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TWO NEW SPECIES OF EXIDIOPSIS

Exidiopsis griseo-brunnea Wells et Raitv. sp. nova.

Carposomata resupinata, rotunda, confluentibus ad 15 cm longa, 220—730 μ crassa, coriacea, griseo-lutea vel rufo-brunnea, laeve cum tuberculis sparsis, marginibus albis adnatis, dein reflexis, sicca pallide brunnea. Hyphae contextus fibulatae, hyalinae, crassiter tunicatae in subhymenio. Hymenium ex dikaryophysibus ramosis et cylindraceis, cystidiis et basidiis constat. Dikaryophyses ramosae substantia resinosa cinnamomea incrustati, basidiis in (15—)20—50 μ superantia. Dikaryophyses cylindraceae 20—91/2.5—8 μ, sparsae, subcylindraceae, flexuosae, crassiter tunicatae. Cystidia pro portione minime numerosa, subcylindracea vel subfusoidea, tenuiter dein subcrassiter tunicata, 40—100/5—8 μ, apicibus subulatis, septatis. Probasidia cylindracea dein ovata, obovata vel pyriformia. Basidia 4(—2)-cellulata, guttulata, (10.5—)12—17(—23.5)/(6.5—)8—10 μ, sterigmatis tubularibus, subflexuosis, —40/1.5—2.5 μ. Sporae allantoideae, 10.5—14.5/3.5—4.5 μ.

Ad lignum emortuum corticatum *Alni fruticosae* Rupr. crescit.

E. alliciens (Berk. et Cooke) Wells similis, coloribus et contextibus differt.

Holotypus: U.S.S.R., regio Tjumen, Krasnoselkup, ad ramum dejectum Alni fruticosae, 31. VII 1964, E. Parmasto 17 048 (TAA, DAV).

Coriaceous, arising as small, resupinate basidiocarps, becoming confluent up to 15 cm, with fimbriate to abrupt margins; when soaked — light greyish-yellow to reddish-brown; surface granulose, smooth with very irregular tubercles, some portions faintly areolate, often cracking upon drying and exposing the white subhymenium; drying light brown to buff; young margins white and adnate, older margins darker and becoming reflexed upon drying; fructification 220—730 μ in section, consisting of scattered clusters of compact hyphae arising from within the substrate, expanding upwards to form a prostrate or interwoven layer; the latter may either be absent or form a compact or loosely interwoven ascending layer; ascending layer terminating in a dense hymenium, portions of the substrate interspersed in the basal and ascending layers, mineral granules often present in the hymenial and subhymenial regions; subhymenial hyphae distinct, 2.5—6.5(—8) μ in diameter, becoming thick-walled (walls up to 2 μ in thickness) and devoid of contents, with clamp-connections, sometimes inflated to form subglobose, thick-walled structures; hymenium composed of fertile hyphae,

branching dikaryophyses, cylindrical dikaryophyses, and cystidia; basidial layer 30—50 μ in section and usually covered by a well-defined zone of branching dikaryophyses (15—)20—50 μ in section; cylindrical dikaryophyses 20—91/2.5—8 μ, subcylindrical, usually flexuous, becoming thick-walled and devoid of contents, usually rather sparse; cystidia 40—100/5—8 μ, very sparse in some specimens, subcylindrical, subfusiform, initially thin-walled but becoming slightly thick-walled; apices subulate, often septate and collapsing, projecting 10—40 μ; branching dikaryophyses abundant, much-branched above, nodulose, thin-walled, but the basal portions becoming thick-walled; many lateral branches collapsing; apices 1—2.5 μ in diameter; fertile hyphae becoming thick-walled, 1.5—4(—8) μ in diameter, proliferating laterally through or near the sub-basidial clamp-connection; probasidia usually arising as cylindrical structures, becoming ovate, obovate, to pyriform, rarely subglobose, forming 4(—2) cells, slightly guttulate, (10.5—)12—17(—23.5)/(6.5—)8—10 μ; sterigmata tubular, somewhat flexuous, enlarging slightly towards the apex, 1.5—2.5 μ in diameter, up to 40 μ in length; basidiospores allantoid, 10.5—14.5/3.5—4.5 μ, none observed germinating.

