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Recent collections of miscellaneous microfungi from South Poland

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In the paper 97 miscellaneous microfungi from South Poland are reported; 31 taxa are new to Poland, among them: *Arthrinium cuspidatum*, *A. sporophleum*, *Ascochyta sesleriae*, *Brachysporium nigrum*, *Byssosphaeria rhodomphala*, *Camarosporium feurichii*, *Ceratostomella ampullasca*, *Cistella fugiens*, *C. luzulina*, *Diplonaevia emergens*, *Eutypella tetraploa*, *Hysteropezizella diminuens*, *Laetinaevia minutissima*. *Micropeltopsis nigro-annulata* var. *nigro-annulata* and var. *papillosa*, *Mollisina echinulifera*, *Naeviella paradoxa*, *Naeviopsis carneola*, *Phyllosticta trifoliorum*, *Physalospora empetri*, *Pleospora helvetica*, *Psilachnum acutum*, *Pyrenopeziza arctii*, *Sarcopodium circinatum*, *Scutomollisia stenospora*, *Stomiopeltis versicolor*, *Taphrophila cornu-capreoli*, *Trichometasphaeria culmifida*, *Xepicula leucotrichoides*. *Naeviopsis carneola* is illustrated for the first time.

Key words: microfungi, *Oomycetes*, *Ascomycetes*, *Deuteromycetes*, *Urediniomycetes*, *Ustomycetes*.

INTRODUCTION

The knowledge of the microfungi of Poland is still incomplete, just like in the majority of European countries. Research on this subject started in the 19th century, but the current state of our knowledge ist still far from satisfactory keys or checklists for all groups of microfungi in Poland. Only *Peronosporales* (K o c h m a n and M a j e w s k i 1970), *Ustilaginales* (K o c h m a n and M a j e w s k i 1973), *Uredinales* (M a j e w s k i 1977, 1979), *Erysiphales* (S a ł a t a 1985), some *Dematiaceae* (B o r o w s k a 1986) and *Laboulbeniales* (M a j e w s k i 1994) are sufficiently elaborated. The two important works by S c h r o e t e r (1889, 1908) are still a valuable source of information, but partly obsolete.

In 1993 the first author had the opportunity to participate in a botanical excursion with students of the Institute of Botany (University of Graz) to South Poland. An annotated list of the micromycetes collected on this excursion is presented. A complete set of specimens was deposited in GZU, some duplicates in herb. Chlebicki (Wrocław). The second author collected microfungi in the West Tatra Mts., the Babia Góra National Park, and the Roztocze National Park between 1984 and 1990, but only recently he has had the time to work through it. Herbarial specimens are deposited in KRAM-Chlebicki (Wrocław).

Collectors. Collecting sites **1-9:** all specimens collected and identified by C. Scheuer, unless stated otherwise; collecting sites **10, 11:** all specimens collected and identified by A. Chlebicki; collecting site **12:** specimen collected by J. Parusel.

Sites. 1 Nida basin, Skorociee Steppe Nature Reserve, ca 7 km SW of Busko, 7 July 1993, **(1a-e)** fragments of steppe, ruderal and segetal vegetation, ca 205-220 m elevation, rendzina soils over miocene gypsum, **(1f)** along a very small stream, ca 200 m elevation;

2 Wały Steppe Nature Reserve near Racławice, hills 16 km E of Miechów, 320-365 m elevation, cretaceous marle partly covered by loess, *Inuletum ensifoliae*, 7 July 1993;

3 Jura Krakowska, Ojców National Park 22 km NNW of Kraków, 300-458 m elevation, 7 July 1993, **(3a)** meadows and woodland along the river Prądnik, 300 m elevation, **(3b)** *Dentario glandulosae-Fagetum*;

4, 5 Tatra National Park, from the Kasprowy Wierch (Kasprowy Mt.) to the Przełęcz Liliowe (Slovak.: Laliové sedlo = Liliowe pass) and down towards the Dolina Gąsienicowa (Gąsienicowa valley), 9 July 1993, **4a** Kasprowy Wierch (Kasprowy Mt.), 2000-2005 m elevation, alpine vegetation, **4b-d** Przełęcz Liliowe (Liliowe pass), 1953 m elevation, alpine vegetation, **5** N-exposed slopes down to the Dolina Gąsienicowa (Gąsienicowa valley), 1550-1650 m elevation, mosaic of *Pinetum mughi*, small patches of tall herb vegetation, and small boggy depressions with *Juncus filiformis* and *Eriophorum vaginatum*, 9 July 1993;

6 Pieniny National Park, SE of Krościenko n. Dunajcem, Wąwóz Sobczański (Sobczański ravine), 10 July 1993, **6a** *Origano-Brachypodietum* along the path, ca 550-600 m elevation, **6b** *Dentario glandulosae-Fagetum*, ca 700 m elevation;

7, 8 Bieszczady National Park, from Wołosate (ca 740 m elevation) up to the Tarnica Mt. (1346 m elevation), 12 July 1993, **7a** planted forests with *Larix decidua*, 980-1030 m elevation, **7b** small clearings with *Poo-Deschampsietum caespitosae*, 1100-1150 m elevation, **7c** damp tall-herb vegetation with *Mentha longifolia*, *Rubus idaeus*, *Scirpus sylvaticus*, etc., 1150 m elevation, **8** Bieszczady National Park, Wołosate, ca 740 m elevation, margin of a raised bog beside the road, 12 July 1993;

9 Bieszczady Mountains, Pogórze Leskie, ca 2 km ESE of Lesko, on the hill Czulhia, 13 July 1993, **9a** *Dentario glandulosae-Fagetum*, ca 500 m elevation, **9b** *Fagetum* on top of the hill Czulhia, 570 m elevation, **9c** *Quercus-Tilia* woodland on a steep slope down to the river San, 460-500 m elevation;

10 Tatra National Park, **10a** Niżnia Przełęcz Białego (pass) near Kalatówki, 1300 m elevation, 19 Oct. 1989; **10b** Ciemniak Mt., W-slope, the Wysoki Grzbiet (Wysoki ridge), 1700-1750 m elevation, 18 Oct. 1989; **10c** Toporowy Staw Wyżni (Toporowy lake) in Dolina Sucha Woda (Sucha Woda valley), on peat-bog, 1113 m elevation, 29 Sept. 1990; **(10d)** Polana Kalatówki (Kalatówki meadow), on a fringe of forest, 1190 m elevation, 30 Sept. 1990; **10e** Polana Jaworzynka (Jaworzynka meadow) NE of Kuźnice, 1100 m elevation, 17 Oct. 1989; **10f** Chłabowski Potok

(Chłabowski stream), W of Toporowa Cyrhla, in the forest, ca 1000 m elevation, 29 Sept. 1990; **10g** Polana Olczyska (Olczyska meadow), on a fringe of the forest, 1020 m elevation, 27 Sept. 1990; **(10h)** Wąwóz Kraków (Kraków gorge) in Dolina Kościeliska (Kościeliska valley), 1300 m elevation, 18 Oct. 1989; **10i** Ciemniak Mt., W-slope, 1650 m elevation, 18 Oct. 1989;

11 Roztocze National Park, **11a** Kosobudy, section 80, *Dentario glandulosae-Fagetum*, 3-5 July 1984; **11b** Niedzielin, cart-road near margin of forest, 6 July 1984;

12 Babia Góra National Park, Diablak Mt., Szeroki Żleb (Szeroki gully), ca 1600 m elevation, 4 July 1985.

All taxa new to Poland are marked by*.

LIST OF SPECIES

OOMYCETES

Plasmopara laserpitii (Wartenw.) Săvul. et Rayss, Syn. *Plasmopara nivea* auct. s.lato, *Plasmopara crustosa* (Fr.: Fr.) Jørst. s.l., *Plasmopara umbelliferarum* (Casp.) Schroet. ex Wartenw. s.l., on leaves of *Laserpitium latifolium* **(6a).** – Lit.: S ă v u l e s c u and S ă v u l e s c u (1951). H u s z (1920-21) and W r ó b l e w s k i (1922) noted it on the same host plant. S c h r o e t e r (1889) mentioned 11, W r ó b l e w s k i (1925) 5 host plants, however they probably did not find *P. laserpitii* s. stricto. W r o ń s k a (1986) mentioned it in her study, but she did not report any localities.

ASCOMYCETES

Brunnipila calycioides (Rehm) Baral ap. Baral et Krieglsteiner, on dead stems of *Juncus trifidus* **(4b);** on *Juncus filiformis* **(5).** – Lit.: B a r a l and K r i e g l s t e i n e r (1985), B r e i t e n b a c h and K r ä n z l i n (1984, as *Dasyscyphus calycioides*). So far it has been reported on *Juncus trifidus* from Poland (C h l e b i c k i 1990b).

* *Byssosphaeria rhodomphala* (Berk.) Cooke, on dead branches of *Acer pseudoplatanus* **(11a).** – Lit.: B a r r (1984, 1990). Ascocarps 280-480 µm diam., gregarious, apex distinctly red, asci 76-90 × 6-7.7 µm, ascospores light brown, 3-septate, 12-17 × 4.5-5.5 µm.

