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NEW SPECIES OF *CUCUJOMYCES* (LABOULBENIALES) ON CHILEAN *LEIODIDAE*

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ABSTRACT

Four new species of *Cucujomyces* (Laboulbeniales) parasitic on *Leiodidae* (Coleoptera) from Chile are described and illustrated: ***Cucujomyces dasypelatis*** on *Dasypelates nebulosus*, ***C. gratiellae*** on *Hydnodietus brunneus*, ***C. neohydnobii*** on *Neohydnobius argentinicus*, and ***C. newtonii*** on *Metahydnobius* spp. The new taxa are compared with other known species of *Cucujomyces*. Morphological variation encountered in one of the new species, *C. gratiellae*, encompasses attributes of both *Cucujomyces* and *Balazucia*, necessitating *Balazucia* to be placed in synonymy under *Cucujomyces*. On the basis of this, two new combinations, ***Cucujomyces bilateralis*** and ***C. japonicus***, are proposed.

Key words: Ascomycetes, Chile, Coleoptera, *Cucujomyces*, fungi, Laboulbeniales, nomenclature, taxonomy.

INTRODUCTION

Genus *Cucujomyces* Speg. (Laboulbeniales Engler) was erected by Spegazzini (1917) to accommodate three new species, *C. cylindrocarpus* Speg., *C. elegans* Speg., and *C. melanopus* Speg., all found on a single specimen of *Uleiota chilensis* Blanchard (as *Hyliota* and *Brontes*) (Coleoptera; Cucujidae) from Argentina. On the basis of a perceived compound antheridium, Spegazzini originally placed the genus in Peyritschielleae. Later, Thaxter (1931) clearly showed that such antheridia were not present, and that in fact the antheridia were of the typical, simple type. Tavares (1985) agreed with this interpretation and listed the genus in tribe Teratomyceteae, subtribe Rhachomycetinae. Members of this genus (and the closely related genus *Balazucia*—see below) differ from others in Rhachomycetinae in having a symmetrical thallus with an extensive secondary receptacle bearing antheridial secondary appendages. Since Spegazzini's original description an additional 11 species have been described, bringing the number of recognized species to 14. Ten of these are known only from Central and South America (*C. curtipes* Thaxt., *C. cylindrocarpus*, *C. diplocoeli* Thaxt., *C. elegans*, *C. elegantissimus* (Speg.) Thaxt., *C. goniocoeli* Thaxt., *C. intermedius* Thaxt., *C. melanopus*, *C. reynoldsii* Thaxt., and *C. stipitatus* Thaxt.), two from New Zealand (*C. bilobatus* Thaxt., *C. phycophilus* A.Weir & W.Rossi), one from Sulawesi (*C. celebensis* W.Rossi & A.Weir), and one from Europe (*C. rotundatus* Majewski). The host relationships of the above species are also of considerable interest. Most of the species of *Cucujomyces* are known to infest various families of beetles (Biphyllidae, Cryptophagidae, Cucujidae, Silvanidae) belonging to superfamily Cucujoidea. However, *C. curtipes* (on Leiodidae) and *C. phycophilus* (on Staphylinidae) occur on members of superfamily Staphylinoidea, as do the four new species described herein. Also on Staphylinoidea are the two known species of *Balazucia*, *B. bilateralis* R.K.Benj. from Mexico (Benjamin 1968) and *B. japonicus* Terada from Japan (Terada 1980). Given the morphological variation observed in our new material and the recent description of a species of *Cucujomyces* on Staphylinidae in New Zealand (Weir and Rossi 1997), the continued separation of *Balazucia* and *Cucujomyces* as distinct genera is unjustified. The purpose of this contribution then is to: (1) describe and illustrate four new species of *Cucujomyces* from Chile, (2) compare these with other known species, and (3) formally propose the synonymy of *Balazucia* with *Cucujomyces*. At least two additional new species of *Cucujomyces* are known from New Zealand, and these will be described in connection with a formal revision of the genus in a forthcoming contribution.

MATERIALS AND METHODS

The hosts of the fungi treated in this study were collected directly in the field by Alfred Newton and Margaret Thayer (Field Museum, Chicago) using flight interception traps. Specimens were preserved in 70–80% ethyl alcohol. Fungal thalli were mounted in Amann's solution using previously described methods (Benjamin 1971). All photographs were taken using a JVC GC-X3 digital camera mounted on a Leica DM LS microscope.