On corticated stems of *Alnus fruticosa* Rupr. Known from Tyumen Region and Krasnoyarsk Region of the U.S.S.R.

Type locality: U.S.S.R., Tyumen Region, Krasnoselkup.

Specimens examined: U.S.S.R., Tyumen Region, Krasnoselkup, E. Parmasto 17 031, 17 048 (HOLOTYPE), 17 117, 17 133; Tyumen Region, Krasnyi Kamen, E. Parmasto 17 218, 17 250; Tyumen Region, Labytnangi, E. Nezdoiminogo (TAA-42 954), Krasnoyarsk Region, Kolchim, E. Parmasto 7062, Krasnoyarsk Region, Yartsevo, E. Parmasto 9325.

Portions of all specimens are deposited in the herbarium of the Institute of Zoology and Botany, Tartu, Estonian S.S.R. (TAA) and in the mycological collections of the Department of Botany, University of California, Davis, California, U.S.A. (DAV).

The basidiocarps of *E. griseo-brunnea* are similar in texture and external morphology to the basidiocarps of *Exidiopsis alliciens* (Berk. et Cooke) Wells; however, there are distinct differences between the two species in colour, known distribution, and internal morphology.

The branching dikaryophyses which usually stain yellow-brown or reddish-brown in 1% Phloxine and 2% Congo Red are somewhat similar to those of *Eichleriella leveilliana* (Berk. et Curt.) Burt, but the latter are consistently thick-walled. The lack of cystidia in the hymenium and clamp-connections on the subhymenial hyphae in the basidiocarps of *Eichleriella leveilliana* clearly separates it from *E. griseo-brunnea*.

The projecting cystidia, the thick-walled, cylindrical dikaryophyses, and the thin allantoid basidiospores are unique characters of *E. griseo-brunnea*. Cystidia are not known in any presently well-defined species of *Exidiopsis*; however, the cystidia are so sparse in some sections of certain specimens of *E. griseo-brunnea* that it would not be feasible to utilize these structures as a distinguishing character for the species. The cystidia of *E. griseo-brunnea* often become septate near the apices, and the projecting tips were frequently collapsed in the specimens examined. Although the walls of the cystidia of *E. griseo-brunnea* may become thickened, they are morphologically distinct from the thick-walled cystidia of *Heterochaetella dubia* (Bourd. et Galz.) Bourd. et Galz. We suspect that the cystidia of *E. griseo-brunnea* are related ontogenetically to the cylindrical dikaryophyses of *E. griseo-brunnea* and other species of *Exidiopsis*; e. g., *E. alliciens* (Berk. et Cooke) Wells.

E. griseo-brunnea has a very interesting known area of distribution. It is generally known that the species of *Exidiopsis* are inhabitants of broad-leaved or tropical forests, but this species restricts its distribution with the Siberian "taiga", particularly with its more northern part (fig. 5, a).

It is also remarkable that this species is as far as known restricted to a single substrate — dead corticated stems of *Alnus fruticosa* Rupr.

Exidiopsis pallida Wells et Raitv. sp. nova.

Carposoma resupinatum, ceraceum vel gelatinosum, 85—400 μ crassum, pallidum vel alutaceum, pruinosum, cum tuberculis irregularibus, marginibus fimbriatis vel abruptis, sicca corneum, album, tuberculis purpureo-brunneis vel nigeris. Hyphae contextus fibulatae, hyalinae, 2.0—4.5(—6.5) μ in diam. in subhymenio. Hymenium ex dikaryophysibus ramosis et cylindraceis et basidiis constat. Dikaryophyses ramosae basidia non superantia, nodulosae, sparsae, 1.5—2.5 μ in diam. in apicibus. Dikaryophyses cylindraceae 13—29/4—10.5 μ, subclavatae, subfusoideae vel cylindraceae. Basidia 4(—2)-cellulata ovata, obovata vel clavata, (10.5—)12.5—18(—19.5)/8.5—10.5 μ, sterigmatis tubularibus, apicibus subinflatis, —20/2—3 μ. Sporae breviter curvato-cylindraceae, guttulatae, (8—)9.5—11/4.5—5 μ.