Cainia graminis (Niessl) v. Arx et Müller, on dead leaves of *Carex firma* **(10b).** – Lit.: A r x and M ü l l e r (1955), K r u g (1978), S c h e u e r (1988), N o g r a s e k (1990). A specimen on *Festuca tatrae* from the West Tatra Mts. in herb. ZT was studied by K r u g (1978).

* *Ceratostomella ampullasca* (Cooke) Sacc., (Fig. 1a-c), on rotting wood of *Carpinus betulus* **(3a).** – Lit.: D e n n i s (1978), E l l i s and E l l i s (1985).

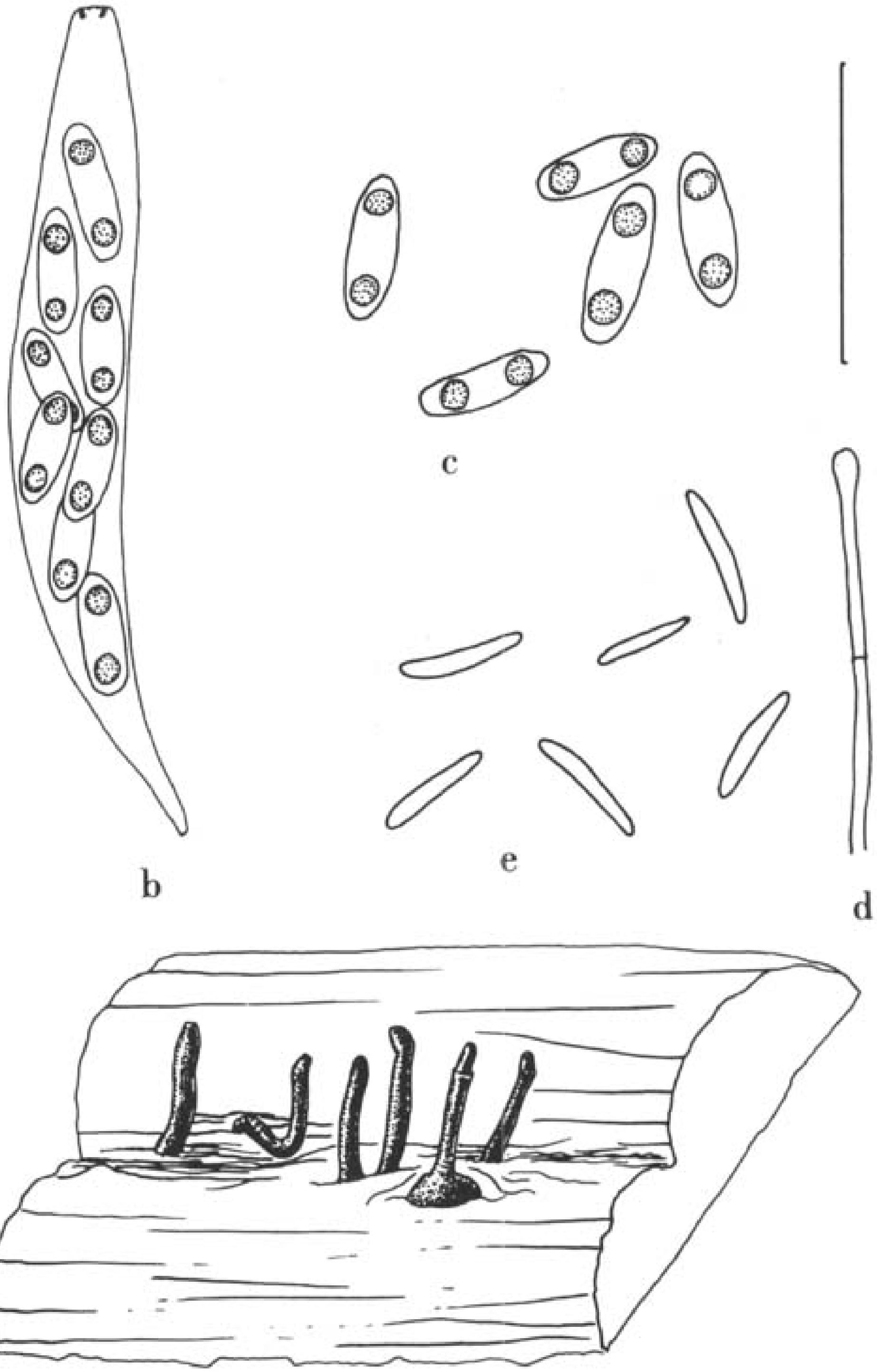

Fig. 1. *Ceratostomella ampullasca*: a – perithecia with their necks protruding over the wood surface (scale – 1000 µm), b – ascus, c – ascospores (scale – 25 µm); *Diplonaevia emergens* (on *Juncus filiformis*): d – paraphyse, e – ascospores

Chaetosphaeria myriocarpa (Fr.) C. Booth, on rotting wood of *Carpinus betulus* **(3a).** – Lit.: B o o t h (1957), D e n n i s (1978), E l l i s and E l l i s (1985). This species has been reported from Strzelińskie Hills in Lower Silesia (T r u s z k o w s k a and C h l e b i c k i 1983b), Babia Góra Mt. (C h l e b i c k i 1990a) and Białowieża National Park (B u j a k i e w i c z et al. 1992).

* *Cistella fugiens* (Buckn.) Matheis s.l., on dead stems of *Juncus filiformis*, together with *Psilachnum acutum* **(5);** on dead leaves of *Carex* cf. *acutiformis*, together with *Mollisina echinulifera* **(1f).** – Lit.: D e n n i s (1949, as *Dasyscypha fugiens*), M a t h e i s (1977), B a r a l and K r i e g l s t e i n e r (1985), S c h e u e r (1988). This tiny discomycete represents a taxon which is probably delimited in a rather formal and artificial manner. All *Cistella* species with small apothecia growing on rotting grasses and similar substrates – e.g., *C. luzulina*, *C. graminicola* (Raitv.) Raitv., or *C. albidolutea* (Feltg.) Baral – definitely require further study, including the type specimens. Unfortunately these fungi exhibit very few reliable characters that are also visible in dried herbarium material.

* *Cistella luzulina* (W. Phillips) Matheis, on rotting leaves of *Luzula alpinopilosa* [Syn. *Luzula spadicea*] **(5).** – Lit.: M a t h e i s (1977), M ü l l e r (1968, as *Dasyscyphus luzulinus*); see comment on *C. fugiens*.

Coccomyces juniperi P. Karst., syn. *Colpoma juniperi* (P. Karst.) Dennis, on dead twigs of *Juniperus sibirica* [syn. *J. communis* ssp. *nana*] **(7b).** – Lit.: S h e r w o o d (1980). S c h r o e t e r (1908) reported this fungus on *Juniperus communis* ssp. *communis* from Lower Silesia.

Coronophora annexa (Nitschke) Fuckel, on dead twigs of *Salix* sp. **(10e).** – Lit.: M u n k (1957). It is a widespread fungus in Poland.

Diaporthe acerina (Peck) Sacc., on dead twigs of *Acer pseudoplatanus* **(10h, 11a).** – Lit.: W e h m e y e r (1933). It is a species with scattered distribution in Poland (T r u s z k o w s k a and C h l e b i c k i 1983a; C h l e b i c k i 1988).

Diaporthe fibrosa (Pers.) Fuckel, on a dead shrub of *Rhamnus cathartica* **(2)**, det. L.N. Vasilyeva. – Lit.: W e h m e y e r (1933). Reported by E i c h l e r (1907) and S c h r o e t e r (1908) on *R. cathartica* and *Prunus spinosa*.

Diaporthe impulsa (Cooke et Peck) Sacc., on dead branches of *Sorbus aucuparia* ssp. *glabrata* **(10h).** – Lit.: W e h m e y e r (1933). Reported from Poland by S c h r o e t e r (1908), C h l e b i c k i (1990a) and B u j a k i e w i c z et al. (1992).

Diatrype decorticata (Pers.: Fr.) Rappaz, on dead twigs of *Fagus sylvatica* **(10g, 11a).** – Lit.: R a p p a z (1987). Recently it has been reported from Poland by C h l e b i c k i and K r z y ż a n o w s k a (1995).

Diatrype disciformis (Hoffman: Fr.) Fr., on dead branches of *Fagus sylvatica* **(10g, 10h);** on *Acer pseudoplatanus* **(11a).** — Lit.: R a p p a z (1987). It is a very common species in beech forests. These are the highest localities of *D. disciformis* in Poland. C h l e b i c k i (1990a) reported it from Babia Góra Mt. at 1280 m elevation.

Diatrypella melaleuca Nitschke, on dead twigs of *Fagus sylvatica* **(10g).** — Lit.: W i n t e r (1887), C r o x a l l (1950), C h l e b i c k i (1986), V a s i l y e v a and S c h e u e r (1996). It should be noted here that not all authors agree with the extremely broad species concepts of *D. favacea* proposed by C r o x a l l (1950) and C h l e b i c k i (1986). V a s i l y e v a (in V a s i l y e v a and S c h e u e r 1996) suggests a much narrower species concept and accepts two species apparently confined to *Fagus*, *D. angulata* (Fr.: Fr.) Ces. et De Not., syn. *D. nigro-annulata* (Grev.) Nitschke, and *D. melaleuca* Nitschke (both sensu Winter 1887). In this concept, material from Tatra Mts. represents *D. melaleuca*.