Holotypes of the newly described taxa are deposited in the Botanical Museum in Florence, Italy (FI). The paratypes are temporarily kept in the collection of W. R. and will be deposited in FI.

TAXONOMY

1. **Cucujomyces dasypelatis** W.Rossi & A.Weir, sp. nov. Fig. 3.

Receptaculi basalis cellula magna ac compacta, trianguli vel trapezii instar. Suprabasalis cellula parva, subquadrata aut longior quam latior. Prima appendix sterilis, hyalina, e 3–4 superpositis, magnis et compactis cellulis constans, quarum superior longos, tenues, septatos ramulos fert. Cellula stirpis perithecii brevis, hyalina praeter supremam, constrictam partem atram. Perithecii secunda stirpis cellula et basales cellulae plerumque dilutae, inter proximas conspicue colore expressae. Perithecii venter fuscus, rugosus, anguste ovatus, fere aequalis a fronte aut a tergo visus, inaequalis a latere visus, ad

fusciorem apicem abrupte contractus, duobus inaequalibus processis praeditum, quorum posterior longior. Secunda receptacula 3–4 parvis cellulis ambo confecta, cum primo receptaculo validum corpum flabelli instar efficientia, e quo appendices et perithecii sursum assurgunt. Secundae appendices primae similes, sed tenuiores ac longiores, perithecii apicem superantes. Antheridia hyalina, e tertia aut quarta cellula secundarum appendicum orientia una cum exilibus ramulis. Perithecium cum basalibus cellulis 60–72 × 22–27 μm; cellula stirpis perithecii 25–37 μm; longitudo a pede ad perithecii apicem 100–125 μm; longitudo a pede usque ad longioris appendicis apicem 245 μm. Parasitus Dasypelatis nebulosi in America meridionali.

Basal cell of the receptacle relatively large and broad, subtriangular or trapezoidal, its lower portion sometimes tinged with dark brown. Suprabasal cell (*II*) small, isodiametric or longer than broad. Primary appendage sterile, hyaline, composed of 3 superposed cells (more rarely 4) which are relatively large and stout, the upper bearing long, slender, simple, septate branchlets. Perithecia with primary stalk cell (*VI*) relatively short, hyaline below the obvious constriction that subtends the upper blackened area. Secondary stalk cell (*VII*) and perithecial basal cells usually pale, contrasting strongly with the blackened upper portion of cell *VI* below and the brownish venter of the perithecium above; sometimes the dark tinge is extended to one of the perithecial basal cells (*m*). Venter of perithecium rugose, narrowly ovoid and nearly symmetrical in dorsal or ventral view, asymmetrical in lateral view, being much less convex on the inner side than on the outer; the perithecium tapers rather abruptly to the well distinguished, darker tip, and ends in a hyaline asymmetrical apex bearing two small projections, the posterior of which is distinctly longer. Secondary receptacles composed of 3–4 relatively small cells, forming with the primary receptacle a compact subtriangular or fan-shaped body, from the distal margin of which the perithecia and the appendages project upwards. Secondary appendages similar to the primary, but more slender and exceeding the perithecial apex in length. Antheridia hyaline, elongate, borne on the third or fourth cell of the secondary appendages together with slender branchlets. Perithecium (including basal cells) 60–72 × 22–27 μm; perithecial stalk (*VI*) 25–37 μm; length from foot to perithecial apex 100–125 μm; length from foot to tip of the longest appendage 245 μm.

Etymology.—Named for the host, *Dasypelates*.

Holotype.—CHILE: Cautín Province, Villarica National Park, Volcán Villarica, road to ski center, 39°22.48′S, 71°58.30′W, alt. 1180 m, 26 Dec 1996–03 Feb 1997 flight intercept trap in *Nothofagus dombeyi* woodland, on the elytra of *Dasypelates nebulosus* Jeannel (Coleoptera, Leiodidae), *A. Newton and M. Thayer*, *no. 2490a* (FI).

Isotypes.—Data as for the holotype; on the abdomen of the same host insect, *no. 2490b*.

