

Erast PARMASTO

STUDIES ON YAKUTIAN FUNGI. II

Ganodermataceae. Hymenochaetaceae. Polyporaceae s. str.

GANODERMATACEAE

Only one species, viz. *Ganoderma applanatum* (S. F. Gray) Pat. s. str. has been found in Yakutia, in the nearest vicinity of the Oimyakon Frost Pole.

THE GENUS GANODERMA

Ganoderma P. Karst., Rev. Myc. 3 (9) : 17. 1881.

Type species — *G. applanatum* (S. F. Gray) Pat.

GANODERMA APPLANATUM (S. F. Gray) Pat., Bull. Soc. mycol. Fr. 5 : 67. 1889.

Specimens examined: Antygychan near Burustakh, on a stump of *Chosenia arbutifolia* (Pall.) Skvortz., E. P., 30 VIII 72 (TAA 55911); Tomptor near Oimyakon, on a fallen trunk of *Ch. arbutifolia*, L. Järva, 29 VIII 72 (TAA 45928).*

These well-developed specimens are identical with European *G. applanatum* s. str.; basidiospores are 7.5—9 μm long. This species was also reported by N. Nikadimova from South-East Yakutia (the Aldan basin, on *Salix* sp.) (Никадимова, 1964: 147).

HYMENOCHAETACEAE

11 species of *Hymenochaetaceae* have been found in Yakutia (*Hymenochaete* — 2 species, *Inonotus* — 2, *Onnia* — 1 and *Phellinus* — 6 species). Most of the species are more or less rare; it may seem somewhat astonishing that among these there are species of the *Phellinus igniarius*-group. On the other hand, this family includes the most significant and commonest wood-rotting fungus in Yakutia, the *Phellinus chrysoloma* (Fr.) Donk. Two species of this genus, *Ph. ferrugineo-fuscus* (P. Karst.) Bourd. & Galz. and *Ph. nigrolimitatus* (Romell) Bourd. & Galz. are widely distributed up to the Woodland Tundra Zone in the North.

The peculiarities of the ecology of these fungi as well as of other *Polyporaceous* fungi treated in this paper are dealt with in detail in the next part together with other "pore fungi".

* The localities where herbarium specimens were collected are briefly characterized in the first part of this paper (in: Eesti NSV Teaduste Akadeemia Toimet. Biol. 24 (3) : 217—227. 1975)

THE GENUS **HYMENOCHAETE**

Hymenochaete Lév., Ann. Sci. Nat. (Bot.) III 5: 130. 1846.

Type species: *H. rubiginosa* (Fr.) Lév.

HYMENOCHAETE FULIGINOSA (Pers.) Bres., Ann. Mycol. 1: 93. 1903.

Specimens examined: Doruokha near Saskylakh, on a log of *Larix dahurica* Turcz., E. P., 2 VIII 72 (TAA 56584); Cherski, on a fallen rotten trunk of *Larix dahurica*, E. P., 17 VIII 72 (TAA 56618); Olenyok, on a fallen branch of *Picea obovata* Ldb., E. P., 27 VII 72 (TAA 56526).

HYMENOCHAETE TABACINA (Fr.) Lév., Ann. Sci. Nat. (Bot.) III 5: 152. 1846.

Specimens examined: Saskylakh, on a fallen branch of *Larix dahurica* Turcz., E. P., 1 VIII 72 (TAA 56035); Doruokha near Saskylakh, on a fallen trunk of *L. dahurica*, E. P., 2 VIII 72 (TAA 56048); Zhigansk, on *Salix* sp., L. Järva, 3 VIII 72 (TAA 45757); Zyryanka, on a fallen rotten branch of *Alnaster fruticosus* (Rupr.) Ldb., L. Järva, 22 VIII 72 (TAA 45850); Indigirski near Ust-Nera, on a fallen branch of *A. fruticosus*, E. P., 28 VIII 72 (TAA 56348); Sangar, on a fallen trunk of *L. dahurica*, L. Järva, 4 VIII 72 (TAA 45770). Seen by the author also near Ust-Nera on fallen trunks of *Betula platyphylla* Sukacz.