Diatrypella moravica Petr. et Keissl., on dead twigs of *Acer pseudoplatanus* **(10h).** — Lit.: P r á s i l (1984). This species has been reported from Poland as *D. verruciformis* and *D. favacea* ssp. *nespiakii* from the Bieszczady and Sudety Mts. (C h l e b i c k i 1986).

* *Diplonaevia emergens* (P. Karst.) B. Hein s.l., (Fig. 1d-e), on dead stems of *Juncus filiformis* **(5)**; on *Carex sempervirens* ssp. *tatrorum*, together with *Hysteropezizella diminuens* **(4c).** — Lit.: H e i n (1983), N o g r a s e k and M a t z e r (1994).

Epichloë typhina (Pers.: Fr.) Tul. ap. Tul. et C. Tul. s.l., on living leaf sheaths of *Stipa capillata* **(1a)**, leg. M. Möslinger; on *Elymus* [= *Agropyron*] sp. **(1b).** — Lit.: E c k b l a d and T o r k e l s e n (1989). B ł o ń s k i (1896) reported it for the first time from Poland. S c h r o e t e r (1908) mentioned 15 species of host plants infected by *E. typhina*. Single localities have been reported by R o u p p e r t (1912), W r ó b l e w s k i (1915, 1925), B u j a k i e w i c z et al. (1992), C h l e b i c k i (1993b) and L e m b i c z (1995). So far it has not been reported on *S. capillata* in Poland.

Erysiphe cynoglossi (Wallr.) U. Braun, *Oidium*-anamorph on inflorescences of *Buglossoides arvensis* **(1e).** — Lit.: B r a u n (1987, 1995b). It has been reported by S a ł a t a (1985) as *E. asperifoliorum* Grev. on 22 host plants, among them on *Cynoglossum officinale*. *B. arvensis* has not been reported as a host plant in Poland before.

Eutypa maura (Fr.: Fr.) Fuckel, syn. *Eutypa acharii* Tul et C. Tul., on dead, decorticated branches of *Acer pseudoplatanus* **(9a).** — Lit.: R a p p a z (1987). S c h r o e t e r (1908) reported *E. acharii*, which is a later synonym of *E. maura*, on *Prunus spinosa*, but we may assume that this collection belongs to another taxon. *E. maura* is a common fungus on twigs and branches of *Acer* spp. in Poland (C h l e b i c k i 1988).

Eutypella cerviculata (Fr.: Fr.) Sacc. s.l., on dead branches of *Alnus incana* **(10f)**. – Lit.: R a p p a z (1987). It is a fungus with scattered distribution in Poland (T r u s z k o w s k a 1959; C h l e b i c k i 1990a; B u j a k i e w i c z et al. 1992).

Eutypella prunastri (Pers.: Fr.) Sacc., on dead branches of *Prunus spinosa* **(11b)**. – Lit.: R a p p a z (1987). It has been reported by S c h r o e t e r (1908) from Lower Silesia.

Eutypella sorbi (Alb. et Schw.: Fr.) Sacc., on dead branches of *Sorbus aucuparia* ssp. *glabrata* **(10d)**. – Lit.: R a p p a z (1987). This is the highest locality recorded for *E. sorbi* in Poland.

* *Eutypella tetraploa* (Berk. et M.A. Curtis ex Berk. et Broome) Sacc., on dead twigs of *Acer pseudoplatanus* **(11a)**. – Lit.: R a p p a z (1987). Stromata cushion-shaped, covered by periderm, with a black dorsal zone, perithecial ostioles distinctly sulcate, ascospores 4.7-6 × 1.5-2 µm.

Hypocrea pulvinata Fuckel, syn. *H. fungicola* P. Karst., on a decaying fruitbody of *Fomitopsis pinicola*, together with *Melanospora lagenaria* **(9b)**, leg. M. Möslinger et A. Wilfling, det. L.N. Vasilyeva. – Lit.: B r e i t e n b a c h and K ä n z l i n (1984). S c h r o e t e r (1908) found this mycophilous species on *Corticium quercinum*.

Hypocrea rufa (Pers.: Fr.) Fr., on rotting wood **(9a)**, det. L.N. Vasilyeva. – Lit.: B r e i t e n b a c h and K r ä n z l i n (1984). E i c h l e r (1904, 1907) found it on dead twigs of *Rubus fruticosus* and *Corylus avellana*.

Hypoxylon fragiforme (Pers.: Fr.) Kickx, on dead twigs of *Fagus sylvatica* **(10g, 11a)**. – Lit.: P e t r i n i and M ü l l e r (1986). It is a widespread fungus in the beech forests of Poland, reported from the Tatra Mts. by H r u b y (1932).

Hypoxylon fuscum (Pers.: Fr.) Fr., on dead twigs of *Alnus incana* **(10f)**. – Lit.: P e t r i n i and M ü l l e r (1986). It is a very common fungus in Poland on many deciduous trees.

Hypoxylon multiforme (Fr.: Fr.) Fr., on decorticated branches of *Sorbus aucuparia* ssp. *glabrata* **(10a)**. – Lit.: P e t r i n i and M ü l l e r (1986). It is a widespread fungus in Poland, usually found on *Betula* spp., *Alnus* spp., *Carpinus betulus* and *Corylus avellana*.

* *Hysteropezizella diminuens* (P. Karst.) Nannf. s.l., (Fig. 2a-c), on dead leaves of *Carex humilis* **(2)**; on *Carex sempervirens* ssp. *tatrorum*, together with *Diplonaevia emergens* s.l. **(4c)**. – Lit.: D é f a g o (1968), H e i n (1979), S c h e u e r (1988). This is probably a rather artificial taxon mainly delimited by the characteristic lanceolate tips of the paraphyses which do not occur in other species of *Hysteropezizella*. But there are for example obvious differences in spore size and proportion between the collections on different species of host plants (e.g. S c h e u e r 1988).

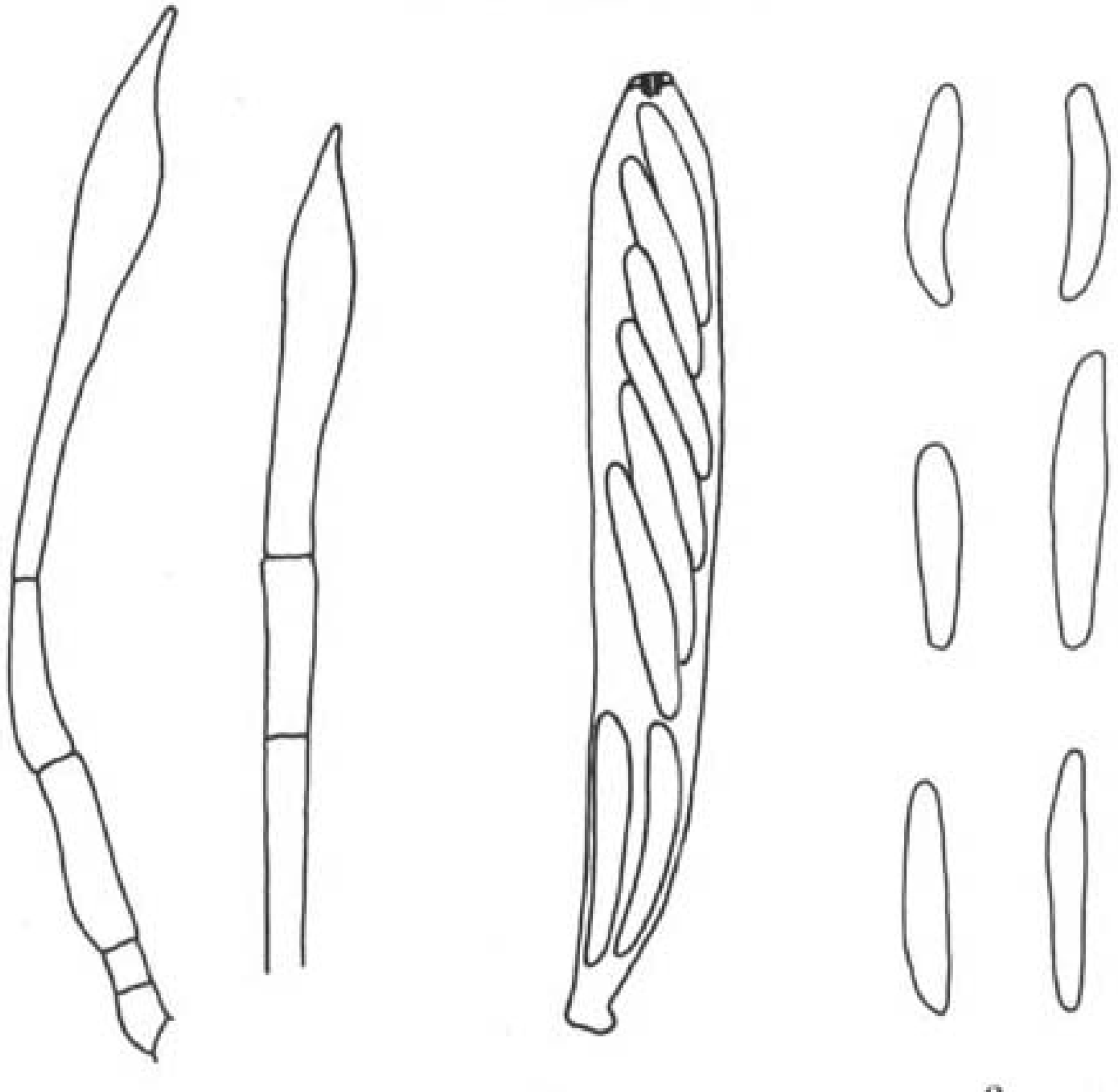

Fig. 2. *Hysteropezizella diminuens* (on *Carex sempervirens* ssp. *tatrae*): a – paraphyses, b – ascus, c – ascospores; *Micropeltopsis nigro-annulata* var. *papillosa*: d – sector of scutellum (= upper wall of thyriothecium) with radially arranged cell rows, ostiole, dark papillae around the ostiole, and pseudoparenchymatic 'cushion' (cu) of tightly packed surface hyphae (scale – 25 μm)

Lachnellula cf. ***occidentalis*** (G.G. Hahn et Ayers) Dharne, on twigs and branches of a small, dead tree of *Larix decidua* **(7a)**. — Lit.: B a r a l (1984). The differences between *L. occidentalis* and *L. willkommii* (Hartig) Dennis are rather debated (e.g. B a r a l 1984). In this case the absence of canker-like swellings on the twigs and branches and the positive iodine reaction (JKJ + red) of the ascus tip weres accepted as diagnostic characters.