Paratypes.—CHILE: Cautín Province, Villarica National Park, Volcán Villarica, road to ski center, 39°22.48′S, 71°58.30′W, alt. 1180 m, 26 Dec 1996–03 Feb 1997 flight intercept trap in *Nothofagus dombeyi* woodland, on the metasternum and abdomen of *D. nebulosus*, *A. Newton and M. Thayer*, *no. 2491*. CHILE: Cautín Province, Conguillío National Park, 11.1 km SE of Laguna Captrén guard station, 38°40.05′S, 71°37.21′W, alt. 1080 m, 23 Dec 1996–05 Feb 1997 flight intercept trap in *Nothofagus obliqua* and *N. alpina* woodland, on the elytra of *D. nebulosus*, *A. Newton and M. Thayer*, *nos. 2489a & b*.

The thalli growing on the ventral parts of the host insects (slides *nos. 2490b* and *2491*) are stouter and usually bear more mature perithecia (up to 6). Moreover, the latter are usually darker, almost symmetrical, and have smaller, less obvious apical projections. In the thalli growing on the pronotum and the elytra (Fig. 3) no more than 2 mature perithecia were observed, although a third immature perithecium is sometimes present.

Cucujomyces dasypelatis is clearly morphologically similar to *C. curtipes* (Fig. 1–2) with both species sharing a similar general habit and especially the characteristic black collar formed at the top of cell *VI*. In *C. curtipes*, however, the apex of the perithecium lacks distinct projections, the secondary receptacles are longer, and the appendages are more branched; moreover, the cells forming the appendages are always longer than broad in *C. dasypelatis* whilst in *C. curtipes* they are isodiametric in the lower portion.

2. **Cucujomyces gratiellae** W.Rossi & A.Weir, sp. nov. Fig. 4–5.

Fungus hyalinus, praeter fuscum ventrem perithecii. Receptaculi basalis cellula trapezii instar, longior quam latior. Suprabasalis cellula parva et angusta, adiacentibus cellulis secundorum receptaculorum similis. Prima appendix simplex, e 8–10 superpositis cellulis constans, quarum inferiores validae, superiores vero tenues et elongatae. Cellula stirpis perithecii exilis et elongata. Ceterae cellulae perithecio subiacentes parvae et compressae. Perithecii venter ovatus, aequalis, ad applanatum et hyalinum apicem abrupte contractus, duabus parvis auriculis praeditum. Secunda receptacula deorsum curvata, quaternis cellulis plerumque confecta. Secundae appendices perithecii apicem non attingentes, validae, superne attenuatae, e 9–12 subquadratis cellulis constantes, praeter superiores tenues et elongatas. Antheridia parva, lagoenae instar. Perithecium cum basalibus cellulis 75–100 × 30–42 μm; cellula stirpis perithecii 55–150 μm; longitudo a pede ad perithecii apicem 165–285 μm; longitudo a pede usque ad longioris appendicis apicem 205 μm. Parasitus Hydnodiaeti brunnei in America meridionali.

Thalli hyaline, except for the brownish perithecial venter. Basal cell of the receptacle subtrapezoidal, longer than broad. Suprabasal cell small and narrow, similar to the adjacent cells of the secondary receptacles. Primary appendage simple, composed of 8–10 cells, the lower of which are stout, the upper narrow and elongate. Primary stalk cell of perithecium (*VI*) long and slender. Perithecial basal cells and secondary stalk cell (*VII*) small and flattened. Perithecial venter symmetrical, ovoid, tapering distally to a flattened, hyaline apex bearing two very small auricles, more visible in immature perithecia. Secondary receptacles curved downwards above the basal cell, composed of 3–5 cells. Secondary appendages never reaching the perithecial apex, relatively broad, strongly tapering towards the tip, composed of 9–12 nearly isodiametric cells, except for the upper 1–3 which are narrow and elongate. Antheridia small, bottle-shaped. Perithecium (including basal cells) 75–100 × 30–42 μm; perithecial stalk (*VI*) 55–150 μm; length from foot to perithecial apex 165–285 μm; length from foot to tip of the longest appendage 205 μm.

Etymology.—Named for the late Mrs. Graziella Cesari Rossi, student of the Laboulbeniales.

