specimens were collected in 2024 during field trips to the Dashkasan District, located in the northeastern part of the Lesser Caucasus, Azerbaijan. The study area includes the Murovdag and Shahdagh mountain ranges, and the Dashkasan Plateau and Bashkend-Dastafur lowlands. It is located at elevations between 1,600 and 1,800 m above sea level, with peaks reaching ~3,300 m above sea level, and covers approximately 1,046 km^2. The vegetation is dominated by boreal, alpine, and xerophytic plant communities, enriched with chalk flora, oak forests, and endemic plants (Hajiyev et al. 1990).

Infected parts of plants were cut and preserved in paper envelopes for drying and transportation. Plant specimens of *Geranium robertianum* and *Rosa canina* showing signs of fungal infections were also collected and preserved. All collected specimens are deposited in the fungarium of the Institute of Botany PLE, MSERA, Baku, Azerbaijan (BAK). Voucher numbers were assigned to each specimen, and metadata including host plant, locality, collector, and date were recorded.

Morphological studies. The specimens were studied under a binocular and by means of compound light microscopy (Nikon Eclipse E100, Japan; Vert. A1, Carl Zeiss, Axio Imager, Göttingen, Germany). Conidiomata and ascomata were free-hand sectioned and mounted in water, lactophenol cotton blue, or 5% KOH solution for microscopic observation. The key morphological characters, including conidiomata, conidiophores, conidia, ascomata, asci, and ascospores, were examined and described. At least 20 conidia, asci, ascospores, and other structures were measured for each specimen.Measurements are presented as the range of lengths and widths of all measurements, with extreme values presented in parentheses.

Fungal names and distribution. The names of fungal species used in this study follow the standards established by MycoBank (http://www.mycobank.org) and Index Fungorum (https://www.indexfungorum.org/). Names and taxonomic position of plant species are provided according to the Plants of the World Online database (POWO 2025).

Data on the general distribution of the fungi studied are based on various bibliographic sources and publications, as well as the databases GBIF (https://www.gbif.org) and Cybertruffle's Robigalia (https://www.cybertruffle.org.uk/robigalia/).

RESULTS AND DISCUSSION

Based on analysis of the collected samples, we managed to study 47 samples of plant-associated fungi. Two species were identified as records new to Azerbaijan.

Coleroa robertiani (Fr.) E. Müll. in Müller & von Arx, Beiträge zur Kryptogamenflora der Schweiz 11(2): 416, 1962 Fig. 1

≡ *Dothidea robertiani* Fr., Systema Mycologicum 2(2): 564, 1823
≡ *Depazea robertiani* (Fr.) Chevall., Flore générale des environs de Paris 1: 453, 1826
≡ *Sphaeria robertiani* (Fr.) Rabenh., Deutschlands Kryptogamenflora, Bd. Pilze 1: 169, 1844
≡ *Stigmatea robertiani* (Fr.) Fr., Summa vegetabilium Scandinaviae 2: 421, 1849
≡ *Ascospora robertiani* (Fr.) Kuntze, Revisio generum plantarum 3(3): 444, 1898
≡ *Munkiella robertiani* (Fr.) Höhn., Annales Mycologici 16(1–2): 172, 1918
≡ *Hormotheca robertiani* (Fr.) Höhn., Hedwigia 62: 44, 1920
= *Cryptosphaeria nitida* Grev., Flora Edinensis: 363, 1824
= *Rhytisma geranii* Spreng., Systema Vegetabilium 4(1): 412, 1827 (nom. illegit., Art. 52.1)
= *Sphaeria geranii* Wallr., Flora Cryptogamica Germaniae 2: 771, 1833 (nom. illegit., Art. 52.1)

Teleomorph. Mycelium subcuticular, colourless, immersed in leaf tissues. Ascomata pseudoperithecial, epiphyllous, scattered or arranged in small groups, superficial, covered by cuticle on erumpent very thin hypostromatic stromatal tissues; globose to subglobose (hemispherical), 67–122 µm in diameter, dark brown to black, shiny, glabrous; peridium smooth, composed of 2–3 layers of brown to blackish brown cells forming a *textura angularis*, up to 10 µm thick; with a conspicuous ostiole, 10–24 µm in diameter; pseudoparaphyses colourless, septate, 1–2 µm wide, size similar to the asci. Setae absent. Asci bitunicate, 8-spored, colourless, obclavate or oval, slightly curved, 24–46 × 8–12 µm, without clearly visible pedicel. Ascospores ellipsoidal to oval, greenish to