* *Lachnum* cf. ***tenue*** Kirschstein sensu Baral ap. Baral et Krieglsteiner, on dead leaves of *Carex* cf. *acutiformis* **(1f)**. — Lit.: D e n n i s (1949, as *Dasyscypha pudicella*), B a r a l and K r i e g l s t e i n e r (1985). The long-stalked apothecia of this species do not turn reddish on drying and remain pure white; ascospores 7-12(-15) × 1-1.3 µm (B a r a l in B a r a l and K r i e g l s t e i n e r 1985; fresh material). Of course a re-examination of Kirschstein's type material would be desirable.

* *Laetinaevia minutissima* (E. Rostr.) Nannf. ex B. Hein, on dead stems of *Aconitum firmum* **(4d)**. — Lit.: H e i n (1976). This species is apparently not uncommon on stems of larger herbaceous Dicotyledones from high altitudes and latitudes in Europe.

Lewia scrophulariae (Desm.) Barr et Simmons, syn.: *Pleospora scrophulariae* (Desm.) Höhn., on dead stems of *Rhodiola rosea* **(12)**, leg. J. Parusel. — Lit.: M ü l l e r (1951), B a r r and S i m m o n s (1986). S c h r o e t e r (1908) reported this species (as *P. vulgaris* Niessl) on 20 different host plants.

Lopadostoma cf. *gastrinum* (Pers.: Fr.) Trav. on dead twigs of *Fagus sylvatica* **(11a)**. — Lit.: V a s i l y e v a and S c h e u e r (1996). In this specimen the ascospores are smaller than reported by A r x and M ü l l e r (1954) and M u n k (1957), only 7-9 × 2.5-3 µm. K a h r et al. (1996) and V a s i l y e v a and S c h e u e r (1996) have already reported a number of collections of this small-spored taxon on *Fagus* from Austria. It is apparently confined to *Fagus*, often occuring together with the common *L. turgidum* (Pers.: Fr.) Trav. on the same branches. Our collections from Austria and Poland probably represent a separate taxon, which requires very careful taxonomic and nomenclatural study (J. D. Rogers, pers. comm.). *L. turgidum* (with much darker, larger spores, 10-13 × 4-6 µm) is not a rare species in the beech forests of Poland (T r u s z k o w s k a 1963). P e t r i n i et al. (1987) have drawn attention to the different germ slits of the ascospores of *L. turgidum* and *L. gastrinum*. In *L. turgidum* it is simple, appearing as one straight longitudinal line in the spore wall, in *L. gastrinum* and our small-spored taxon it is ring-like, appearing as two straight longitudinal lines on opposite sides of the spore wall.

Lophiostoma macrostomoides (De Not.) Ces. et De Not., on dead twigs of *Salix reticulata* **(10i)**. — Lit.: Mathiassen (1989). Schroeter (1908) reported it on *Salix* sp. and *Populus nigra* from Lower Silesia.

Melanomma pulvis-pyrius (Pers.: Fr.) Fuckel, on dead wood of *Fagus sylvatica* **(11a)**. It is a very common species on dead wood of various trees in Poland.

Melanospora lagenaria (Pers.) Fuckel, on a decaying fruitbody of *Fomitopsis pinicola*, together with *Hypocrea pulvinata* **(9b)**, leg. M. Möslinger et A. Wilfling. — Lit.: Doguet (1955), Cannon and Hawksworth (1982). Eichler (1904) reported it on a decaying fruitbody of *Poria obliqua*.

* *Micropeltopsis nigro-annulata* (J. Webster) Spooner et P. M. Kirk var. *nigro-annulata*, syn.: *Trichothyrina nigro-annulata* (J. Webster) J.P. Ellis, on dead leaves of *Carex* cf. *acutiformis* **(1f)**. — Lit.: Webster (1952), J.P. Ellis (1977), Spooner and Kirk (1990). The tiny, light brown ascocarps of this fly-speck fungus may be rather common (also on other substrates like herbaceous stems or leaves of deciduous trees, according to J.P. Ellis 1977), but of course easily overlooked.

* *Micropeltopsis nigro-annulata* (J. Webster) Spooner et P.M. Kirk var. ***papillosa*** (Scheuer) Magnes et Hafellner, syn. *Trichothyrina nigro-annulata* (J. Webster) J.P. Ellis var. *papillosa* Scheuer, (Fig. 2 d), on dead stems and leaves of *Juncus filiformis* and *Luzula alpinopilosa* **(5)**. — Lit.: Scheuer (1988), Nograsek (1990), Magnes and Hafellner (1991).

* *Mollisina echinulifera* Scheuer et Baral ap. Scheuer, on dead leaves of *Carex* cf. *acutiformis*, together with *Cistella fugiens* **(1f)**. — Lit.: Scheuer (1988). Under the dissecting microscope the tiny apothecia of this species strongly resemble those of *Cistella fugiens*. The characteristic *Mollisina* hairs can be recognised only under the compound microscope.

* *Naeviella paradoxa* (Rehm) Clem., (Fig. 3a-d), on dead stems of *Juncus trifidus* **(4b)**. — Lit.: Défago (1968, as *Eupropolella paradoxa*), Nannfeldt (1982). In our specimen, the ends of the ascospores are bearing very faint mucilaginous structures of rather variable shape which cannot be determined exactly in ink mounts. No senescent spores with the typical lateral germ pore papilla could be found in this material.

* *Naeviopsis carneola* B. Hein et Nannf. ap. L. Holm et Nannf., (Fig. 4 and Fig. 5a-d), on dead stems of *Juncus filiformis* **(5)**. — Lit.: Holm and Nannfeldt (1992). This is apparently the first collection outside Sweden.

Nectria coccinea (Pers.: Fr.) Fr., on senescent twigs of *Acer pseudoplatanus* **(10h, 11a)**. Lit.: Rossman (1989). It is a widespread fungus in Poland.

