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HYSTERIACEOUS FUNGI IN THE RUSSIAN FAR EAST

IV. GLYPHIUM, LOPHIUM AND MYTILINIDION

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IV. GLYPHIUM, LOPHIUM И MYTILINIDION

Three previous papers dealt with members of the family Hysteriaceae. The genera listed in the title of this paper belong in the family Mytiliniaceae Kirschst. To include them in the hysteriaceous series, the scope of the latter should be widened to the order Hysteriales. The problem is that this order is not accepted in the present-day system (Hawksworth et al., 1995), and all genera treated are placed in the Dothideales. Nevertheless, in my opinion, hysteriaceous fungi deserve the order of their own and, moreover, may be segregated into a separate group of higher than ordinal level (see Vasilyeva, 1999).

Records of the members of the *Mytiliniaceae* in Russia are few and include *Lophium mytilinum* (Pers.) Fr., *Mytilinidion decipiens* Sacc., *M. gemmigenum* Fuckel, *M. tortile* (Schwein.: Fr.) Sacc. (Tranzschel, 1901; Hennings, 1904; Naumov, 1964; Stepanova, Sirko, 1970; Stepanova, Tomilin, 1986). Besides, Petrak (1929) described the new genus *Murashkinskiya* with a single species *M. juniperina* Petrak from Omsk region, but Barr (1990) reduced this name to synonymy with *Mytilinidion acicolum* Winter.

On the basis of published information from the Russian Far East, one can add *Mytilinidion gemmigenum* Fuckel to the above set of species and repeat *M. acicolum* and *Lophium mytilinum* (Koval, 1972; Bunkina, Nazarova, 1978; Vasilyeva, 1987).

Glyphium Nitschke in F. Lehm., Nova Acta Ksl. Leop. Carol. Deutsch. Akad. Nat., 50 : 129, 1886.

Hysterothecia superficial, at times slightly immersed, erect dolabriform, laterally compressed, black, often transversely striate. Asci long cylindrical. Ascospores filiform, multiseptate, at times separating into several-celled partspores, coloured.

Type: *Glyphium elatum* (Grev. : Fr.) Zogg.

Glyphium elatum (Grev. : Fr.) Zogg, Beitr. Krypt. Fl. Schweiz, 11(3) : 99, 1962. — *Lophium elatum* Grev., Scott. Crypt. Fl., 3 : 178, 1825. — *L. elatum* Grev. : Fr., Elench. Fung., 2 : 113, 1828. — *L. dolabriforme* Wallr., Fl. Crypt. Germ., 2 : 433, 1833. — *Glyphium dolabriforme* (Wallr.) F. Lehm., Nova Acta Ksl. Leop. Carol. Deutsch. Akad. Nat., 50 : 139, 1886. — *Acrospermum fulvum* Harkn., Bull. Calif. Acad. Sci., 1 : 47, 1884. — *Lophium schizosporum* Maire, Bull. Soc. Hist. Nat. Afriq. Nord, 8 : 57, 1917. — *Glyphium schizosporum* (Maire) Zogg, Beitr. Krypt. Fl. Schweiz, 11(3) : 101, 1962.

Hysterothecia superficial, at times slightly immersed, erect dolabriform, laterally compressed, 1—3 mm high, 0.2—0.5 mm thick, black, transversely striate. Asci long cy-

lindric, 400—600 × 7—9 mkm. Ascospores filiform, multiseptate, at times separating into partspores consisting of 4—8 cells, yellowish, 240—400 × 1.5—3 mkm.

On wood of different trees, mostly *Salix* spp., but also *Duschekia fruticosa* (Rupr.) Pouzar and *Populus suaveolens* Fisch.

Distribution in the Russian Far East (RFE): Magadan Region (Kulu, Seymchan, Omolon, basins of the rivers Kegali and Bolshoy Anuy).

Lophium Fr., Syst. Mycol., 2 : 533, 1823.

Hysterothecia superficial, with bases slightly immersed in substrate, separate or in small groups, conchiform, black, usually striate. Asci cylindrical. Ascospores filiform, multiseptate, coloured.

