

Ascomycetes and Anamorphic Fungi Collected from Yakushima Island, Southern Japan

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Abstract A list of ascomycetes and anamorphic fungi collected in Yakushima Island in the exploration in 2005 is provided. In total 68 genera 82 taxa (41 genera, 49 taxa in 9 orders of ascomycetes and 27 genera in 33 taxa of anamorphic fungi) were recognized. Seven anamorphic fungi was recognized as new records from Japan. The mycobiota of Yakushima embraced both temperate and subtropical fungi, but characterized mainly by subtropical elements.

Key words: anamorph, checklist, mycobiota, local inventory, new records.

Introduction

Due to heavy rain fall and diversified flora distributed in small area with relatively high altitude difference, Yakushima Island has drawn attention by mycologists. Mycological explorations have been done for rusts (Morimoto, 1953; Hiratsuka *et al.*, 1955), sooty moulds (Katamoto, 1958, 1965, 1975), and wood parasites (Katsuki, 1965; Kobayashi 1976, 1977). Otani and Tubaki (1976) presented a preliminary list of discomycetes and anamorphic fungi, in which 18 discomycetes and 33 anamorphic fungi were listed, but many additions are required. In the course of a research program of the National Museum of Nature and Science (Taxonomic research for plants and fungi in areas with remarkable biodiversity in Japan), Yakushima was visited in the autumn of 2005. In this paper, additional records of ascomycetes and anamorphic fungi are presented with taxonomic notes. A list of aquatic hyphomycetes, hitherto unexplored in Yakushima, will be given elsewhere.

Materials and Methods

For ascomycetes, isolation was attempted when possible, to examine the anamorph. Isolation procedure followed Hosoya (1997) and Tanaka and Harada (2003). The isolates were cultured on potato dextrose agar (PDA; Nissui, Tokyo), modified Weitzman-Silva-Hutner medium (WSH; oatmeal 10 g, KH_2PO_4 1 g, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ 1 g, NaNO_3 1 g, agar 20 g and distilled water 1000 ml) plate, and Miura's agar (glucose 1 g, KH_2PO_4 1 g, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ 0.2 g, KCl 0.2 g, KNO_3 2 g, yeast extract 0.2 g, agar 13 g, distilled water 1000 ml; pH adjusted to 6.5–7.0) at 23°C to examine the anamorph. Specimens were desiccated by heat after isolation. Specimens are deposited in the herbaria of Hirosaki University (HHUF) or National Museum of Nature and Science (TNS).

Enumeration of the species

The recognized fungi are enumerated in alphabetical order of the species assembled in orders, followed by specimen numbers. Collection data were indicated in the parentheses (collection site,



Fig. 1. A view at the one of the sampling sites. Environments with high humidity are preferable for collecting fungi.



Fig. 2. Photograph to show collecting woody substrates immersed in water to collect freshwater ascomycetes and fungi in aqueous habitat.

substrates and/or hosts, collection date, and collector).

Ascomycetes

1. Helotiales

Bisporella sp.

TNS-F-13516 (Sarugawa Gajumarū, on unidentified wood, 2005-X-21, coll. T. Hosoya);

TNS-F-13521 (Awao, on branch of unidentified tree, 2005-X-21, coll. T. Hosoya).

Chlorenchocelia sp.

TNS-F-13537 (Awao, on unidentified wood, 2005-X-23, coll. T. Hosoya).

Chlorociboria aeruginascens (Nyl.) Kanouse var. *aeruginascens*

TNS-F-13533 (Yakusugi Land, on unidentified wood, 2005-X-22, coll. T. Hosoya).

Dicephalospora rufocornea (Berk. et Broome) Spooner

TNS-F-13482 (Shiratani-unsui-kyo, on unidentified log, 2005-X-18, coll. T. Hosoya); TNS-F-13494 (Shiratani-unsui-kyo, on branch of broad leaf wood, 2005-X-18, coll. T. Hosoya); TNS-F-13504 (Shiratani-unsui-kyo, on branch of broad leaf wood, 2005-X-19, coll. T. Hosoya); TNS-F-13534 (Arakawa mountain trail entrance, on unidentified branch, 2005-X-23, coll. T. Hosoya).