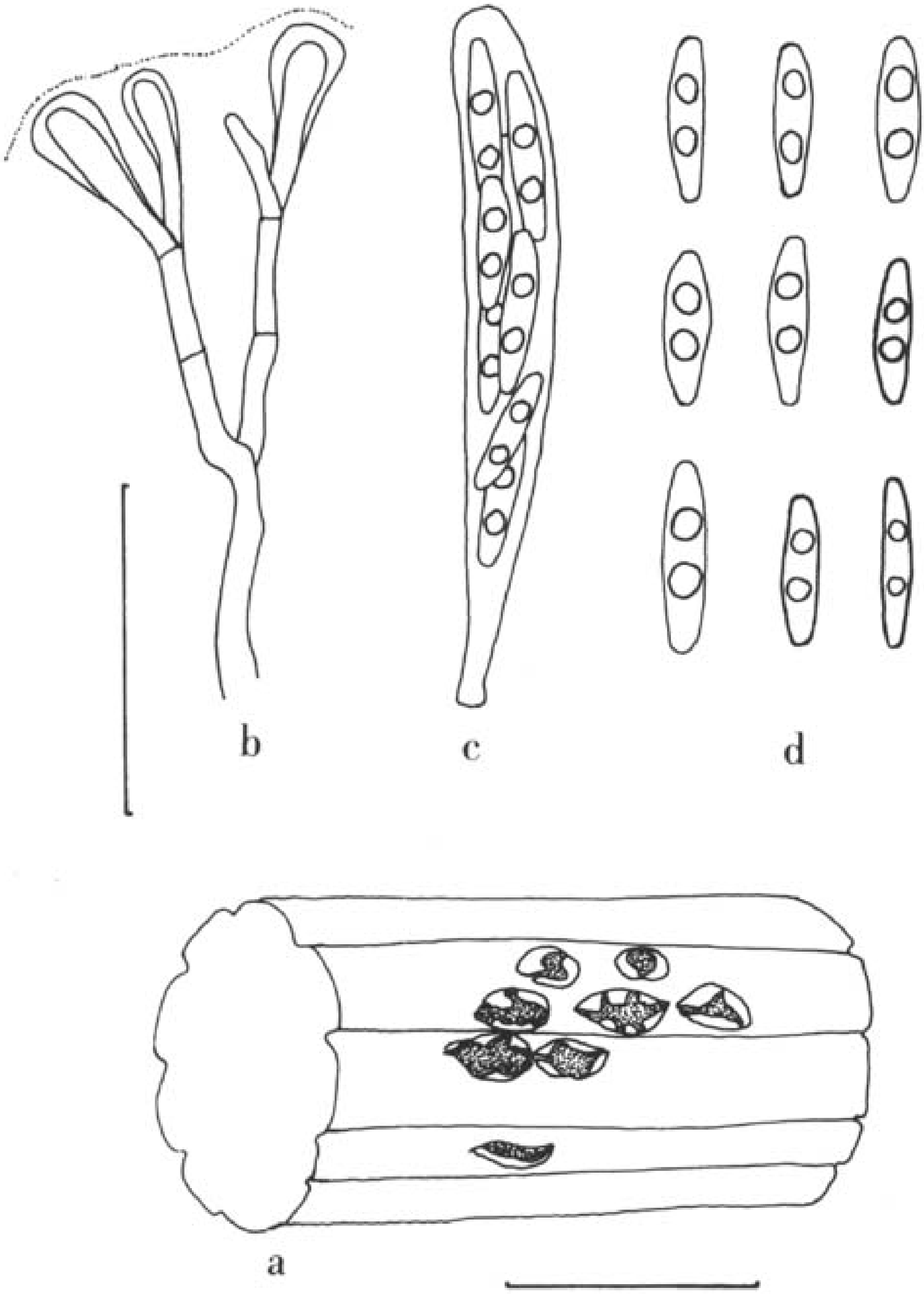

Fig. 3. *Naeviella paradoxa*: a – apothecia on stem of *Juncus trifidus* (scale – 1000 µm), b – paraphyse, c – ascus, d – ascospores (scale – 25 µm)

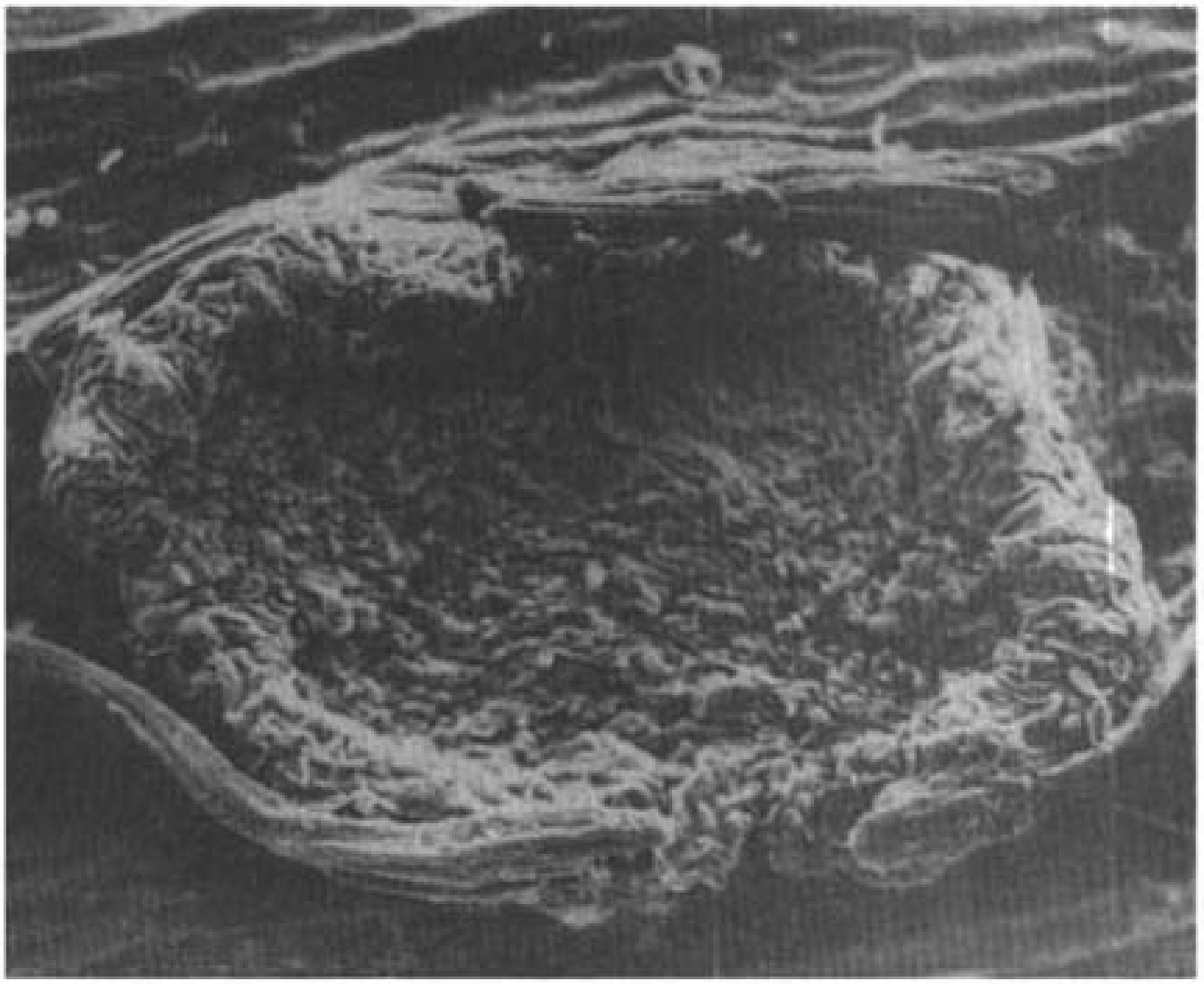

Fig. 4. *Naeviopsis carneola*: apothecium

Nectria coryli Fuckel, on senescent twigs of *Salix silesiaca* **(10a)**. — Lit.: R o s s m a n (1989). It has been reported from Poland in some localities (C h l e b i c k i 1990a).

Nodulosphaeria modesta (Desm.) Munk ex L. Holm, on dead stems of *Aconitum firmum* **(5)**. — Lit.: H o l m (1957, 1961), S h o e m a k e r (1984). This fungus has been reported by S c h r o e t e r (1908), W o d z i c z k o (1911), H r u b y (1932) and C h l e b i c k i (1990a).

Ophiobolus fruticum (Roberge ex Desm.) Sacc., on dead stems of *Ononis* sp. **(2)**. — Lit.: S h o e m a k e r (1976). S c h r o e t e r (1908) mentioned it on *Ononis spinosa*.

Pezicula livida (Berk. et Broome) Rehm, on dead branches of *Larix decidua* **(9c)**. — Lit.: B r e i t e n b a c h and K r ä n z l i n (1984). C h m i e l (1989) noted it on dead branches of *Pinus sylvestris* growing on a peat bog.

Phaeosphaeria culmorum (Auersw. ex Rehm) Leuchtm., on dead leaves of *Carex* cf. *acutiformis* and *Phragmites australis* **(1f)**. — Lit.: L e u c h t m a n n (1984), S h o e m a k e r and B a b c o c k (1989). It has also been reported on *Aira caespitosa*, *Nardus stricta* (E i c h l e r 1904) and *Calamagrostis arundinacea* (C h l e b i c k i 1993b).

Phaeosphaeria luctuosa (Niessl ap. Sacc.) Otani et Mikawa, on dead leaves of *Carex* cf. *acutiformis* **(1f)**. — Lit.: L e u c h t m a n n (1984), S h o e m a k e r and B a b c o c k (1989). C h l e b i c k i and T r e i g i e n e