Holotype.—CHILE: Cautín Province, Conguillío National Park, 11.1 km SE of Laguna Captrén guard station,

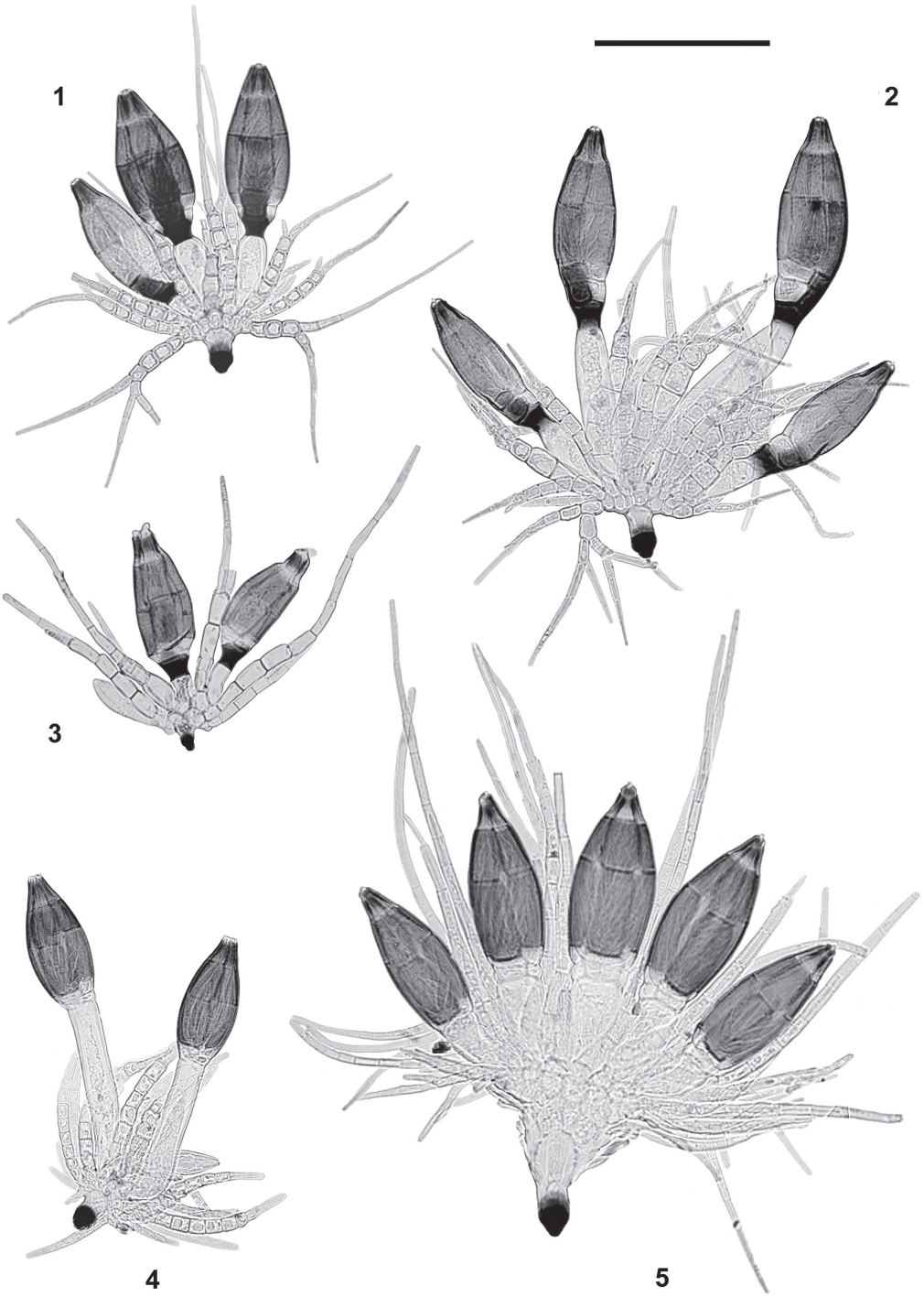

Fig. 1–5. Mature thalli of *Cucujomyces* spp. isolated from different host insects or different parts of the same insect.—1–2. *Cucujomyces curtipes*.—1. Mature thallus from the elytra of *Neopelatops edwardsii* Jeannel: CHILE, Cautín Prov., P. N. Conguillío, 1.5 km E of Laguna Captrén guard station, 1365 m, 38°38.67′S, 71°41.37′W, 23 Dec 1996–5 Feb 1997 flight intercept trap in *Nothofagus dombeyi*, *Araucaria araucana*, *Chusquea* understory, *A. Newton & M. Thayer slide no. 2492b*.—2. Mature thallus from legs of *Neopelatops edwardsii*: CHILE, Cautín Prov., 15 km NE of Villarica Flor del Lago, 300 m, 14 Jul 1984–10 Feb 1985 carrion trap in *Nothofagus* forest, *S. & J. Peck* (*slide no. 2464*).—3. ***Cucujomyces dasypelatis*** mature thallus taken from the elytra with pronounced apical perithecial projections.—4–5. ***C. gratiellae***.—4. Mature thallus from the elytra of the host insect.—5. Mature thallus from the base of the legs with multiple perithecia. (Scale bar = 100 μm for all).