Ad lignum emortuum frondosarum crescit.

E. macrospora (Ell. et Ev.) Wells similis, structura gelatinosiora differt.

Holotypus: U.S.S.R., Regio Primorsk, Reservatum Suputinka, ad lignum emortuum frondosarum, 24. IX 1961, E. Parmasto 14 595 (TAA, DAV).

Waxy to firm gelatinous, adnate, with fimbriate to abrupt margins; when soaked — buff to pallid, darkening in KOH; surface pruinose, wrinkled in older portions with irregular tubercles; drying to a white crust, often with faint purplish cast, tubercles purple-brown to nearly black; fructification 85—400 μ in section, consisting of a loosely interwoven, ascending layer terminating in the hymenium or terminating in a dense horizontal to oblique layer that gives rise to the hymenium; in some areas the basal ascending layer is lacking, in other areas the horizontal layer is lacking; subhymenial layers often interrupted by portions of the substrate; subhymenial hyphae distinct to agglutinate, 2.0—4.5(—6.5) μ in diameter, often arranged in strands, with slightly thickened walls, with clamp-connections; hymenium composed of fertile hyphae, branching dikaryophyses, and subcylindrical dikaryophyses, mature basidial layer near the surface; mineral granules scattered throughout; cylindrical dikaryophyses arising from the fertile hyphae, subclavate, subfusiform, or subcylindrical, hyaline, sometimes with short terminal branches, 13—29/4—10.5 μ; branching dikaryophyses sparse, simple to branching, nodulose, 1.5—2.5 μ in diameter near the apices; fertile hyphae contorted, 1.5—7.5(—9) μ in diameter, often forming basidia in dense clusters by lateral proliferations through or near the sub-basidial clamp-connections; probasidia arising as narrow ovate to cylindrical structures; basidia subglobose, ovate, obovate to clavate, 4(—2) cellulate, guttulate, (10.5—)12.5—18(—19.5)/8.5—10.5 μ; sterigmata tubular, inflated slightly beneath spiculum, 2—3 μ in diameter, up to

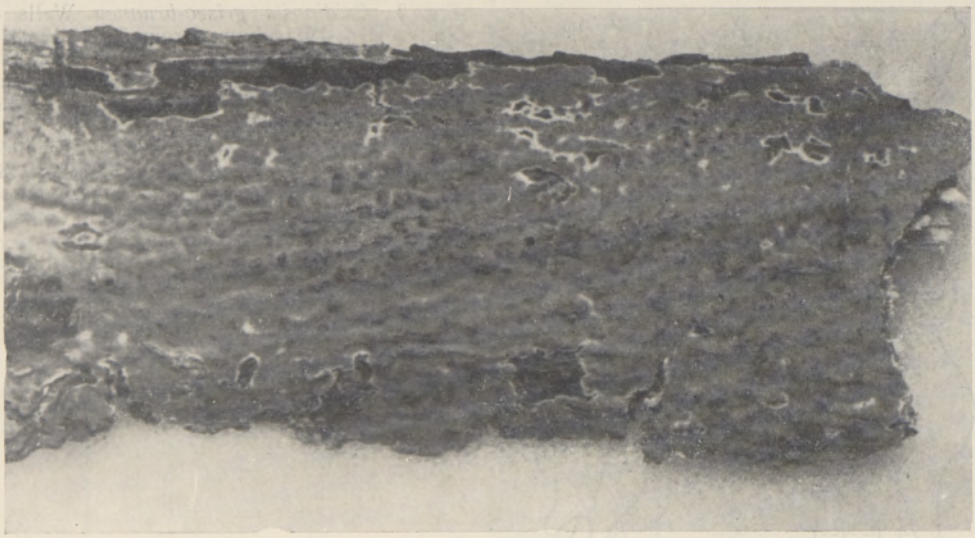

Fig. 1. *Exidiopsis griseo-brunnea* Wells et Raitv. (TAA 17 117) (×1.5).