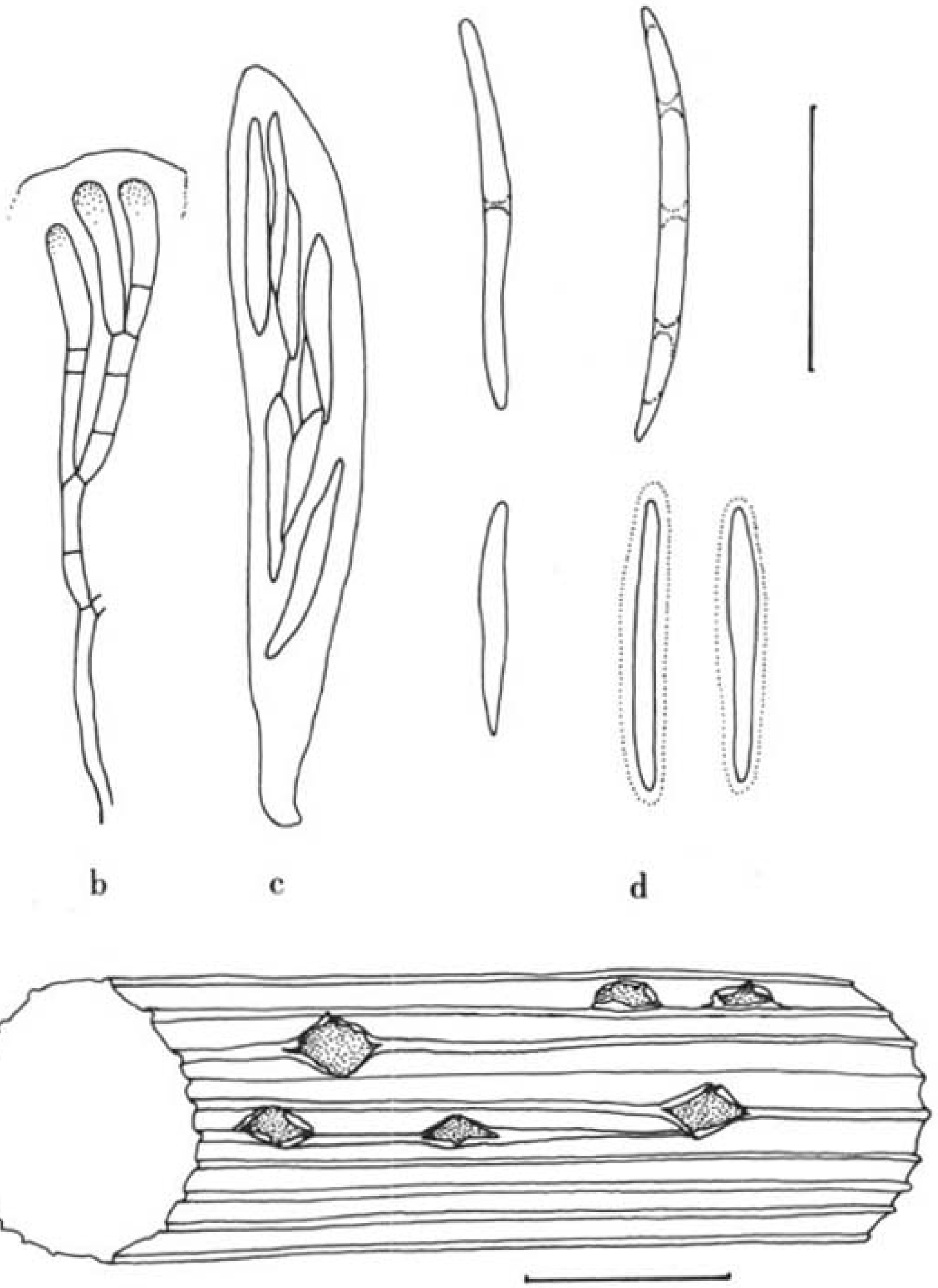

Fig. 5. *Naeviopsis carneola*: a – apothecia on leaf of *Juncus filiformis* (scale – 1000 µm), b – paraphyse, c – ascus (slightly immature), d – mature and immature ascospores (scale – 25 µm)

(1995) noted it in Lithuania on *Calamagrostis arundinacea* and *C. epigeios*. So far one collection has been made in North Poland (herb. Chlebicki no. 1766).

Phaeosphaeria sparsa (Fuckel) Shoemaker et C.E. Babcock, syn. *Phaeosphaeria herpotrichoides* (De Not.) L. Holm s.l., on dead leaves of *Carex* cf. *acutiformis* **(1f)**. – Lit.: S h o e m a k e r and B a b c o c k (1989) splitted the huge *Ph. herpotrichoides* complex, according to a rather narrow species concept. *Ph. erikssonii* Shoemaker et C.E. Babcock and *Ph. sparsa* are probably not uncommon in Central Europe.

Phyllachora therophila (Desm.) Arx et E. Müller, on dead stems of *Juncus filiformis* **(5)**. – Lit.: A r x and M ü l l e r (1954), M a g n e s and H a f e l l n e r (1991). It has been reported from Białowieża National Park (B u j a k i e w i c z et al. 1992).

* *Physalospora empetri* Rostrup, in dead leaves of *Empetrum nigrum* s.l. **(10c)**. – Lit.: E r i k s s o n (1974). Asci 96-100 × 15-19 µm, ascospores one-celled 21-26 × 9.6-11.5 µm.

* *Pleospora helvetica* Niessl, on dead stem of *Sedum fabaria* **(10b)**. – Lit.: M ü l l e r (1951), C r i v e l l i (1983), H o l m and H o l m (1993). Ascocarps setose, ascospores with 7 transversal septa and 1 longitudinal septum, 23-25 × 9-10 µm; sometimes larger ascospores (38-40 × 9-12 µm) may occur.

Prosthecium innesii (Currey) Wehm., on dead twigs of *Acer pseudoplatanus* **(10h)**. Lit.: W e h m e y e r (1941). C h l e b i c k i (1988) reported scattered localities of this fungus in South Poland.

Pseudovalsaria foedans (P. Karst.) Spooner, on dead twigs of *Alnus incana* **(10a)**. – Lit.: S p o o n e r (1986), J u et al. (1996, as *P. ferruginea* [Nitschke] Rappaz). It has been reported from Poland by D o m a ń s k i et al. (1967) and B u j a k i e w i c z et al. (1992).

* *Psilachnum acutum* (Velen.) Svrček, on dead stems of *Juncus filiformis*, together with *Cistella fugiens* **(5)**. – Lit.: S v r č e k (1979), D e n n i s (1949, as *Dasyscypha acuta*). S v r č e k (1979) examined many collections of this fungus from Czechoslovakia. It may be assumed that it is not uncommon in Poland.

* *Pyrenopeziza arctii* (W. Phillips ap. Buckn.) Nannf., on dead stems of *Arctium* sp. **(1d)**. – Lit.: N a n n f e l d t (1932), G r e m m e n (1955), H ü t t e r (1958). Probably less specialised *Pyrenopeziza* species may also occur on *Arctium* stems (e.g. *P. moutoni*), but the long, usually 3-septate ascospores (26-45 × 2-3 µm) of *P. arctii* are very characteristic.

Pyrenopeziza plicata Rehm, on dead stems of *Aconitum firmum* **(5)**. – Lit.: H ü t t e r (1958). S c h r o e t e r (1908) recorded this species on *Adenostyles alliariae* and *Mulgedium alpinum* in the Karkonosze Mts. H ü t t e r (1958) examined only material on *Aconitum*.

Rhytisma salicinum (Pers.: Fr.) Fr., juvenile stromata on dead leaves of *Salix herbacea*, **(4a)**; on *Salix silesiaca* **(10b, 10c, 10h)**. – Lit.: Nannfeldt (1932). Schroeter (1908) reported it on *Salix hastata*, *S. lapponum*, *S. silesiaca*, *S. cinerea*, *S. caprea*, *S. aurita*, *S. repens* and *S. herbacea* from Sudety Mts. It has been reported from the Tatra Mts. by Rouppert (1912), Wróblewski (1925), and Hruby (1932). Starmachowa (1963) mentioned many localities in the Tatra Mts. where it grew on *S. silesiaca*, *S. herbacea*, *S. retusa*, *S. reticulata* and *S. aurita*. Mułenko, Sałata and Wołczańska (1995) found it on *S. silesiaca*. Apart from them it has been collected by Chlebicki (in herb.) on *S. reticulata* and *S. herbacea* in the Tatra Mts., and on *S. retusa* from Babia Góra Mt. Chlebicki (1993a) pointed out that *R. salicinum* occurs more frequently towards the northern part of Central Europe. In Lithuania and Finland it is a common species on various willows, whereas in Central Poland and Byelorussia it occurs only sporadically (Błoński 1896, Kastory 1912).

Rosellinia aquila (Fr.: Fr.) De Not., on dead twigs of *Sorbus aucuparia* ssp. *glabrata* **(10d)**. – Lit.: Petrini (1993). It is a widespread fungus in Poland, reported on the same host plant from Babia Góra Mt. (Chlebicki 1990a).

* *Scutomollisia stenospora* Nannf., on dead leaves of *Eriophorum vaginatum* **(8)**. – Lit.: Nannfeldt (1976), Scheuer (1988). This species shares its substrata (mainly *Cyperaceae* and *Juncaceae*) with many similar discomycetes (mainly *Mollisia* and other *Scutomollisia* spp.). The most important diagnostic features of *S. stenospora* are the superficial, blackish brown shield over the primordium of the apothecium (which is usually lifted off like a lid by the developing apothecium), and the slender, fusiform ascospores (16-22 × 2-3 µm). The upper end of the ascospore is often slightly swollen. The shields of *Scutomollisia* and *Micropeziza* are occasionally mistaken for ascocarps of fly-speck fungi.

* *Stomiopeltis versicolor* (Desm.) Arx ap. E. Müller et Arx, on dead canes of *Rubus idaeus* **(7c)**. – Lit.: Müller and Arx (1962). Like all fly-speck fungi with small, flat, brown ascocarps, *Stomiopeltis* species are easily overlooked. The similar *St. caricis* should be sought on *Carex* leaves in the Tatra Mts.

* *Taphrophila cornu-capreoli* Scheuer, on dead leaves of *Carex* cf. *acutiformis* **(1f)**. – Lit.: Scheuer (1988, 1991). The tiny ascocarps of this species are usually not discernible with a hand lens and must be sought under the dissecting microscope.

* *Trichometasphaeria culmifida* (P. Karst.) L. Holm, on dead leaves of *Carex* cf. *acutiformis* **(1f)**. – Lit.: Holm (1957), Bose (1961, as *Keissleriella c.*). This species is usually found on *Poaceae*.

Ustulina deusta (Hoffm.: Fr.) Lind, on dead trunk of *Fagus sylvatica* **(11a)**. It occurs commonly in Poland on various tree species.