Hamatocanthoscypha laricionis (Velen.) Svrček var. *laricionis*

TNS-F-13530 (Yakusugi Land, on *Cryptomeria japonica* leaf, 2005-X-22, coll. T. Hosoya); TNS-F-13508 (Shiratani-unsui-kyo, on *Gleichenia japonica* stem, 2005-X-19, coll. T. Hosoya)

***Hyaloscypha* sp.**

TNS-F-13492 (Shiratani-unsui-kyo, on unidentified log, 2005-X-18, coll. T. Hosoya).

***Hymenoscyphus* sp.**

TNS-F-13497 (Shiratani-unsui-kyo, on petiole of broad leaf, 2005-X-18, coll. T. Hosoya); TNS-F-13524 (Yakusugi Land, on deciduous broad leaf, 2005-X-22, coll. T. Hosoya); TNS-F-13531 (Yakusugi Land, on *Cryptomeria japonica* leaf, 2005-X-22, coll. T. Hosoya).

***Lachnum* sp.**

TNS-F-13507 (Shiratani-unsui-kyo, on fern stem, 2005-X-19, coll. T. Hosoya); TNS-F-13515 (Sarugawa Gajumaru, on bark of unidentified wood, 2005-X-21, coll. T. Hosoya).

***Lachnum palmae* (Kanouse) Spooner**

TNS-F-13500 (Tomari-gawa Birou Park, on *Livistona chinensis* var. *subglobosa* leaf, 2005-X-19, coll. T. Hosoya); TNS-F-13510 and TNS-F-13511 (Tomari-gawa Birou Park, on *Livistona chinensis* var. *subglobosa* leaf, 2005-X-20, coll. T. Hosoya).

***Lachnum varians* (Rehm) Spooner**

TNS-F-13495 (Shiratani-unsui-kyo, on *Pteris wallichiana* stem, 2005-X-18, coll. T. Hosoya).

***Lambertella* sp.**

TNS-F-13503 (Shiratani-unsui-kyo, on unidentified root, 2005-X-19, coll. T. Hosoya).

***Lanzia* sp.**

TNS-F-13484 (Shiratani-unsui-kyo, on unidentified wood, 2005-X-18, coll. T. Hosoya).

***Moellerodiscus* sp.**

TNS-F-13490, 13483, 13493 (Shiratani-unsui-kyo, on petiole of evergreen broad leaf, 2005-X-18, coll. T. Hosoya).

***Mollisia* spp.**

TNS-F-13488 (Shiratani-unsui-kyo, on unidentified log, 2005-X-18, coll. T. Hosoya); TNS-F-13522 (Yakusugi Land, on unidentified branch, 2005-X-22, coll. T. Hosoya); TNS-F-13501 (Miyanoura, on bamboo column, 2005-X-19, coll. T. Hosoya); TNS-F-13509 (Shiratani-unsui-kyo, on *Elaeocarpus japonicus* log, 2005-X-19, coll. T. Hosoya); TNS-F-13512 (Upstream of Tomari-gawa River, on unidentified wood, 2005-X-20, coll. T. Hosoya); TNS-F-

13529 (Yakusugi Land, on unidentified wood, 2005-X-22, coll. T. Hosoya).

***Orbilia* spp.**

TNS-F-13518 (Sarugawa Gajumaru, on *Ficus microcarpa* wood, 2005-X-21, coll. T. Hosoya); TNS-F-13487 (Shiratani-unsui-kyo, on unidentified wood, 2005-X-18, coll. T. Hosoya); TNS-F-13489 (Shiratani-unsui-kyo, on unidentified wood, 2005-X-18, coll. T. Hosoya); TNS-F-13526 (Yakusugi Land, on unidentified wood residue, 2005-X-22, coll. T. Hosoya); TNS-F-13536 (Arakawa mountain trail entrance, on unidentified wood, 2005-X-23, coll. T. Hosoya).

***Rutstroemia petiolorum* (Roberge ex Desm.) W. L. White**

TNS-F-13523 (Yakusugi Land, on blackened leaf petiole of unidentified deciduous broad-leaved tree, 2005-X-22, coll. T. Hosoya).