Fig. 2. *Exidiopsis pallida* Wells et Raitv. (TAA 14 595) (×1.5).

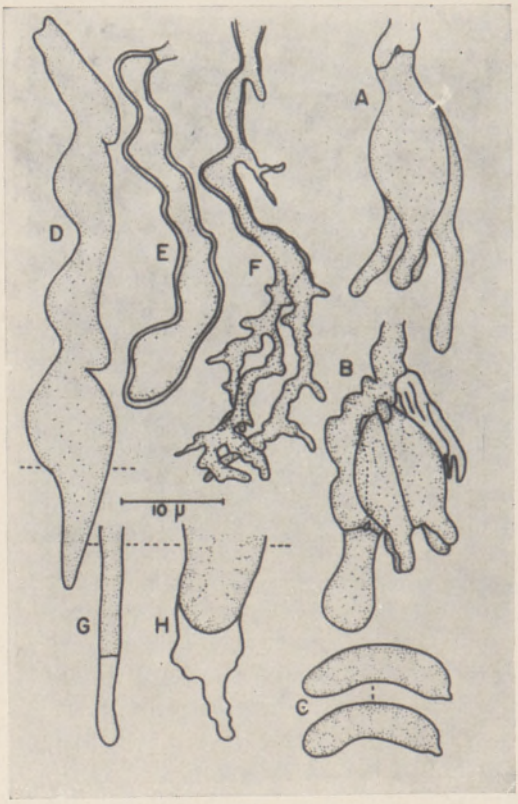

Fig. 3. *Exidiopsis griseo-brunnea* Wells et Raitv. *A* — basidium (from TAA 17 031), *B* — portion of fertile hypha with early basidium, segmented basidium, and collapsed basidium (from TAA 17 031), *C* — basidiospores (from TAA 17 031), *D* — cystidium (from TAA 17 048), *E* — thick-walled, cylindrical dikaryophysis (from TAA 17 133), *F* — portion of branching dikaryophysis (from TAA 42 954), *G* — projecting apex of septate cystidium (from TAA 17 043), *H* — projecting apex of cystidium with collapsed tip (from TAA 17 048).
(All drawings were made with the aid of a Zeiss Drawing Apparatus.)

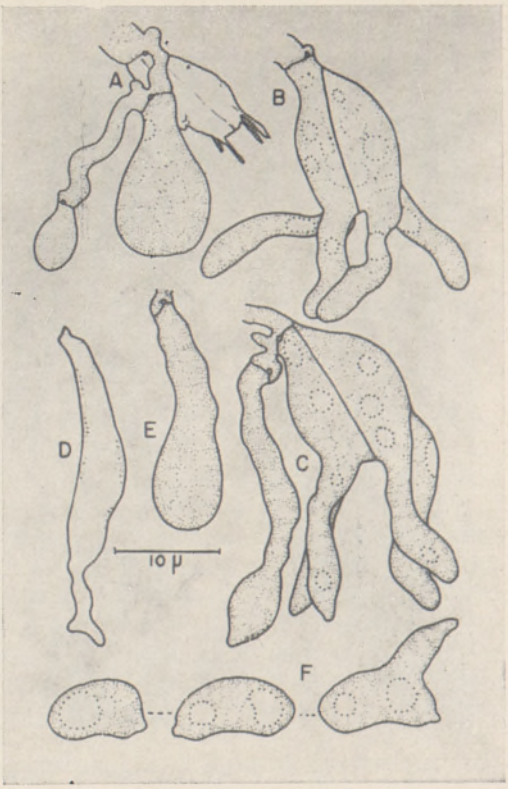

Fig. 4. *Exidiopsis pallida* Wells et Raitv. *A* — portion of fertile hypha showing probasidia and collapsed basidium, *B* — segmented basidium, *C* — portion of fertile hypha with segmented basidium and young, cylindrical dikaryophysis, *D*, *E* — cylindrical dikaryophyses, *F* — basidiospores, one germinating by repetition. (All drawings were made with the aid of a Zeiss Drawing Apparatus from the holotype (TAA 14 595)).