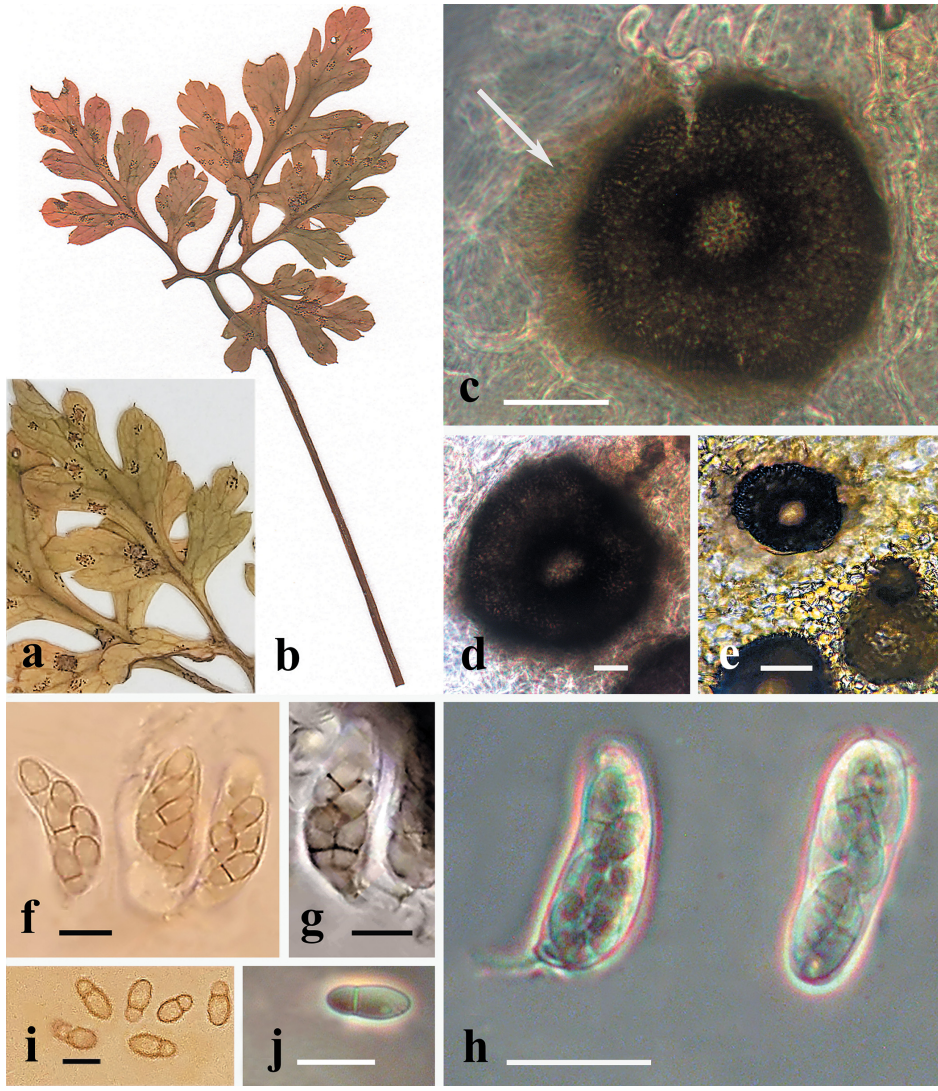

Fig. 1. *Coleroa robertiani* on *Geranium robertianum* (BAK 10023): **a, b** – scattered epiphyllous pseudoperithecial ascomata on leaf lobes of *G. robertianum*; **c** – dorsal view of ascoma with thin stromatal tissue at the base (indicated by the arrow) and ostiole; **d** – small superficial ascoma; **e** – different small ascomata on a leaf; **f** – released asci with ascospores; **g** – ascus with ascospores; **h** – two obclavate asci with and without pedicel; **i** – ascospores constricted at the septum; **j** – ascospore. Scale bars: c = 40 µm; d, e, h = 20 µm; f, g, i, j = 10 µm. Photos by D. Aghayeva, Kh. Apbayeva, T. Andrianova.

olivaceous, straight to slightly inequilateral, 10–12 × 3–5 µm, smooth, thin-walled, 1-septate, upper cell wider and twice as long as lower cell, lower cell shorter and narrower, constricted at the septum, with broadly rounded apex and base.

Anamorph not observed.

Host plant. On leaves of *Geranium robertianum* L. (*Geraniaceae*).

Specimen collected

Azerbaijan. Dashkasan District, village of Zivlan, 1385 m above sea level, 40°40'49.63" N, 46°15'22.53" E, 8 December 2024, coll. D.N. Aghayeva (BAK 10023).

General distribution. North America: Canada, USA. South America: Chile. Asia: Azerbaijan, Georgia, Turkey. Europe: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Serbia, Spain, Sweden, Switzerland, Ukraine, UK.