38°40.05′S, 71°37.21′W, alt. 1080 m, 23 Dec 1996–05 Feb 1997 (flight intercept trap) in *Nothofagus obliqua* and *N. alpina* woodland, on the elytra, abdomen, elytral margin, and legs of *Hydnodiaetus brunneus* Jeannel (Coleoptera, Leiodidae) *A. Newton and M. Thayer*, *no. 2497* (FI).

Paratypes.—Same data as the holotype, on the abdomen of host insect, *no. 2496*; CHILE: Cautín Province, Conguillío National Park, 15 km E of Laguna Captrén guard station, 38°38.67′S, 71°41.37′W, alt. 1365 m, 23 Dec 1996–05 Feb 1997 flight intercept trap in *Nothofagus dombeyi* and *Araucaria araucana* woodland, on various parts of the body of *H.* cf. *brunneus*, *A. Newton and M. Thayer*,

nos. 2498 & 2499; CHILE: Malleco Province, Nahuelbuta National Park, Coimallin area, 8.2 km NW of Los Portones entrance, 37°48.21′S, 73°00.89′W, alt. 1260 m, 21 Dec 1996–07 Feb 1997 flight intercept trap in *Nothofagus* spp. and *Araucaria araucana* forest, on various parts of the body of *H. brunneus*, *A. Newton and M. Thayer*, *nos. 2583* & *2584*.

The above description is based on thalli growing on the elytra of host insects (Fig. 4). Thalli growing at the base of the legs (Fig. 5) differ from the former in having a larger, broadly triangular receptacle, much longer, more slender, and more numerous secondary appendages (frequently extending beyond the perithecial tip), and more numerous perithecia; the latter have a shorter, stouter stalk, and a much narrower, asymmetrical tip.

Dimensions of the thalli found at the base of the host's legs are as follows. Perithecium (including basal cells) 88–120 × 35–45 μm; perithecial stalk (*VI*) 35–65 μm; length from foot to perithecial apex 205–288 μm; length from foot to tip of the longest appendage 360 μm.

In general habit thalli of *C. gratiellae*, at least those from the elytra, resemble *C. phycophilus*. The former differ, however, in lacking the conspicuously inflated perithecial basal cells, so characteristic of *C. phycophilus*. As with all of these new species of *Cucujomyces* there is, in *C. gratiellae*, considerable variation in thallus morphology depending on the position of growth on the host insect. In general terms, thalli on the ventral surfaces appear to consistently produce more perithecia and more luxuriant and branched secondary receptacles. Comparison of Fig. 4 and 5 could easily lead the uninitiated to place these in two different genera, Fig. 4 could easily be attributed to *Cucujomyces*, whilst Fig. 5 is morphologically very similar to genus *Balazucia* (two known species on Staphylinidae), particularly *B. japonicus*. Yet here we believe that we are dealing with thallus variation within a single species. For this reason, taken along with the fact that a recently described species of *Cucujomyces* (*C. phycophilus*) from New Zealand was found on a beetle belonging to Staphylinidae, we formally propose the synonymy of *Balazucia* with *Cucujomyces*. This will result in new combinations as follows:

Cucujomyces bilateralis (R.K.Benj.) W.Rossi & A.Weir, comb. nov.

Basionym: *Balazucia bilateralis* R.K.Benj., *Aliso* **6**: 47 (1968).

Cucujomyces japonicus (Terada) W.Rossi & A.Weir, comb. nov.

Basionym: *Balazucia japonica* Terada, *Trans. Mycol. Soc. Japan* **21**: 193 (1980).