H. tabacina is a very variable species not only macroscopically, but also in some microscopical characters. The size and form of spores is given variously by different authors. The specimens collected in Yakutia on larch have cylindrical-curved, almost subballantoid spores (6) — 7 — 8 × 1 — 1.5 — (1.7) μm.

THE GENUS **INONOTUS**

Inonotus P. Karst., Medd. Soc. Fauna Fl. Fenn. 5: 39. 1879.

Type species — *I. hispidus* (Fr.) P. Karst.

INONOTUS OBLIQUUS (Fr.) Pilát, Atl. Polyp. 572. 1942.

Seen by the author in Spasskaya Pad' on a trunk of *Betula platyphylla* Sukacz. (old basidiocarps and a sterile conk) and on a fallen log of *B. platyphylla* (remains of an old basidiocarp). Reported by N. Nikadimova (Никадимова, 1964: 146) from South Yakutia on the same substrate (as "*F. igniarius* f. *sterilis* Van.").

INONOTUS RADIATUS (Fr.) Karst., Krit. Finl. Basidsv. 331. 1889.

Specimens examined: Zyryanka, on a fallen branch of *Alnaster fruticosus* (Rupr.) Ldb., L. Järva, 24 VIII 72 (TAA 45904); Indigirski near Ust-Nera, on a fallen branch of *A. fruticosus*, E. P., 29 VIII 72 (TAA 56355). Remains of an old basidiocarp also seen by the author in Cherski on a fallen trunk of *A. fruticosus* 18 VIII 72.

THE GENUS **ONNIA**

Onnia P. Karst., Bidr. Känn. Finl. Nat. Folk 48: 326. 1889.

Type species: *O. triqueter* (Fr.) Imaz.

ONNIA TRIQUETER (Fr.) Imaz. apud S. Ito Mycol. Fl. Japan 2 (4):

386. 1955. — *Polystictus circinatus* (Fr.) Karst. var. *triqueter* Bres., Ann. Mycol. 1: 75. 1903.

Specimens examined: Pokrovsk, on base of living and dead trunks of *Larix dahurica* Turcz., I. Shenduk, 7 IX 72 (TAA 56818, 56821).

THE GENUS PHELLINUS

Phellinus Quél. Ench. Fung. 172. 1886.

Type species: *Ph. torulosus* (Pers.) Bourd. & Galz.

PELLINUS ALNI (Bond.) Parm. comb. nova. — Basionymum: *Fomes igniarius* (Fr.) Quél. f. *alni* Bond., Trudy po lesnomu opytnomu delu v Rossii 37: 20, fig. 1, 17, 18, tab. 1 f. 2, 7. 1912.

Specimens examined: Zhigansk, on a dead branch of *Betula platyphylla* Sukacz., E. P., 6 VIII 72 (TAA 56598); Indigirski near Ust-Nera, on a living branch and on a dead trunk of *Alnaster fruticosus* (Rupr.) Ldb., E. P., 29 and 31 VIII 72 (TAA 56349, 55946); Sangar, on a living *B. platyphylla*, L. Järva, 6 VIII 72 (TAA 45784); Spasskaya Pad', on stumps of *A. fruticosus*, E. P., 11 IX 72 (TAA 58756, 58769); frequently on fallen trunks and stumps of *B. platyphylla*, E. P., 11 IX 72 (TAA 58757—58768); seen by the author also in Honuu on a *A. fruticosus* stump. Rare.

Ph. alni is well distinguishable from both *Ph. igniarius* and *Ph. nigricans* by its basidiocarp shape, structure of basidiocarp (more or less well developed, densely zonate 'core' seen in basidiocarp sections, especially in the oldest part, or context relatively thick and zonate), and biochemically. This problem will be treated by the author in detail in a special paper.