Notes. According to current data in Index Fungorum and MycoBank, genus *Coleroa* Rabenh. accommodates approximately 65 taxa. Thirty-two are accepted species and three are accepted subspecies of the genus. Morphological studies of the type species, *Coleroa chaetomium* (Kunze) Rabenh., and phylogenetic analysis of the representative species *C. circinans* (Fr.) G. Winter and *C. robertiani* (Fr.) E. Müll. have allowed assigning the genus to the *Venturiaceae* in the recently introduced order *Venturiales* (*Dothideomycetes*) (Zhang et al. 2011, Hyde et al. 2013, Kirk et al. 2013). However, the phylogeny of the genus *Coleroa* remains insufficiently resolved and requires additional study of sequence data, including those of the type species (Shen et al. 2020).

Species of the genus *Coleroa* are hemibiotrophs and saprotrophs of various plants and are widespread across four continents. *Coleroa robertiani*, infecting *Geranium robertianum*, is abundant in Europe and is less known from the Americas and Asia. This species, originally described as *Dothidea robertiani* two centuries ago, has historically been placed in several other genera, including *Ascospora* Fr., *Cryptosphaeria* Grev., *Munkiella* Speg., *Hormotheca* Bonord., *Sphaeria* Tode, and *Stigmatea* Fr. (Corlett & Barr 1986). Our record of *C. robertiani* is the first in Azerbaijan. It was previously only found on the same host plant in Georgia (Nakhutsrishvili 1986) and more recently on *G. tuberosum* in eastern Turkey (Kirbağ 2004).

Another known representative of this genus, *C. circinans*, differs morphologically from our specimen and infects primarily *G. rotundifolium*, *G. molle*, *G. homeanum*, *G. nepalense*, *G. potentilloides*, and *G. wallichianum*. *Coleroa circinans* was originally described under the name *Perisporium circinans* Fr. (Fries 1829) and some authors reported rare infections on *Pelargonium*, *Ribes*, and

Veronica (Morochkovs'ky et al. 1969, Vasyagina et al. 1987). *Coleroa circinans* is characterised by the presence of aggregated ascomata, ornamented with aseptate, thick-walled, 25–40 µm long setae concentrated around the ostiolar region (Barr 1989). These structures are not present in *C. robertiani*. Phylogenetic studies have confirmed that *C. robertiani* and *C. circinans* are distinct species (Shen et al. 2020).

Sporocadus rosigena F. Liu, L. Cai & Crous, in Liu, Bonthond, Groenewald, Cai & Crous, Studies in Mycology 92: 402, 2018 [2019] Fig. 2

≡ *Seimatosporium rosicola* Wanas., Goonas., Camporesi & K.D. Hyde, in Wanasinghe et al., Fungal Diversity 89: 193, 2018

The teleomorph was not observed. It was described and illustrated on spines of *Rosa canina* from Italian collections (Wanasinghe et al. 2018). This finding has been supported by other publications (Liu et al. 2019, Bundhun et al. 2021).

Anamorph. Leaf spots dry, forming discoloured areas on the leaf, 2–3 mm across, limited by the main leaf veins, with a pale whitish centre and narrow, brown margins, 0.5 mm wide, or forming brown to reddish brown, broad, irregular lesions, scattered and confluent, without distinct margins. Conidiomata acervular, epiphyllous, distinct, semi-immersed to superficial, solitary, unilocular, dark brown to black, subglobose, with flattened base, circular and flat, 122–206 µm in diameter, 118–166 µm high, thin-walled, wall consisting of a *textura angularis*. Conidiophores reduced to conidiogenous cells, colourless, smooth, in mucus. Conidiogenous cells cylindrical or slightly ampulliform, percurrent enteroblastic, annellidic; collarette poorly visible in the apical part, colourless, determinate, erect, smooth, 8–25 × 1.5–2.0(3.0) µm, arising from the cells at the base. Conidia obovoid to subcylindrical, pale to moderate brown, 12–14 × 4–5(6) µm, lacking appendages, with 3 transverse septa, occasionally 2-septate, smooth, straight or slightly bent to one side, truncate or obtuse at the base, rounded at the apex; basal cell obconic, 2–2.8 µm long, obtuse at the base, colourless to pale brown, median cells of about equal length, doliiform, evenly pale brown or brown, apical cell with rounded apex, conic, 3–4 µm long, colour the same as median cells.

Host plant. On leaves of *Rosa canina* L. (*Rosaceae*).

Specimen collected

Azerbaijan. Dashkasan District, village of Amirvar, 1,411 m above sea level, 40°52'71.81" N, 45°92'95.21" E, 10 October 2024, coll. D.N. Aghayeva (BAK 10024).

General distribution. North America: Canada, USA. Asia: Azerbaijan, Iran. Australasia: New Zealand. Europe: Cyprus, Denmark, Finland, Italy, Latvia, Netherlands, Russia, Spain, UK.