***Strossmayeria* spp.**

TNS-F-13491 (Shiratani-unsui-kyo, on unidentified wood, 2005-X-18, coll. T. Hosoya); TNS-F-13505 (Shiratani-unsui-kyo, on wood of evergreen broad-leaved tree, 2005-X-19, coll. T. Hosoya); TNS-F-13506 (Shiratani-unsui-kyo, on unidentified rotten wood, 2005-X-19, coll. T. Hosoya); TNS-F-13535 (Arakawa mountain trail entrance, on unidentified wood, 2005-X-23, coll. T. Hosoya).

2. Hypocreales***Calonectria* sp.**

TNS-F-13539 (Shiratani-unsui-kyo, on broad-leaved tree log, 2005-X-18, coll. T. Hosoya).

***Cordyceps nutans* Pat.**

TNS-F-13532 (Yakusugi Land, on *Scutelleridae* body, 2005-X-22, coll. T. Hosoya).

***Nectria* sp.**

TNS-F-13541 (Sarugawa Gajumaru, on *Ficus microcarpa* leaf vein, 2005-X-21, coll. T. Hosoya).

***Nectria pseudotrichia* (Schwein.) Berk. et M. A. Curtis**

TNS-F-13540 (Sarugawa Gajumaru, on unidentified branch, 2005-X-21, coll. T. Hosoya).

3. Hysteriales

Glonium sp.

TNS-F-12410 (Isso, on *Miscanthus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya).

Glonium clavisorum Seaver

TNS-F-12403 (Shiratani-unsui-kyo, on *Kalopanax pictus* bark, 2005–X–18, coll. K. Tanaka and T. Hosoya); TNS-F-12433 (Senpiro Waterfall, on unidentified wood, 2005–X–20, coll. K. Tanaka and T. Hosoya).

Hysterographium fraxini (Pers.) De Not.

TNS-F-12416 (Nunohiki Waterfall Park, on unidentified wood, 2005–X–19, coll. K. Tanaka and T. Hosoya).

4. Patellariales

Rhytidhysteron rufulum (Spreng.) Speg.

TNS-F-12419 (Isso, on unidentified wood, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12434 (Tomarigawa Birou Park, Kamiyaku-machi, on unidentified wood, 2005–X–20, coll. K. Tanaka and T. Hosoya); TNS-F-12444 (Sarugawa Gajumaruru Park, on unidentified wood, 2005–X–21, coll. K. Tanaka and T. Hosoya); TNS-F-12449 (Forest road along Awao river, on unidentified wood, 2005–X–21, coll. K. Tanaka and T. Hosoya).

5. Pezizales

Boedijnopeziza insititia (Berk. et M. A. Curtis)

S. Ito et S. Imai

TNS-F-13519 (Sarugawa Gajumaruru, on unidentified wood, 2005–X–21, coll. T. Hosoya).

Scutellinia sp.

TNS-F-13525 (Yakusugi Land, on *Trochodendron aralioides* wood, 2005–X–22, coll. T. Hosoya).

6. Pleosporales

Astrosphaeriella aggregata (I. Hino et Katum.)

Kaz. Tanaka et Y. Harada

TNS-F-12428 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, K. Tanaka and T. Hosoya).

Astrosphaeriella stellata (Pat.) Sacc.

TNS-F-12424 (Miyanoura, on *Phyllostachys*

heterocyclus var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

Byssosphaeria schiedermayeriana (Fuckel) M. E. Barr

TNS-F-12462 (Hirauchi, on *Rhapis excelsa* stem, 2005–X–22, coll. K. Tanaka and T. Hosoya).

Herpotrichia sp.

TNS-F-12438 (Yudomari Forest Path, on unidentified wood, 2005–X–20, coll. K. Tanaka and T. Hosoya).

Herpotrichia macrotricha (Berk. et Broome) Sacc.

TNS-F-12445 (Sarugawa Gajumaruru Park, on stem of Gramineae, 2005–X–21, coll. K. Tanaka and T. Hosoya).

Kirschsteiniothelia incrustans (Ellis et Everh.)

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TNS-F-12439 (Yudomari Forest Path, on unidentified wood, 2005–X–20, coll. K. Tanaka and T. Hosoya).

Leptosphaeria sp.

TNS-F-12414 (Isso, on *Miscanthus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya); TNS-F-12461 (Hirano, on *Pleioblastus* sp., 2005–X–22, coll. K. Tanaka and T. Hosoya).