Mean spore size of spore prints in specimens collected from birch is $6.06 - 6.42 \times 5.43 - 5.95 \mu\text{m}$, which is considerably less than in *Phellinus nigricans*. All these basidiocarps have a typical, well-developed core. *Ph. nigricans* is common on birch in Central Siberia and on the Kamchatka Peninsula, but seems to be entirely replaced by *Ph. alni* in Central and North Yakutia.

PELLINUS CHRYSOLOMA (Fr.) Donk, Proc. K. Nederl. Akad. Wetensch. C 74 (1): 39. 1971. — *Phellinus pini* (Fr.) Pilát var *abietis* (P. Karst.) Pilát, Atl. Champ. Eur. 3: 520. 1942.

Specimens examined: Saskylakh, E. P., 1 VIII 72 (TAA 56034); Cherski, E. P., 17, 18 and 20 VIII 72, L. Järva, 18 VIII 72 (TAA 56082, 56089, 56093, 45827); Olenyok, L. Järva, 27 and 29 VII 72 (TAA 45711, 45726); E. P., 27 VII 72 (TAA 56007); Zhigansk, L. Järva, 1 VIII 72 (TAA 45733, 45738), E. P., 5 and 6 VIII 72 (TAA 56404, 56430, 56065); Batagai-Alyta, E. P., 11 and 13 VIII 72 (TAA 56069, 56493); Batagai, E. P., 15 VIII 72 (TAA 56602); Indigirski near Ust-Nera, E. P., 31 VIII 72 (TAA 55947); Tomptor near Oimyakon, L. Järva, 1 IX 72 (TAA 45978), E. P., 3 IX 72 (TAA 55986); Spasskaya Pad', E. P., 8 IX 72 (TAA 56139); Zhigansk, on a fallen branch of *Pinus pumila* (Pall.) Rgl., E. P., 6 VIII 72 (TAA 56447). All except the last-mentioned specimen are collected on fallen trunks of *Larix dahurica* Turcz. Seen by the author also in Doruokha near Saskylakh, in Honuu, and on larch in Pokrovsk. Reported also by N. Nikadimova from the Aldan basin and in the Lenski Region in Southwest Yakutia (Никадимова, 1964: 146; 1967: 100, sub *Trametes*

pini Fr.), and by L. Guseva from Central Yakutia, Lenski District and from the lower reaches of Olekma and Chara Rivers (Guseva, 1964: 227—228).

Ph. chrysoloma is the most common polyporaceous fungus in North and Central Yakutia; it is frequent also in the most northern regions up to the northern limit of the distribution of the larch. In Europe and Siberia this fungus forms its basidiocarps usually on living or dead but standing trunks, sometimes up to a dozen metres or more of height. In Yakutia all basidiocarps grow on the under side or on sides of fallen trunks. We have seen only two exceptions: in a narrow valley near Olenyok, on a stump about 50 cm above the ground, and in the southernmost place visited, in Pokrovsk on a living larch at a height of about 2 metres.

PELLINUS FERRUGINEO-FUSCUS (P. Karst.) Bourd. & Galz., Bull. Soc. Mycol. Fr. 48: 228. 1932.

Specimens examined: Cherski, E. P., 17 and 18 VIII 72 (TAA 56085, 56393, 56637); Olenyok, E. P., 28 VII 72 (TAA 56017); Zhigansk, E. P., 6 VIII 72 (TAA 56067); Batagai-Alyta, E. P., 11 and 12 VIII 72 (TAA 56071, 56074); Batagai, E. P., 15 VIII 72 (TAA 56608); Honuu, E. P., 23 VIII 72 (TAA 56100, 56675); Indigirski near Ust-Nera, E. P., 29 VIII 72 (TAA 56339); Tomptor near Oimyakon, E. P., 3 IX 72 (TAA 56809); Sangar, L. Järva, 4 VIII 72 (TAA 45773); Spasskaya Pad', E. P., 8, 10 and 11 IX 72 (TAA 56134, 56156, 56193). On fallen rotten trunks of *Larix dahurica* Turcz., almost everywhere, rather common or scattered. Seen by the author also in Pokrovsk, where it is rather uncommon.