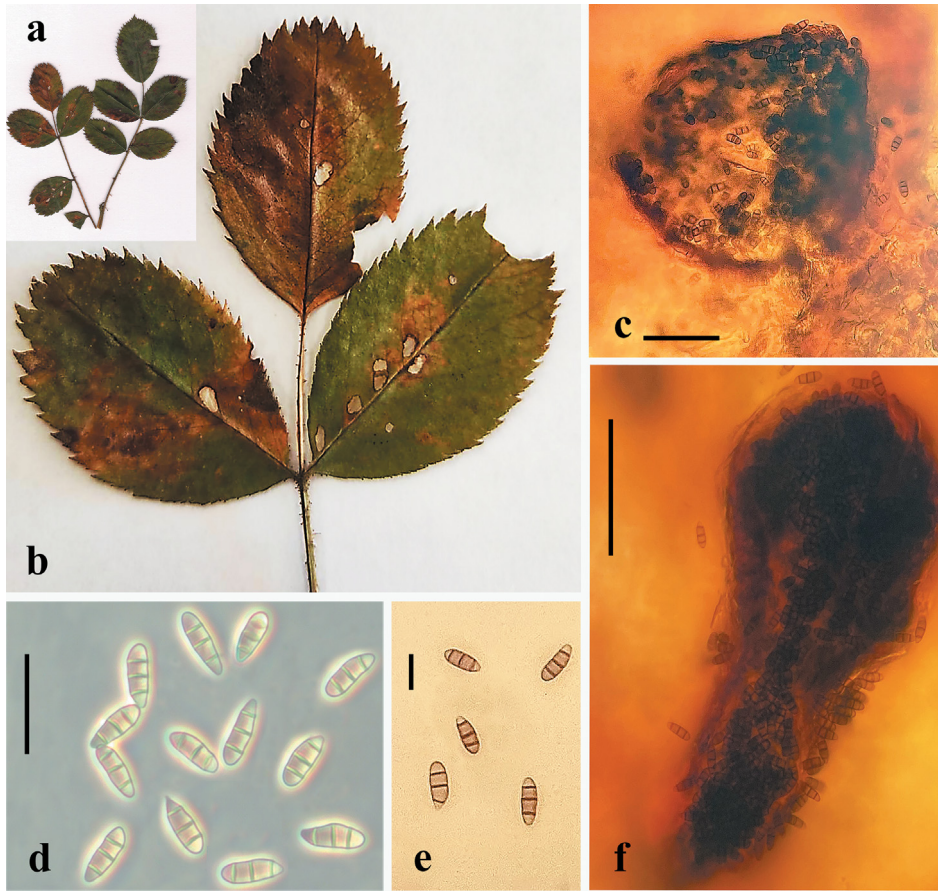

Fig. 2. *Sporocadus rosigena* on *Rosa canina* (BAK 10024): **a, b** – leaf spots caused by development of the fungus; **c** – cross section of conidioma; **d, e** – group of 3-septated conidia; **f** – squashed conidioma on leaf surface with numerous released conidia. Scale bars: c, f = 50 µm; d = 20 µm; e = 10 µm. Photos by Kh. Apbayeva, P. Aghayeva, T. Andrianova.

Notes. Members of the genus *Sporocadus* Corda (*Sporocadaceae*, *Amphisphaeriales*, *Sordariomycetes*) are distinguished by integrated or separate, annellidic conidiogenous cells which typically produce ellipsoidal, cylindrical, or obovoid 3-septate conidia lacking or including appendages (Liu et al. 2019, Razaghi et al. 2024). This genus is the type genus of the highly diverse *Sporocadaceae* family, which comprises more than 750 species of 35 genera which are commonly associated with plants. The taxonomy of this family is based primarily on the presence of appendage-bearing conidia and is supported by multi-gene phylogenetic analyses of ITS and LSU sequence data (Jaklitsch et al. 2016, Wanasinghe et al. 2018, Liu et al. 2019, Hyde et al. 2020, Razaghi et al. 2024).

The genus *Sporocadus* was lectotypified by S.J. Hughes (1958) and later epitypified by F. Liu and co-authors (Liu et al. 2019), with *S. lichenicola* Corda being designated the type species. However, the generic name *Sporocadus*, although originally based on the species of *S. lichenicola*, has historically been applied for a number of taxa, spanning 10 coelomycetous and four teleomorphic asomycetous genera (Sutton 1975, Liu et al. 2019). In total, *Sporocadus* currently accommodates 67 taxonomic names, of which 40 to 45 represent valid species (current data in Index Fungorum and MycoBank). Of the recognised taxa, 13 are awaiting revision, including three which are provisionally placed in the rejected genus *Hendersonia*. In line with shifting taxonomic approaches to *Sporocadus*, numerous species have been transferred to *Cooksonomyces* H.J. Swart & D.A. Griffiths, *Coryneopsis* Grove, *Coryneum* Nees, *Diplodia* Fr., *Discostroma* Clem., *Metadiplodia* Syd., *Monochaetia* (Sacc.) Allesch., *Pestalotiopsis* Steyaert, *Pseudocercospora* Speg., *Seimatosporium* Corda, *Thyrostroma* Höhn., and *Wilsonomyces* Adask., J.M. Ogawa & E.E. Butler.