Type: *Lophium mytilinum* (Pers.) Fr.

Lophium mytilinum (Pers.) Fr., Syst. Mycol., 2 : 533, 1823. — *Hysterium mytilinum* Pers., Syn. Meth. Fung., p. 97, 1801.

Hysterothecia superficial, with bases slightly immersed in substrate, separate or in small groups, conchiform, black, usually striate, about 1—2 mm long, 0.2—0.6 mm wide, 0.3—0.8 mm high. Asci cylindrical, 180—260 × 6—10 mkm. Ascospores filiform, multiseptate, yellow, 170—250 × 102 mkm.

On dead branches of *Abies sachalinensis* Fr. Schmidt, *Larix gmelinii* (Rupr.) Rupr., *Picea ajanensis* (Lindl. et Gord.) Fisch. et Carr., *Pinus pumila* (Pall.) Regel.

Distribution in RFE: Primorsky Territory (Terney), Amur Region (Zeysky reserve), Magadan Region (Magadan), Kurile Islands (Kunashir).

This species was also recorded from the reserves Ussuriysky (Bunkina, Nazarova, 1978) and Kedrovaya Pad (Koval, 1972) in the Primorsky Territory, but one of the specimens contains a small fragment of a conifer twig without relevant hysterothecia, while only fruit bodies of some old *Glonium* are observed in another specimen.

Mytilinidion Duby, Mém. Soc. Phys. Hist. Nat., 16 : 34, 1861. — *Mytilidion* Sacc., Atti Soc. Ven. Trent. Sci. Nat., 4 : 99, 1875. — *Murashkinskiya* Petr., Hedwigia, 68 : 203, 1928.

Hysterothecia superficial, with bases slightly immersed in substrate, separate or in small groups, conchiform, black, usually striate. Asci cylindrical. Ascospores ellipsoid, fusoid or elongate, transversely septate, coloured.

Type: *Mytilinidion laeviusculum* (P. Karst.) Sacc.

Barr (1990) indicated *M. aggregatum* (DC. : Fr.) Duby as the type species though, as she wrote, Zogg (1962) detailed the problems associated with this name: none of the early exsiccati contains identifiable material. Zogg proposed to designate *M. mytilinellum* (Fr.) Zogg as neotype, but this is hardly possible because the basionym of the latter is *Lophium mytilinellum* Fr. The latter was treated as a typical *Lophium* species with long filiform ascospores (Lehman, 1886) and is indicated now as a synonym of *L. mytilinum* (Barr, 1990). Thus, *Mytilinidion mytilinellum* Zogg (with phragmospores instead of scoliospores as in *Lophium*) should be reduced to synonymy with the earlier *M. laeviusculum* (P. Karst.) Sacc. (see Zogg, 1962 : 106).

Key to species found in the Russian Far East

1. Ascospores with 3 transverse septa.
 - A. Ascospore width 4.5—5(6) mkm 3. *M. tortile*
 - B. Ascospore width 6—7 mkm 1. *M. aciculum*
2. Ascospores with 7—9 transverse septa 2. *M. gemmigenum*

1. *Mytilinidion aciculum* G. Winter, Hedwigia, 19 : 176, 1880.

Hysterothecia superficial, with bases slightly immersed in substrate, separate, black, surrounded by a black line at the substrate, 0.2—0.5 × 0.2—0.3 mm. Asci cylindrical,

100—150 × 11—14 mkm. Ascospores, ellipsoid, 3-septate, slightly constricted, yellow, 17—22 × 6—7 mkm.

On dead twigs of *Juniperus davurica* Pall. and *J. sibirica* Burgsd.

Distribution in RFE: Primorsky Territory (Lazovsky reserve), Kamchatka Peninsular (Kronozky reserve).

2. *Mytilinidion gemmigenum* Fuckel, Jahrb. Nass. Ver. Naturk., 25—26 : 299, 1871. — *Lophium fusisporum* Cooke, Grevillea, 4 : 114, 1876. — *Mytilinidion fusisporum* (Cooke) Sacc., Syll. Fung., 2 : 764, 1883. — *M. insulare* Sacc. in Barbey, Flor. Sard. Comp., p. 246, 1884.