PELLINUS IGNIARIUS (Fr.) Quél. Ench. 172. 1886. s. str. — *Fomes igniarius* (Fr.) f. *salicis* Bond., Spor. Rast. 2: 494. 1934. — *Phellinus igniarius* (Fr.) Quél. f. *salicis* (Bond.) Bond. Trut. griby 355. 1953.

Specimens examined: Zhigansk, on *Salix* sp., L. Järva, 3 VIII 72 (TAA 45756); Pokrovsk, on a stump of *Salix* sp., I. Shurduk, 7 IX 72 (TAA 56822). Very rare.

PELLINUS NIGROLIMITATUS (Romell) Bourd. & Galz. Hym. Fr. 622. 1928.

Specimens examined: Saskylakh, E. P., 1 VIII 72 (TAA 56039, 56563); Cherski, E. P., 19 and 20 VIII 72 (TAA 56091, 56652); Olenyok, E. P., 27 and 28 VIII 72 (TAA 56520, 56016); Zhigansk, E. P., 5 and 6 VIII 72 (TAA 56434, 56064); Batagai-Alyta, E. P., 12 VIII 72 (TAA 56486); Honuu, E. P., 23 and 24 VIII 72 (TAA 56695, 56757); Indigirski near Ust-Nera, E. P., 31 VIII 72 (TAA 55973); Antygychan near Burustakh, E. P., 30 VIII 72 (TAA 55915); Tomptor near Oimyakon, E. P., 3 IX 72 (TAA 56807); Spasskaya Pad', E. P., 10 IX 72 (TAA 56124). On fallen trunks of *Larix dahurica* Turcz., scattered and never in great amounts. Basidiocarps well-developed, usually entirely resupinate.

PELLINUS VITICOLA (Fr.) Donk, Persoonia 4 (3): 342. 1966. — *Phellinus isabellinus* (Fr.) Bourd. & Galz. Hym. Fr. 622. 1928.

Specimen examined: Olenyok, on a fallen trunk of *Larix dahurica* Turcz., L. Järva, 27 VII 72 (TAA 45703). Not rare in the vicinities of Olenyok, lacking elsewhere.

POLYPORACEAE s. str.

5 species of the genus *Polyporus* have been found in Yakutia up to the present. Only one of them, viz. *P. varius* Fr., is widely distributed and a real boreal species. *P. chozeniae* is one of the very few Aphyllophoraceous species endemic in East Siberia and Soviet Far East.

THE GENUS POLYPORUS

Polyporus Fr. Syst. Mycol. 1: 341. 1821.

Type species: *P. tuberaster* Fr.

POLYPORUS BADIUS (S. F. Gray) Schw., Trans. Am. Phil. Soc. II 4: 1832. — *Polyporus picipes* Fr. Epicr. 440. 1838.

This species was reported by N. Nikadimova (Никадимова, 1964: 146) as *P. picipes* Fr. from the region of the middle and upper reaches of the Aldan River, where it was collected on the roots of a rotten *Larix dahurica* Turcz. trunk; the specimen was determined by A. Bondarzew.

The substrate is somewhat unusual for this fungus, but it has also been collected on another coniferous tree, namely on logs of *Abies sibirica* Ldb. in Central Siberia (the author's unpublished data).

POLYPORUS CHOZENIAE (Vassilk.) Parm., Fol. Crypt. Est. 5: 35. 1975. — *Piptoporus chozeniae* Vassilk., Novit. Syst. Plant. non Vascul. 1967: 244. 1967.