3. **Cucujomyces neohydnobii** W.Rossi & A.Weir, sp. nov. Fig. 6–8

Fungus parvus, hyalinus, praeter ventrem perithecii et receptaculi basalem cellulam fuscos. Receptaculi basalis cellula valida, quodam modo flabelli instar, partim aut omnino parva cellula suprabasali superposita. Prima appendix simplex, circiter 6 superpositis cellulis tam longioribus quam latioribus confecta, suprema vero extenuata. Cellula stirpis perithecii brevis, trapezii instar. Ceterae cellulae perithecio subiacentes latiores quam longiores. Perithecium anguste ovatum, aequale ubi a fronte aut a tergo visum, parum inaequale a latere visum, ad simum apicem contractum, 4 minimis, subaequalibus, hyalinis, rotundatis papillis praeditum. Secunda receptacula compluribus cellulis constantia, deorsum ac intus curvata, pedem et basalem cellulam circumdantia. Secundae appendices e secundis receptaculis radiantes, breves, usque 7 cellulis confectae. Antheridia lata ac brevia. Perithecium cum basalibus cellulis 44–55 × 19–27 μm; cellula stirpis perithecii 10–15 μm; longitudo a pede ad perithecii apicem 76–93 μm; longitudo a pede usque ad longioris appendicis apicem 110 μm. Parasitus Neohydnobii argentinici in America meridionali.

Thallus small, hyaline, except for the brown-mottled basal cell and perithecium. Basal cell of receptacle (*I*) relatively large, broadly fan-shaped and completely or partially overlapping the small suprabasal cell (*II*). Primary appendage simple, relatively short, composed of about 6 isodiametric cells except the terminal cell which is tapered. Primary stalk cell (*VI*) very short, subtrapezoidal. Secondary stalk cell (*VII*) and basal cells broader than long. Perithecium narrowly ovoid, symmetrical in frontal and dorsal view, slightly asymmetrical in lateral view. Venter gradually tapering to a blunt tip, the apex bearing four very small, rounded, subequal, hyaline papillae. Secondary receptacles composed of numerous cells, curved downward and inward to envelope completely the foot and basal cell. Secondary appendages radiating from the secondary receptacles, relatively short and composed of up to 7 cells when unbroken. Antheridia broad and short. Perithecium (including basal cells) 44–55 × 19–27 μm; perithecial stalk (*VI*) 10–15 μm; length from foot to perithecial apex 76–93 μm; length from foot to tip of the longest appendage 110 μm.

Etymology.—Named for the host, *Neohydnobius*

Holotype.—CHILE: Malleco Province, Nahuelbuta National Park, Coimallin area, 8.2 km NW of Los Portones entrance, 37°48.21′S, 73°00.89′W, alt. 1260 m, 21 Dec 1996–07 Feb 1997 flight intercept trap in *Nothofagus* spp. and *Araucaria araucana* forest, on the elytra of *Neohydnobius argentinicus* (Hlisnikovsky) (Coleoptera, Leiodidae), *A. Newton and M. Thayer*, *no. 2581a* (FI).

Paratypes.—Same data as the holotype, at the base of posterior legs of host insect, *no. 2581b*; same data as the holotype, at the base of the legs of host insect, *no. 2580*; same data as the holotype, on the elytra and the tarsi of host insect, *no. 2582a*; same data as the holotype, on various parts of host insect (elytra, prothorax, anterior margin of pronotum, abdomen), *no. 2582b*.

The above description is based on thalli found growing on the pronotum and elytra of host insects (Figs. 7–8). The receptacle is similar to that of *C. diplocoeli* Thaxt., forming a flat cell layer on the surface of the host from which the perithecia arise. Thalli growing at the base of the legs are quite different in having a hyaline basal cell, shorter, non-enveloping secondary receptacles, much longer secondary appendages (exceeding greatly the apex of the perithecium), and paler, more symmetrical and more numerous perithecia (Fig. 6).

4. **Cucujomyces newtonii** W.Rossi & A.Weir, sp. nov. Fig. 9–10

Fungus hyalinus, praeter ventrem perithecii et interdum inferiorem partem receptaculi basalis cellulae fuscos. Receptaculi basalis cellula valida et inaequalis, quodam modo flabelli instar. Suprabasalis cellula minima, multo longior quam latior. Prima appendix valida, e 6–8 superpositis cellulis tam longioribus quam latioribus constans, supremis vero multo tenuioribus. Cellula stirpis perithecii exilis et elongata. Perithecii venter, una cum dilutis subiacentibus cellulis ovatus, aequalis, ad simum ac hyalinum apicem contractus. Secunda