Valsa cenisia De Not., on dead twigs of *Juniperus communis* **(10e)**. — Lit.: Holm and Holm (1977). Schroeter (1908) found it in the environs of Legnica in Lower Silesia.

DEUTEROMYCETES and ANAMORPHS

* *Arthrinium cuspidatum* (Cooke et Harkn. in Cooke) Höhn., (Fig. 6a), on dead stems of *Juncus filiformis* **(5)**. — Lit.: M. B. Ellis (1965). In the Eastern Alps, this species is apparently common on *Juncus trifidus* and *J. filiformis* from subalpine to alpine altitudes (Scheuer 1996).

Arthrinium luzulae M. B. Ellis, on dead leaves and stems of *Luzula alpinopilosa* [syn. *Luzula spadicea*] **(5)**. — Lit.: M. B. Ellis (1965). This species is probably not so rare on *Luzula* at high altitudes, but the caespituli are less compact than in other *Arthrinium* species and more easily overlooked. Chlebicki (1990a) has already recorded it from Babia Góra Mt. and figured a conidiophore and conidia.

* *Arthrinium sporophleum* Kunze, syn. *Arthrinium sporophleoides* Fuckel, *Sporophleum gramineum* Nees ap. Link on dead leaves of *Carex* cf. *acutiformis* **(1f)**. — Lit.: M. B. Ellis (1965). In Austria (Scheuer 1996) and most probably also in other Central European countries, this species is rather common, just like *A. puccinioides* (DC. ex Mérat) Kunze.

* *Ascochyta sesleriae* C. Massal., syn. *Macrodiplodina sesleriae* (C. Massal.) Petr., (Fig. 7a-b), on dead leaves of *Sesleria albicans* ssp. *tatrae* **(4c)**.

* *Brachysporium nigrum* (Link) Hughes, on rotting wood of *Carpinus betulus* **(3a)**, det. M. Heftberger. — Lit.: M. B. Ellis (1971). Like in many other species of Dematiaceous hyphomycetes growing on rotting wood, it is difficult to obtain 'clean' herbarium specimens of this fungus. In this case the conidiophores grew together with those of the anamorph of *Chaetosphaeria myriocarpa*.

* *Camarosporium feurichii* Henn., on dead leaf sheaths of *Phragmites australis* **(1f)**. — Lit.: Ellis and Ellis (1985). This appears to be an uncommon species with an insufficiently known geographical distribution.

Cercosporella primulae Allesch., in necrotic leaf spots of *Primula elatior* **(6b)**, det. U. Braun. — Lit.: Braun (1995a). It has been reported by Kućmierz (1977) and Starmachowa and Kućmierz (1967) from Pieniny Mts. and Sudety Mts.

Diplodina acerina (Pass.) Sutton, anamorph of *Diaporthe hystrix* (Tode: Fr.) Petrak, on dead twigs of *Acer pseudoplatanus* **(10e)**. — Lit.: Sutton (1980). It is mentioned from Poland by Truszkowska and Chlebicki (1983a) and Chlebicki (1990a).

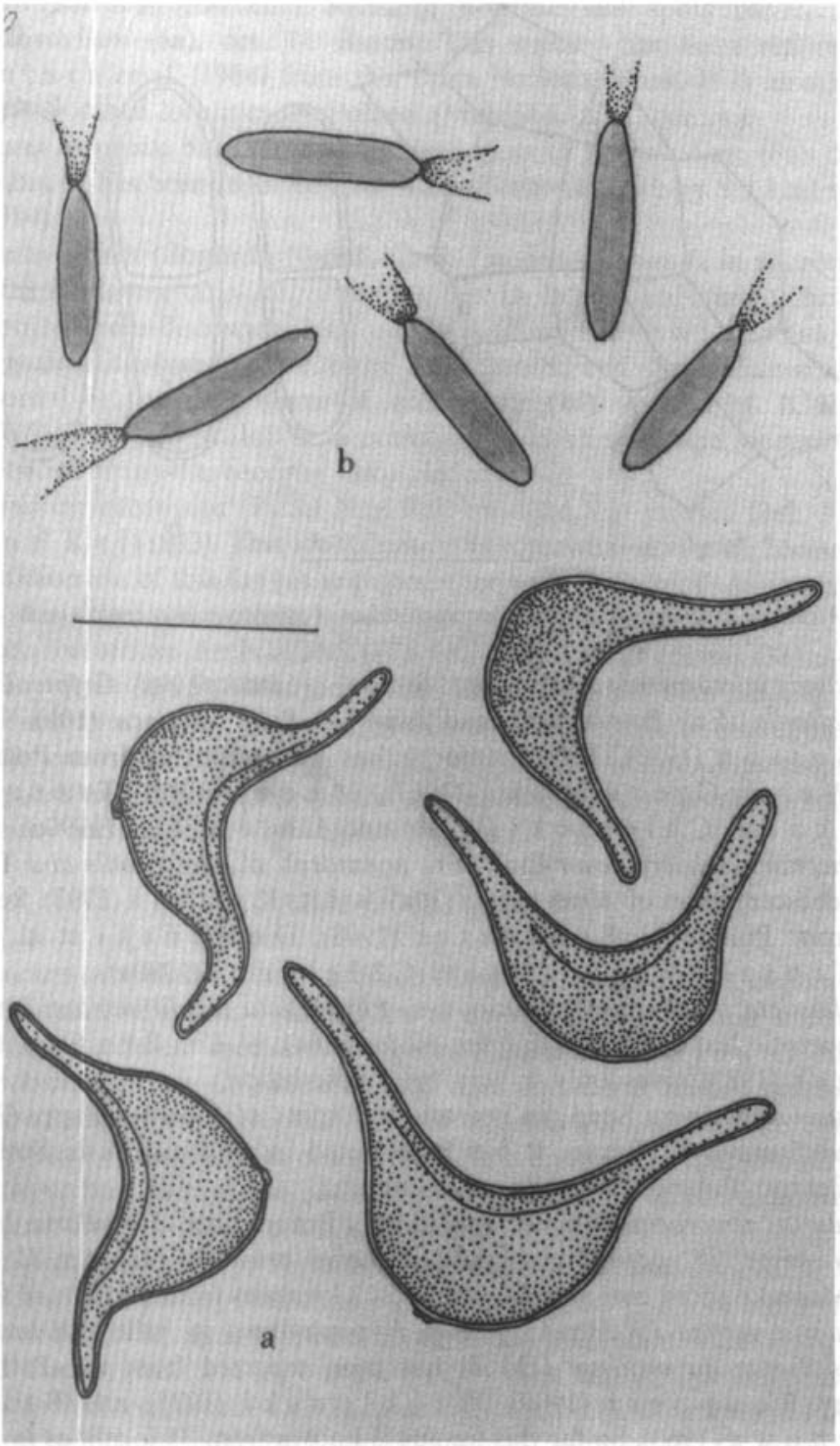

Fig. 6. *Arthrinium cuspidatum*: a – conidia; *Xepicula leucotrichoides*: b – conidia (scale – 12 μm)