Specimens examined: Antygychan near Burustakh, on fallen logs and trunks of *Chosenia arbutifolia* (Pall.) Skvortz., E. P., 30 VIII 72 (TAA 55905, 55917). For further details see Parmasto, 1975.

POLYPORUS MELANOPUS Fr. Syst. Mycol. 1: 347. 1821.

Specimen examined: Antygychan near Burustakh, on a fallen rotten trunk of *Populus suaveolens* Fisch., E. P., 30 VIII 72 (TAA 56371).

POLYPORUS SQUAMOSUS Fr. Syst. Mycol. 1: 343. 1821.

This species was reported by N. Nikadimova from the region of the upper and middle course of the Aldan River (Southern Yakutia) on *Salix* sp. (Никадимова, 1964: 147 as "*Polyporus squalens* Bond.").

POLYPORUS VARIUS Fr. Syst. Mycol. 1: 352. 1821.

Specimens examined: Olenyok, L. Järva, 27 VII 72 (TAA 45713), E. P., 29 VII 72 (TAA 56556); Bätagai-Alyta, E. P., 12 VIII 72 (TAA 56479); Zyryanka, L. Järva, 24 VIII 72 (TAA 45903); Indigirski near Ust-Nera, E. P., 29 and 31 VIII 72 (TAA 55937, 56375); Sangar, L. Järva, 6 VIII 72 (TAA 45785); Spasskaya Pad', E. P., 9 IX 72 (TAA 56900). On dead and fallen branches of *Alnaster fruticosus* (Rupr.) Ldb. Not rare in Olenyok, Indigirski and Spasskaya Pad', but nowhere numerous.

All specimens except No. 55937 (which is f. *varius*) belong to f. *nummularius* (Fr.) (See also Parmasto, 1975: 36—38).

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Academy of Sciences of the Estonian SSR
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Received
28 Nov., 1975

Erast PARMASTO

UURIMUSI JAKUUTIA SEENESTIKUST. II

Ganodermataceae, Hymenochaetaceae, Polyporaceae s. str.

Resümee

Kirjutises jätkub 1972. a. toimunud Jakuutia-ekspeditsiooni tulemuste avaldamine. Sugukond *Ganodermataceae* on Jakuutias esindatud ühe liigiga — *Ganoderma applanatum*. Sugukonda *Hymenochaetaceae* kuulub 11 liiki (*Hymenochaete* — 2 liiki, *Inonotus* — 2, *Onnia* — 1 ja *Phellinus* — 6 liiki), sealhulgas olulisim kasvavate lehiste mädaniku tekitaja *Phellinus chrysoloma*. Sugukonna *Polyporaceae* s. str. viis esindajat kuuluvad perekonda *Polyporus*; nende seas on ka endemeine liik *P. chozeniae*. Töös esitatakse üks uus nomenklatuurne kombinatsioon — *Phellinus alni* (Bond.) Parm.

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Toimetusse saabunud
28. XI 1975

Эраст ПАРМАСТО

ИССЛЕДОВАНИЕ ГРИБОВ ЯКУТИИ. II

Семейства Ganodermataceae, Hymenochaetaceae, Polyporaceae s. str.

Резюме

Продолжается опубликование результатов Якутской микологической экспедиции 1972 года (начало см. «Изв. АН ЭССР. Биология», 1975, 24 (3) : 217—227).

Из семейства *Ganodermataceae* найден только один вид *Ganoderma applanatum*. Семейство *Hymenochaetaceae* представлено 11 видами (2 вида *Hymenochaete*, 2 — *Inonotus*, 1 — *Onnia*, 6 — *Phellinus*); среди них и *Phellinus chrysoloma*, вызывающий сильно распространенное гниение лиственницы. Найлены 5 видов семейства *Polyporaceae* s. str., в том числе и эндемный вид *Polyporus chozeniae*. Приводится новая номенклатурная комбинация *Phellinus alni* (Bond.) Parm.

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Поступила в редакцию
28/XI 1975