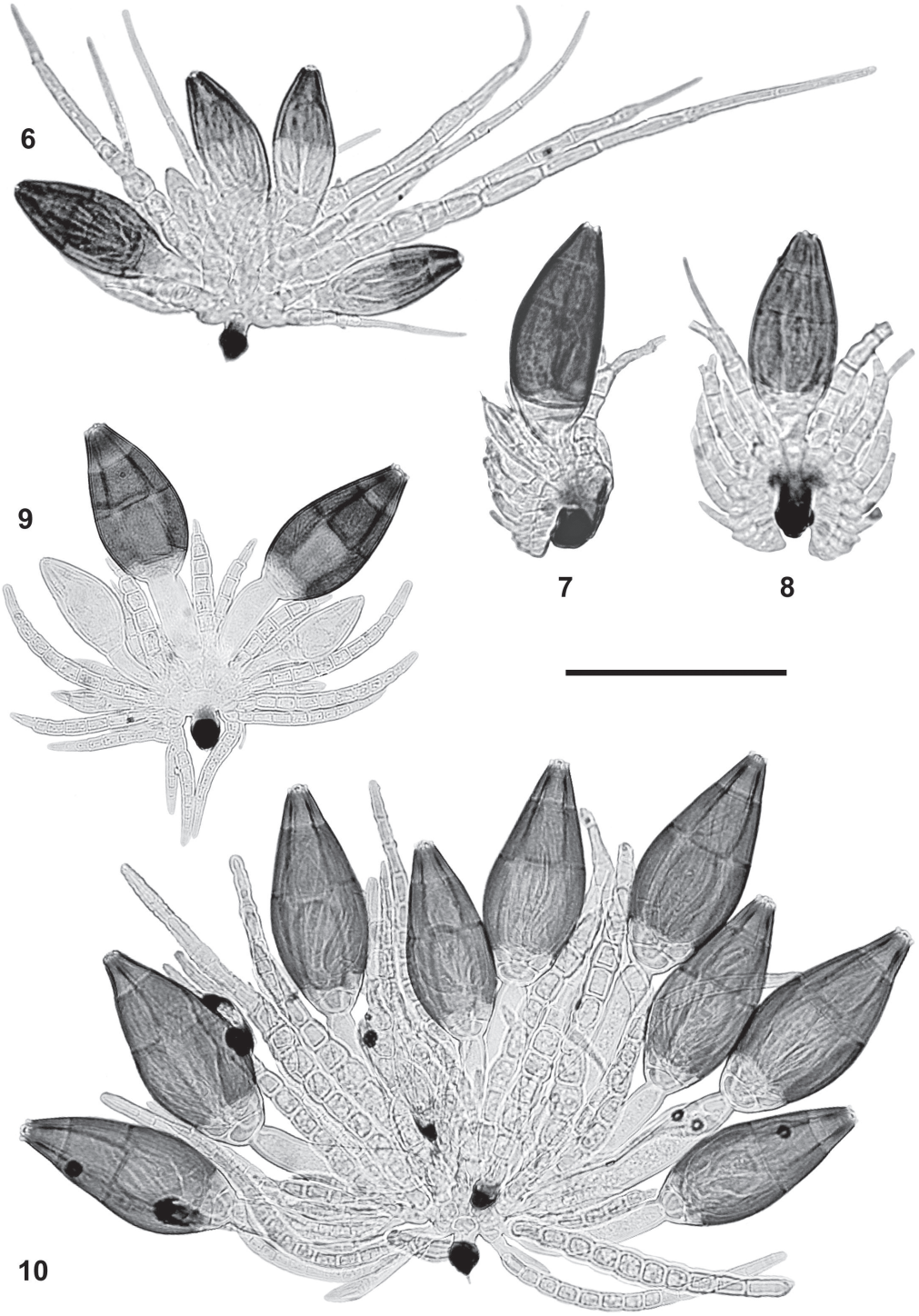

Fig. 6–10. Mature thalli of *Cucujomyces* spp. isolated from different parts of the host insect.—6–8. ***Cucujomyces neohydnobii***.—6. Mature thallus from the ventral parts of the host insect with much longer secondary appendages.—7–8. Mature thalli from the elytra of the host insect.—9–10. ***Cucujomyces newtonii***.—9. Mature thallus from the elytra of the host insect.—10. Mature thallus from the metasternum of the host insect. (Scale bar = 60 μm for Fig. 6–8; bar = 90 μm for Fig. 9–10).

receptacula longitudine varia, longiora vero deorsum curvata, complura radiantia secundas appendices et perithecia gignentes. Secundae appendices primae similes sed tenuiores, apicem perithecii raro attingentes, singula, hyalina antheridia in summo ferentes cum juvenes. Perithecium cum basalibus cellulis 68–73 × 30–35 μm; cellula stirpis perithecii 35–45 μm; longitudo a pede ad perithecii apicem 135–160 μm; longitudo a pede usque ad longioris appendicis apicem 110 μm. Parasitus Metahydnobii spp. in America meridionali.