Hysterothecia superficial, with bases slightly immersed in substrate, separate or in small groups, conchiform, straight or slightly curved, black, 0.5—1 mm long, 0.2—0.5 mm wide, 0.3—0.6 mm high. Asci numerous, cylindric, 100—150 × 10—14 mkm. Ascospores fusoid, 7—9-septate, yellowish, 32—40 × (4)5—6 mkm.

On dead branches of *Larix* spp. and *Pinus pumila* (Pall.) Regel.

Distribution in RFE: Kamchatka Peninsular (Kozyrevsk), Magadan Region (the basins of rivers Bolshoy Anuy and Maly Anuy, the lake Nizhnyy Ilirney).

3. *Mytilinidion tortile* (Schwein.: Fr.) Sacc., Atti Soc. Ven. Trent. Sci. Nat., 4 : 127, 1875. — *Hysterium tortile* Schwein., Schrift. Nat. Ges. Leipzig, 1 : 50, 1822. — *H. tortile* Schwein.: Fr., Syst. Mycol., 2 : 581, 1823. — *Mytilinidion juniperi* Ellis et Everh., J. Mycol., 4 : 57, 1888.

Hysterothecia superficial, with bases slightly immersed in substrate, separate or in small groups, conchiform, black, 0.8—1(1.5) × 0.2—0.3(0.5) mm. Asci cylindric, 80—90 × 6—8 mkm. Ascospores fusoid, 3-septate, yellow or brownish, (17)19—23(24) × 4.5—5(6) mkm.

On wood of *Abies* sp. and *Pinus koraiensis* Siebold et Zucc.

Distribution in RFE: Primorsky Territory (Ussuriysky reserve), Amur Region (Khin-gansky reserve).

Zogg (1962) wrote that this species is rather rare and occurs only in alpine and subalpine localities of Europe. However, it was collected here in the zone of broad-leaved forests. Ascospores in our specimens are slightly larger than the average range of variation indicated by Zogg.

***Zoggium* Lar. N. Vassiljeva, gen. nov.** Hysterotheciis e ligni erumpentibus, sparsis vel leviter aggregatis, oblongis vel protractis, taeniatis vel cristiformibus, nigris. Ascis numerosis, cylindricis vel clavatis, octosporis; paraphysoidis filiformibus, sparsis, ramosis. Sporidiis late filiformibus vel vermicularibus, rectis vel leviter curvatis, transverse septatis, pallide coloratis.

Typus: *Zoggium mayori* (Zogg) Lar. N. Vassiljeva, comb. nov.

A genero *Lophii* hysterotheciis erumpentis differt.

Hysterothecia erumpent from wood tissue, scattered or in small groups, elongated, band- or ridge-like, black. Asci numerous, clavate or cylindric, 8-sporous. Ascospores widely filiform or vermicular, straight or curved, transversely septate, slightly coloured.

Type: *Zoggium mayori* (Zogg) comb. nov.

The gross and erumpent hysterothecia of *Zoggium mayori* differ considerably from small, fragile and superficial fruit bodies of *Lophium* and *Mytilinidion*.

***Zoggium mayori* (Zogg) Lar. N. Vassiljeva.** — *Lophium mayori* Zogg, Ber. Schweiz. Bot. Ges., 62 : 291, 1952.

Hysterothecia erumpent from wood tissue, scattered or in small groups, elongated, band- or ridge-like, black, 1.5—2.5 mm long, 1—1.5 mm high. Asci clavate or cylindric, 100—120 × 12—14 mkm. Ascospores widely filiform or vermicular, straight or curved, 7-septate, hyaline (immature), 80—90 × 3.5—4 mkm.

On wood of conifers.

Distribution in RFE: Khabarovsk Territory (Komsomolsky reserve).

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РЕЗЮМЕ

Приводятся данные о видах родов *Glyphium*, *Lophium* и *Mytilinidion*, обнаруженных на территории российского Дальнего Востока. Вид *Lophium mayori* Zogg выделен в самостоятельный род *Zoggium*.

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