20.5 μ in length; basidiospores short, cylindrical, curved, guttulate, (8—)9.5—11/4.5—5 μ, capable of germinating by repetition.

On decorticated, decaying angiosperm wood. Known only from the type locality.

Type locality: U.S.S.R., Primorsk Region, Suputinka Reservation.

Specimen examined: U.S.S.R., Primorsk Region, Suputinka Reservation, E. Parmasto 14 595 (TAA, DAV).

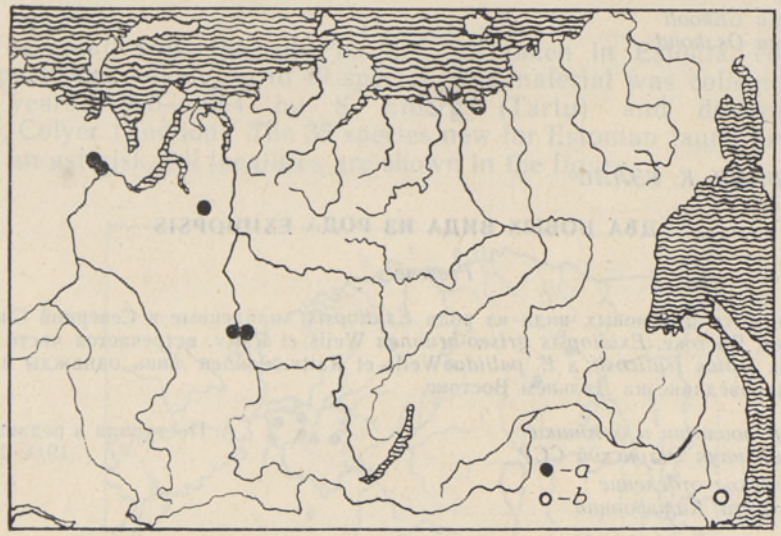

Fig. 5. Geographical distribution of *Exidiopsis griseo-brunnea* Wells et Raitv. (*a*), and *Exidiopsis pallida* Wells et Raitv. (*b*).

Portions of the holotype are deposited in the herbarium of the Institute of Zoology and Botany, Tartu, Estonian S.S.R. and in the Mycological collections of the Department of Botany, University of California, Davis, California, U.S.A.

E. pallida is macroscopically similar to *Exidiopsis macrospora* (Ell. et Ev.) Wells, but is more gelatinous and lacks the regular, fertile tubercles and the chalk-white aspect of *E. macrospora*. The tubercles of *E. pallida* seem more a response to the irregular substrate than an inherent feature.

Microscopically the strands of basal hyphae, the sparseness of the branching dikaryophyses, and the dimensions of the cylindrical dikaryophyses, basidia, and spores of *E. pallida* are characters that distinguish the new species from *E. macrospora*.

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KAKS UUT LIIKI PEREKONNAS EXIDIOPSIS

Resümee

Põhja-Siberist ja Kaug-Idast kogutud materjali alusel kirjeldatakse kaks uut liiki perekonnast *Exidiopsis*. *E. griseo-brunnea* Wells et Raitv. on üsna tavaline kuivanud *Alnus fruticosa* okstel, kuna *E. pallida* Wells et Raitv. on leitud ainult Kaug-Idast Suputinka looduskaitsealalt.

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Saabus toimetusse
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ДВА НОВЫХ ВИДА ИЗ РОДА EXIDIOPSIS

Резюме

Описывается два новых вида из рода *Exidiopsis*, найденные в Северной Сибири и на Дальнем Востоке. *Exidiopsis griseo-brunnea* Wells et Raitv. встречается часто на сухих ветках *Alnus fruticosa*, а *E. pallida* Wells et Raitv. найден лишь однажды в Супутинском заповеднике на Дальнем Востоке.

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