The anamorph and teleomorph of *Sporocadus rosigena* F. Liu, L. Cai & Crous were first described under the name of *Seimatosporium rosicola* collected from *Rosa canina* in Italy during autumn 2014 (Wanasinghe et al. 2018). This species differed morphologically from other species assigned to *Seimatosporium* Corda and reported from *Rosa* spp., which included *Seimatosporium caudatum* (Preuss) Shoemaker, *S. discosioides* (Ellis & Everh.) Shoemaker, *S. lichenicola* (Corda) Shoemaker & E. Müll., *S. pseudorosarum* Wijayaw., Camporesi & K.D. Hyde, *S. rosae* Corda, *S. rosarum* (Henn.) B. Sutton, *S. rosigenum* Goonas., Camporesi & K.D. Hyde, and *S. salicinum* (Corda) Nag Raj (Ariyawansa et al. 2015, Wanasinghe et al. 2018). The fungus was distinguished by a conidial size of 12–14 × 5.0–7.5(9) µm, and pale brown to brown apical cells of the conidia compared to the colourless ones found in other species. In the phylogenetic analysis, *S. rosicola* grouped with *S. glandigenum* (Bubák & Gonz. Frag.) B. Sutton and *Leptosphaeria fuscella* (Berk. & Broome) Ces. & De Not. [= *Discostroma fuscellum* (Berk. & Broome) Huhndor] (Wanasinghe et al. 2018).

Subsequent morphological and phylogenetic investigations of the genus *Seimatosporium* provided evidence to reclassify *S. rosicola* as a distinct species within *Sporocadus* under the name of *S. rosigena* (Liu et al. 2019, Bundhun et al. 2021, Kanetis et al. 2022, Peng et al. 2022). Several other *Seimatosporium* species occurring on *Rosa* spp. have become synonyms of *Sporocadus lichenicola* Corda and *Sporocadus rosarum* (Henn.) F. Liu, L. Cai & Crous, the latter now encompassing also *S. rosigenum* and *S. pseudorosarum* (Liu et al. 2019). The introduction of the specific epithet *S. rosigena* was nomenclaturally necessary because the older homonym *Sporocadus rosicola* Rabenh. (1847) was already occupied by a heterotypic synonym of the type species, *S. lichenicola*. Among the congeners of *Sporocadus* known from *Rosa* spp. – specifically *S. brevis* C. Peng

& C.M. Tian, *S. lichenicola*, *S. rosarum*, *S. rosigena*, *S. sorbi* (Wijayaw., Camporesi & K.D. Hyde) F. Liu, L. Cai & Crous, *S. spiniger* C. Peng & C.M. Tian, and *S. trimorphus* F. Liu, L. Cai & Crous – *S. rosicola* is distinguished by 3-septate conidia measuring 10–15 × 3.5–6.5 µm and a mean conidium length to width ratio of less than three. Although *S. rosigena* shares certain morphological similarities with *S. brevis* (associated with *Rosa spinosissima*), the latter is differentiated by its shorter, predominantly 2(3)-septate conidia of 10–12 × 6.5–7.0 µm in size (Peng et al. 2022).

Sporocadus rosigena develops both as a saprotroph and as an endophyte on plants of *Rosaceae* (*Rosa*, *Rubus*, *Pyrus*), *Ericaceae* (*Rhododendron*, *Vaccinium*), *Fagaceae* (*Quercus*), and *Vitaceae* (*Vitis*) (Wanasinghe et al. 2018, Liu et al. 2019, Bundhun et al. 2021, Kanetis et al. 2022). The global distribution of this species remains poorly understood, but records from both the Northern and Southern Hemispheres suggest a high degree of ecological plasticity. Notably, the specimen of *S. rosigena* collected in the South Caucasus exhibits morphological characters consistent with those documented in specimens from other regions. Previously, the only other known record of this fungus from Asia was a CBS-KNAW collection isolate obtained from a *Vitis vinifera* twig collected in Iran (Liu et al. 2019).