Thallus hyaline, except for the perithecial venter and, sometimes, the lower portion of the basal cell of the receptacle, which are grayish-brown. Basal cell of the receptacle (*I*) broad

and irregular, somewhat fan-shaped. Suprabasal cell (*II*) very small, distinctly longer than broad. Primary appendage quite robust, composed of a superposed series of 6–8 cells almost as long as broad, abruptly tapered to the apex and terminated by one (rarely more) additional small and narrow cell(s). Primary stalk cell of perithecium (*VI*) slender and elongate. Perithecial venter, including the small, pale basal cells and secondary stalk cell (*VII*), symmetrically ovoid, tapering distally to the undistinguished tip and blunt, hyaline-edged apex. Secondary receptacles variously elongate, curving downward when long, giving rise to quite a few radiating secondary appendages and secondary perithecia. Secondary appendages similar to the primary, but more slender, seldom reaching the apex of the perithecia, bearing single terminal, hyaline antheridia, which are displaced laterally in age by the continued growth of the appendage. Perithecium (including basal cells) 68–73 × 30–35 μm; perithecial stalk (*VI*) 35–45 μm; length from foot to perithecial apex 135–160 μm; length from foot to tip of the longest appendage 110 μm.

Etymology.—Named for the coleopterist and collector, Dr. Alfred Newton.

Holotype.—CHILE: Cautín Province, Conguillío National Park, 11.1 km SE of Laguna Captrén guard stn., 38°40.05′S, 71°37.21′W, alt. 1080 m, 23 Dec 1996–05 Feb 1997 flight intercept trap in *Nothofagus obliqua* and *N. alpina* woodland, on the elytra of *Metahydnobius forticornis* (Champion) (Coleoptera, Leiodidae), *A. Newton and M. Thayer*, *no. 2493* (FI).

Paratypes.—Same data as the holotype, on prosternum and other ventral parts of host insect, no. 2494; CHILE: Cautín Province, Conguillío National Park, 15 km E of Laguna Captrén guard station, 38°38.67′S, 71°41.37′W, alt. 1365 m, 23 Dec 1996–05 Feb 1997 flight intercept trap in *Nothofagus dombeyi* and *Araucaria araucana* woodland, on various parts of the body of *M. forticornis*, *A. Newton and M. Thayer*, *no. 2495*; CHILE: Malleco Province, Nahuelbuta National Park, Coimallin area, 8.2 km NW of Los Portones entrance, 37°48.21′S, 73°00.89′W, alt. 1260 m, 21 Dec 1996–07 Feb 1997 flight intercept trap in *Nothofagus* spp. and *Araucaria araucana* forest, on the right margin of the prothorax of *Metahydnobius bimaculatus* (Jeannel), *A. Newton and M. Thayer*, *no. 2585*; CHILE: Malleco Province, Nahuelbuta National Park, Coimallin area, 8.2 km NW of Los Portones entrance, 37°48.21′S, 73°00.89′W, alt. 1260 m, 21 Dec 1996–07 Feb 1997 flight intercept trap in *Nothofagus* spp. and *Araucaria araucana* forest, all over the body of the prothorax of *Metahydnobius bicolor* (Jeannel), *A. Newton and M. Thayer*, *no. 2586*.

The parasites growing on the ventral parts of the host insects have shorter secondary receptacles and longer, narrower, and more numerous secondary appendages (Fig. 10). In addition, perithecia are more tapered distally and are much more numerous: up to 15 mature and 5 immature perithecia were observed in a single thallus growing on the prosternum, while no more than 3 mature and 2 immature perithecia were observed in thalli growing on the elytra (Fig. 9).

Dimensions of the thalli found at the base of the host's legs are as follows. Perithecium (including basal cells) 85–107 × 45–50 μm; perithecial stalk (*VI*) 50–175 μm; length from foot to perithecial apex 190–335 μm; length from foot to tip of the longest appendage 305 μm.

Cucujomyces newtonii is similar in general habit to *C. phycophilus* and *C. gratiellae*, but thalli lack the conspicuously inflated perithecial basal cells of the former, and differ from the latter in having a distinct constriction at the distal end of cell *VI*, and in the overall shape of the perithecium.

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