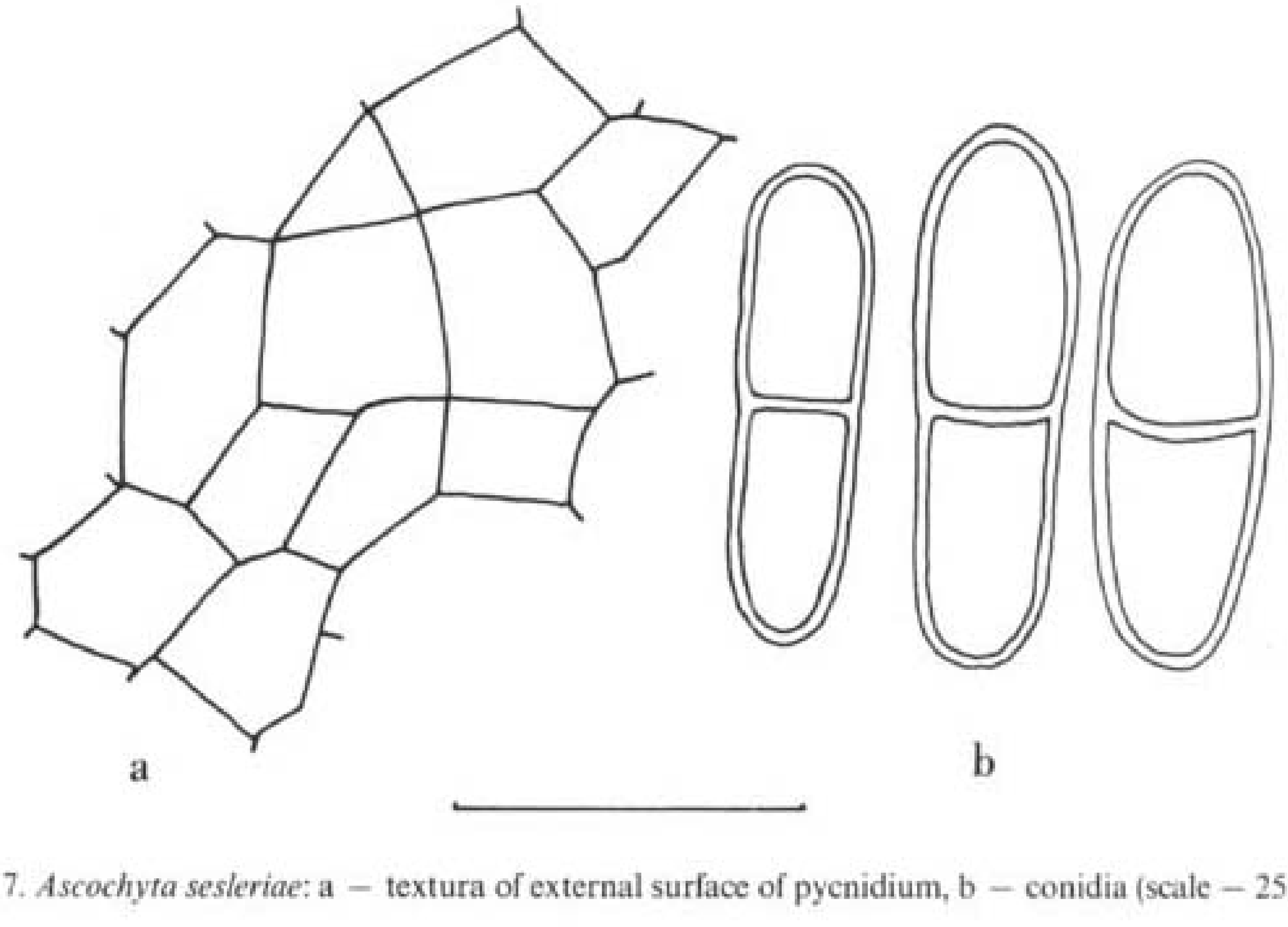

Fig. 7. *Ascochyta sesleriae*: a — textura of external surface of pycnidium, b — conidia (scale — 25 μm)

Diplodina microsperma (Johnston) Sutton, anamorph of *Cryptodiaporthe salicella* (Fr.) Petrak, on dead twigs of *Salix silesiaca* **(10h)**. — Lit.: Sutton (1980). This anamorph has been reported from Poland by Weber-Czerwińska (1967), Madej (1971), Truszkowska and Chlebicki (1983b) and Chlebicki (1990a).

Melanconium sphaeroideum Link: Fr., anamorph of *Melanconis alni* Tul., on senescent twigs of *Alnus incana* **(10a)**. — Lit.: Kwaśna (1993). Reported from Poland by Schroeter (1908), Domański et al. (1963), Truszkowska (1976) and Chlebicki (1990a).

* *Phyllosticta trifoliorum* Barbarin, syn. *Phyllosticta trifolii-montani* Lobik, in necrotic leaf spots of *Trifolium medium* **(6a)**. — Lit.: Brandenburger (1985) gives only a very brief description.

Ramularia aplospora Speg., in necrotic leaf spots of *Alchemilla* spp. **(3a, 4a)**, confirmavit U. Braun. It has been noted in 48 localities in South and Central Poland (Mułenko, pers. comm.).

Ramularia armoraciae Fuckel emend. U. Braun, incl. *Ramularia buniadis* Vestergr., in necrotic leaf spots of *Bunias orientalis* **(1e)**, det. U. Braun. Mułenko (pers. comm.) has recorded 12 localities from all parts of Poland.

Ramularia geranii (Westend.) Fuckel, hypophyllous in yellowish leaf spots of *Geranium pratense* **(1b)**. It has been reported from the Tatra Mts. by Rouppert (1909), Wróblewski (1925) and Starmachowa (1963). So far this fungus is known from 35 localities in Poland (Mułenko, pers. comm.).

Ramularia heraclei (Oudem.) Sacc., in necrotic leaf spots of *Heracleum sphondylium* **(6a)**, det. U. Braun. This species has been reported by S a ł a t a et al. (1984) from the Tatra National Park. It is also known from 9 other localities in Poland (Mułenko, pers. comm.).

Ramularia oreophila Sacc., in necrotic leaf spots of *Astrantia* sp. **(6a)**, det. U. Braun. It has been reported from Tatra National Park by S a ł a t a et al. (1984).

Ramularia rubella (Bonord.) Nannf. ap. S. Lundell et Nannf., in necrotic leaf spots of *Rumex* cf. *obtusifolius* **(3a)**, det. U. Braun. This fungus has been reported from Białowieża National Park (B u j a k i e w i c z et al. 1992).

* *Sarcopodium circinatum* Ehrenb. ex Schlechtend., syn. *Sarcopodium roseum* (Corda) Fr., on dead stems of *Arctium* sp. **(1d)**. – Lit.: M. B. E l l i s (1976). This appears to be a common species in Europe, occurring on stems of many herbaceous Dicotyledones.

* *Xepicula* cf. *leucotricha* (Peck) Nag Raj, on dead, cut grasses **(3a)**. – Lit.: N a g R a j (1993). This identification is somewhat doubtful, because the conidiomata of this fungus grew together with those of *X. leucotrichoides* on the same substratum.

* *Xepicula leucotrichoides* Nag Raj, (Fig. 6b), on dead, cut grasses **(3a)**. – Lit.: N a g R a j (1993). This species was identified mainly with the help of the brilliant illustrations provided by N a g R a j (1993). It was apparently only known from the type collection (France) before. The species of *Xepicula* and similar form genera with apothecium-like conidiomata were usually included in *Myrothecium* before.

UREDINIOMYCETES

Coleosporium campanulae Lév. ex J. Kickx fil., (II) III on leaves of *Campanula* sp. **(6a)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). In Poland it is reported on 19 different species of the genus *Campanula* (M a j e w s k i 1977), however, only on *C. patula* and *C. rapunculoides* it occurs commonly.

Puccinia asarina Kunze, III on leaves of *Asarum europaeum* **(3b)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). R o u p p e r t (1912) found it on the same host plant in the Tatra Mts.; it is a common species in South and Central Poland (M a j e w s k i 1979).

Puccinia carduorum Jacky, II and III on leaves of *Carduus glaucus* [syn. *Carduus crassifolius*] **(6a)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959), S a v i l e (1970). It is reported on the same host plant from Tatra Mts. and Pieniny Mts. (M a j e w s k i 1979). The last author includes this species in *P. calcitrapae* DC. It commonly occurs on *C. crispus* in Poland. Some collections have been reported on *C. acanthoides*, *C. nutans* and *C. personata* (M a j e w s k i 1979).

Puccinia cervariae Lindr., II (III) on leaves of *Peucedanum cervaria* **(1d)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). It is not a rare species in Poland (M a j e w s k i 1979).

Puccinia punctiformis (F. Strauss) Röhl., syn. *Puccinia suaveolens* (Pers.) Rostr., II on leaves of slightly etiolated shoots of *Cirsium arvense* **(3a)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). It commonly occurs in Poland (M a j e w s k i 1979).

Puccinia taraxaci (Rebent.) Plowr., syn. *Uromyces hieracii* (Schumach.) Mart. s.l., II on leaves of *Taraxacum officinale* **(1e)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). It has been noted on the same host plant in the Tatra Mts. by W r ó b l e w s k i (1925). It is a common fungus in Poland on *T. officinale*; a few collections have been reported on *T. palustre* near Warszawa and Ojców (M a j e w s k i 1979).

Uromyces geranii (DC.) Lév., II on leaves of *Geranium palustre* **(3a)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959). W r ó b l e w s k i (1915, 1925) mentioned it on *G. columbinum*, *G. pratense* and *G. palustre* near Kraków and Płock. It is a common species in Poland on *G. palustre* and *G. pratense* (M a j e w s k i 1977). Single collections have been reported on *G. sanguineum*, *G. dissectum*, *G. affine*, *G. molle* (S c h r o e t e r 1889; M a j e w s k i 1977), and *G. sylvaticum* (S a ł a t a et al. 1984).

Uromyces minor J. Schröt., III on leaves of *Trifolium montanum* **(1c)**, conf. P. Zwetko. – Lit.: G ä u m a n n (1959), C u m m i n s (1978). It has been reported on the same host plant by S c h r o e t e r (1889) and W r ó b l e w s k i (1925). It is not a rare species in South Poland, but becoming more scattered in Central and North Poland (M a j e w s k i 1977).

USTOMYCETES

Tilletia caries (DC.) Tul. et C. Tul., in ovaries of *Triticum aestivum* **(1e)**. – Lit.: V á n k y (1985, 1994). S c h r o e t e r (1889) reported it as *T. tritici*. It is a common species in Poland (K o c h m a n and M a j e w s k i 1973).

Tilletia contraversa J.G. Kühn ap. Rabenh., in ovaries of *Elymus* cf. *hispidus* ssp. *hispidus* [syn. *Agropyron intermedium*] **(1e)**. – Lit.: V á n k y (1985, 1994). An exsiccatum from this collection has been distributed by S c h e u e r and P o e l t (1995). This species has not been reported on *E. hispidus* ssp. *hispidus* from Poland so far; however, it is not a rare species on *Triticum aestivum* (K o c h m a n and M a j e w s k i 1973).

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Nowe zbiory grzybów z południowej Polski

S t r e s z c z e n i e

W pracy zamieszczono stanowiska 97 gatunków grzybów należących do *Oomycetes*, *Ascomycetes*, *Deuteromycetes*, *Urediniomycetes* i *Ustomycetes*. Wśród zebranych grzybów, 31 taksonów nie było dotychczas podawanych z obszaru Polski. Dla grzyba *Naeviopsis carneola* wykonano pierwszą ikonografię.