Diversity of related fungi in Azerbaijan

Despite extensive data sets on fungi associated with *Geraniaceae* and *Rosaceae*, no species of the genera *Coleroa* and *Sporocadus* had yet been documented on hosts of these families in Azerbaijan. Voucher specimens confirming their presence in Azerbaijan are absent from the BAK collection. This highlights a significant gap in the knowledge of fungal diversity in the region, particularly in the South Caucasus, underscoring the need for targeted investigations.

Species in the *Venturiales* and *Amphisphaeriales* orders are not abundant in Azerbaijan. The genus *Coleroa* is so far known to be represented here only by *C. pusiola* (P. Karst.) Sivan. (Sivanesan 1975), collected on *Quercus iberica* in Goygol National Park by E.S. Huseynov in 1972 (BAK accession number 317), but *C. pusiola* is currently considered a synonym of *Amphisphaeria pusiola* P. Karst. (MycoBank Database, MB 225752). Consequently, *C. robertiani* is the only accepted representative species of genus *Coleroa* in Azerbaijan.

The biotroph *Peronospora conglomerata* Fuckel has so far only been reported from *Geranium robertianum* in Azerbaijan (Ulyanishchev 1967; BAK accession number 4665). No additional specimens of this oomycete have been documented on this host since that time.

The genus *Sporocadus* is represented in Azerbaijan by only two species in the BAK fungus collection. Related species kept in BAK are specimens BAK 1055 and

BAK 1056 of *Coryneum corni-albae* (Roum.) Sacc. [syn. *Sporocadus corni-albae* (Roum.) Orsenigo, Rodondi & B. Sutton], which has later been relocated to *Coryneopsis corni-albae* (Roum.) Grove, and specimens BAK 9412 and BAK 10145 of *Stigmina platani* (Fuckel) Sacc. [syn. *Sporocadus platani* (Fuckel) Arx], which is a synonym of *Pseudocercospora platanigena* Videira & Crous.

Several fungi have been reported from Azerbaijan on *Rosa canina*, including *Septoria rosae* Desm. from Nakhchivan (1967, T.M. Akhundov, BAK 9153), *Sphaeria clypeata* var. *rosarum* Fr. [= *Diplodia rosarum* (Fr.) Westend.] from the Khojaly District (1960, BAK 1591), *Pestalotiopsis rosae* (Westend.) X.A. Sun & Q.X. Ge [= *Pestalotia rosae* Westend.] from the Goygol District (1982, BAK 5137, 5138), *Podosphaera pannosa* (Wallr.) de Bary from the city of Baku (2021, D.N. Aghayeva, BAK 10130, 10131), and *Phragmidium mucronatum* (Pers.) Schltdl. [= *Ascophora disciflora* Tode, *P. disciflorum* (Tode) J. James] from the Shusha District (1959, B.F. Huseynova, BAK 5447) and the Lerik District (1975, V.I. Ulyanishchev, BAK 5443).

The Dashkasan District, with its volcanic highlands, plateaus and folded mountain systems of the Lesser Caucasus, harbours a high biodiversity which does not yet include the mycobiota. Our findings underscore the role of the entire South Caucasus as a biodiversity hotspot, supporting its significance in the global assessment of fungal diversity and ecology.

ACKNOWLEDGEMENTS

The authors thank anonymous reviewers for critical revision, valuable advice and suggestions.

REFERENCES

AGHAYEVA D. (2023): A checklist of *Ascomycota* found on forest trees and shrubs in Azerbaijan. – Sydowia 76: 71–93. DOI: https://doi.org/10.12905/0380.sydowia76-2024-0071

AKHUNDOV T.M., AGHAYEVA G.B. (1971): Novyye vidy parazitnykh gribov roda *Phyllosticta* v Nakhchivanskoy ASSR [New species of the parasitic fungi of the genus *Phyllosticta* in Nakhchivan ASSR]. – Mikologiya i fitopatologiya 2(5): 73–76. [in Russian]

AKHUNDOV T.M., EYYUBOV B.B., AHMEDOV S.A. (2008): Azərbaycanın mikobiotası. Cild V. Hifal göbələklər [Mycobiota of Azerbaijan. Vol. 5. Hyphal fungi]. – Tahsil, Baku, 350 p. [in Azerbaijani]

BARR M. (1989): The *Venturiaceae* in North America: Revisions and additions. – Sydowia 41: 25–40.

BUNDHUN D., JEEWON R., SENANAYAKE I.C., CAMPORESI E., ALUTHMUHANDIRAM J.V., TANG A.M., KANG J., BHOYROO V., HYDE K.D. (2021): Morpho-molecular characterization of *Discosia ravennica* sp. nov. and a new host record for *Sporocadus rosigena*. – MycoKeys 79: 173–192. DOI: https://doi.org/10.3897/mycokeys.79.60662

CORLETT M., BARR M.E. (1986): *Hormotheca* for species of *Coleroa* with hemisphaerical ascomata. – Mycotaxon 25(1): 255–257. DOI: https://doi.org/10.5962/p.417073

FRIES E. (1829): Systema Mycologicum. Vol. 3(1). – Sumptibus Ernesti Mauritii, Greifswald, viii+259 pp. [in Latin]

GUSEYNOV E.S. (1988a): Sumchatyye griby osnovnykh lesoobrazuyushchikh porod Azerbaydzhana [Ascomycetous fungi of the main forest forming trees of Azerbaijan]. – Izvestiya AN Azerb. SSR, ser. biol. nauk [Transaction of AS of Azerb. SSR, ser. biol. sci.] 5: 139–147. [in Russian]

GUSEYNOV E.S. (1988b): Vidy gribov iz Azerbaydzhana, redkiye i novyye dlya mikoflory SSSR [Species of fungi from Azerbaijan, rare and new for mycoflora of SSSR]. – Novosti sistematiki nizshikh rasteniy 1: 46–49. [in Russian]

HUGHES S.J. (1958): Revisiones hyphomycetum aliquot cum appendice de nominibus rejiciendis. – Canadian Journal of Botany 36(6): 727–836. DOI: https://doi.org/10.1139/b58-067

HÜSEYİN E. (2001): Azerbaycan ormanlarında meşe ağaclarına arız olan mikromantarlar [Microfungi infecting oak trees in Azerbaijan forests]. – Turkish Journal for Agriculture and Forestry 25(6): 407–413. URL: https://search.trdizin.gov.tr/tr/yayin/detay/27768/azerbaycan-ormanlarinda-mese-agaclarina-ariz-olan-mikromantarlar [in Turkish]

HYDE K.D. ET AL. (2013): Families of *Dothideomycetes*. – Fungal Diversity 63(1): 1–313. DOI: https://doi.org/10.1007/s13225-013-0263-4

HYDE K.D. ET AL. (2020): Refined families of *Sordariomycetes*. – Mycosphere 11(1): 305–1059. DOI: https://doi.org/10.5943/mycosphere/11/1/7

JAKLITSCH W., GARDIENNET A., VOGLMAYR H. (2016): Resolution of morphology-based taxonomic delusions: *Acrocordiella*, *Basiseptospora*, *Blogiascospora*, *Clypeosphaeria*, *Hymenopleella*, *Lepteutypa*, *Pseudapiospora*, *Requienella*, *Seiridium* and *Strickeria*. – Persoonia 37(1): 82–105. DOI: https://doi.org/10.3767/003158516x690475

HAJIYEV V.D., ALIYEV D.A., KULIEV V.SH., VAGABOV Z.V. (1990): Vysokogornaya rastitel'nost' Malogo Kavkaza (v predelakh Azerbaydzhana) [High-mountain vegetation of the Lesser Caucasus (within Azerbaijan)]. – Elm, Baku, 211 p. [in Russian]

KANETIS L.I., TALIADOROS D., MAKRIS G., CHRISTOFOROU M. (2022): A novel *Seimatosporium* and other *Sporocadaceae* species associated with grapevine trunk diseases in Cyprus. – Plants 11(20): 1–23. DOI: https://doi.org/10.3390/plants11202733

KIRBAĐ S. (2004): New records of microfungi from Turkey. – Pakistan Journal of Botany 36(2): 445–448.

KIRK P. ET AL. (2013): A without-prejudice list of generic names of fungi for protection under the International Code of Nomenclature for algae, fungi, and plants. – IMA Fungus 4(2): 381–443. DOI: https://doi.org/10.5598/imafungus.2013.04.02.17

LIU F., BONTHOND G., GROENEWALD J.Z., CAI L., CROUS P.W. (2019): *Sporocadaceae*, a family of coelomycetous fungi with appendage-bearing conidia. – Studies in Mycology 92: 287–415. DOI: https://doi.org/10.1016/j.simyco.2018.11.001

MOGHADAM J.N., KHALEDI E., ABDOLLAHZADEH J., AMINI J. (2022): *Seimatosporium marivanicum*, *Sporocadus kurdistanicus*, and *Xenoseimatosporium kurdistanicum*: three new pestalotioid species associated with grapevine trunk diseases from the Kurdistan Province, Iran. – Mycological Progress 21(1): 427–446. DOI: https://doi.org/10.1007/s11557-021-01764-y

MOROCHKOVS'KY S.F, ZEROVA M.Y., LAVITS'KA Z.G, SMITS'KA M.F. (1969): Vyznachnyk grybiv Ukrainy. Tom 2. Askomitsety. [Handbook of fungi from Ukraine. Vol. 2. Ascomycetes.] – Naukova dumka, Kyiv, 517 p. [in Ukrainian]

NAKHUTSRISHVILI I.G. (1986): Flora sporovykh rasteniy Gruzii (Konspekt) [Flora of spore-producing plants of Georgia (Summary)]. – Metsniereba, Tbilisi, 888 p. [in Russian]

PENG C., CROUS P.W., JIANG N., FAN X.L., LIANG Y.M., TIAN C.M. (2022): Diversity of *Sporocadaceae* (pestalotioid fungi) from *Rosa* in China. – Persoonia 49(1): 201–260. DOI: https://doi.org/10.3767/persoonia.2022.49.07

POWO (2025): Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. – https://powo.science.kew.org/ [accessed 30 April 2026]

RAZAGHI P., RAZA M., HAN S., MA Z., CAI L., ZHAO P., CHEN Q., PHURBU D., LIU F. (2024): *Sporocadaceae* revisited. – Studies in Mycology 109(1): 155–272. DOI: https://doi.org/10.3114/sim.2024.109.03

SIVANESAN A. (1975): Redisposition and descriptions of some *Amphisphaeria* species and a note on *Macrovalsaria*. – Transactions of the British Mycological Society 65(3): 395–402. DOI: https://doi.org/10.1016/S0007-1536(75)80036-2

SHEN M., ZHANG J.Q., ZHAO L.L., GROENEWALD J.Z., CROUS P.W., ZHANG Y. (2020): *Venturiales*. – Studies in Mycology 96: 185–308. DOI: https://doi.org/10.1016/j.simyco.2020.03.001

SUTTON B. (1975): Coelomycetes. V. *Coryneum*. – Mycological Papers 138: 1–224.

ULYANISHCHEV V.I. (1952): Golovnevyye griby [Smut fungi]. – In: Karyagin I., ed., Mikoflora Azerbaydzhana. Tom 1. [Mycoflora of Azerbaijan. Vol. 1.] – Publishing House of the Academy of Sciences of Azerbaijan SSR, Baku, 333 p. [in Russian]

ULYANISHCHEV V.I. (1959): Rzhavchinnye griby [Rust fungi]. – In: Ibrahimov H., ed., Mikoflora Azerbaydzhana. Tom 2. [Mycoflora of Azerbaijan. Vol. 2.] – Publishing House of the Academy of Sciences of Azerbaijan SSR, Baku, 443 p. [in Russian]

ULYANISHCHEV V.I. (1960): Rzhavchinnye griby [Rust fungi]. – In: Ibrahimov H., ed., Mikoflora Azerbaydzhana. Tom 3(1). [Mycoflora of Azerbaijan. Vol. 3(1).] – Publishing House of the Academy of Sciences of Azerbaijan SSR, Baku, 252 p. [in Russian]

ULYANISHCHEV V.I. (1962): Rzhavchinnye griby [Rust fungi]. – In: Ibrahimov H., ed., Mikoflora Azerbaydzhana. Tom 3(2). [Mycoflora of Azerbaijan. Vol. 3(2).] – Publishing House of the Academy of Sciences of Azerbaijan SSR, Baku, 276 p. [in Russian]

ULYANISHCHEV V.I. (1967): Peronosporovye griby [Peronosporoid fungi]. – In: Ibrahimov H., ed., Mikoflora Azerbaydzhana. Tom 4. [Mycoflora of Azerbaijan. Vol. 4.] – Publishing House of the Academy of Sciences of Azerbaijan SSR, Baku, 351 p. [in Russian]

VASYAGINA M.P., BYZOVA Z.M., TARTENOVA M.A. (1987): Loculoascomycetes. – In: Tomilin B.A., ed., Flora sporovykh rasteniy Kazakhstana. Tom 12(2). [Flora of spore plants of Kazakhstan. Vol. 12(2).] – Nauka, Alma-Ata, 296 p. [in Russian]

WANASINGHE D. ET AL. (2018): Fungal diversity notes 709–839: taxonomic and phylogenetic contributions to fungal taxa with an emphasis on fungi on *Rosaceae*. – Fungal Diversity 89(1): 1–236. DOI: https://doi.org/10.1007/s13225-018-0395-7

XU R., SU W., TIAN S., BHUNJUN C., LI Y., PHUKHAMSAKDA C. (2025): Morphology and phylogeny reveal two new species of pestalotioid fungi associated with hawthorn in Northeast China. – MycoKeys 122: 149–168. DOI: https://doi.org/10.3897/mycokeys.122.153767

ZHANG Y., CROUS P.W., SCHOCH C.L., BAHKALI A.H., GUO L.D., HYDE K.D. (2011): A molecular, morphological and ecological re-appraisal of *Venturiales* – a new order of *Dothideomycetes*. – Fungal Diversity 51(1): 249–277. DOI: https://doi.org/10.1007/s13225-011-0141-x