Lophiostoma spp.

TNS-F-12448 (Sarugawa gajumaruru, on *Ficus microcarpa* twig, 2005–X–21, coll. K. Tanaka and T. Hosoya); TNS-F-12453 (Yakusugi Land, on *Macilus japonica* twig, 2005–X–22, coll. K. Tanaka and T. Hosoya).

Lophiostoma caulium (Fr.) Ces. et De Not.

TNS-F-12451 (Forest path along Awao river, on *Artemisia*, 2005–X–21, coll. K. Tanaka and T. Hosoya).

Massarina bambusina Teng

TNS-F-12426 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

Massarina spp.

TNS-F-12442 (Awao, on *Arundo donax* stem, 2005–X–21, coll. K. Tanaka and T. Hosoya); TNS-F-12452 (Yakusugi Land, on *Neolitsea aciculata* twig, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Ophiosphaerella* sp.**

TNS-F-12411 (Isso, on *Miscanthus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Pleospora* sp.**

TNS-F-12435 (Tomarigawa Birou Park, on *Camellia japonica* var. *macrocarpa* twig, 2005–X–20, coll. K. Tanaka and T. Hosoya).

***Rousoella* spp.**

TNS-F-12421 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12430 (Shiratani Forest Path, on *Pleioblastus* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

7. Rhytismatales***Coccomyces* sp.**

TNS-F-13496 (Shiratani-unsui-kyo, on petiole of evergreen broad leaf, 2005–X–18, coll. T. Hosoya).

8. Sordariales***Lasiosphaeria* sp.**

TNS-F-13514 (Upstream of Tomari-gawa River, on unidentified wood, 2005–X–20, coll. T. Hosoya).

9. Xylariales***Anthostomella* spp.**

TNS-F-12415 (Nunohiki Waterfall Park, on stem of gramineae, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12420 (Isso, on *Livistona chinensis* var. *subglobosa* leaf, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12422 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12429 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12436 (Tomarigawa Birou Park, on *Livistona chinensis* var. *subglobosa* leaf, 2005–X–20, coll. K. Tanaka and T. Hosoya); TNS-F-12446 (Sarugawa Gajumaru, on stem of gramineae, 2005–X–21, coll. K. Tanaka and T. Hosoya).

***Arecophila* spp.**

TNS-F-12404 (Sea Shore, Isso, on stem of gramineae, 2005–X–18, coll. K. Tanaka and T.

Hosoya); TNS-F-12413 (Isso, on *Miscanthus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya); TNS-F-12437 (Yudomari Forest Path, on stem of gramineae, 2005–X–20, coll. K. Tanaka and T. Hosoya); TNS-F-12441 (Awao, on *Arundo donax* stem, 2005–X–20, coll. K. Tanaka and T. Hosoya); TNS-F-12447 (Sarugawa Gajumaru, on stem of gramineae, 2005–X–21, coll. K. Tanaka and T. Hosoya).

***Diatrype* sp.**

TNS-F-13527 (Yakusugi Land, on unidentified wood, 2005–X–22, coll. T. Hosoya).

***Hypoxyton* sp.**

TNS-F-13513 (Upstream of Tomari-gawa River, on unidentified bark, 2005–X–20, coll. T. Hosoya).

***Oxydothis* spp.**

TNS-F-12432 (Shiratani-unsui-kyo, on *Hicriopteris glauca*, 2005–X–19, coll. K. Tanaka and T. Hosoya); TNS-F-12463 (Hirauchi, on *Rhapis excelsa* petiole, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Ustulina* sp.**

TNS-F-13517 (Sarugawa Gajumaru, on unidentified bark, 2005–X–21, coll. T. Hosoya).

Anamorphic fungi***Actinocladium* sp.**

TNS-F-12470 (Shiratani-unsui-kyo, on submerged wood, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Acrogenospora altissima* (Goid.) Goh, K. D. Hyde et K. M. Tsui**

TNS-F-12466 (Shiratani-unsui-kyo, on submerged wood, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Bactrodesmium microleucurum* (Speg.) M. B. Ellis**

TNS-F-12423 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Beauveria bassiana* (Bals.-Criv.) Vuill.**

TNS-F-13502 (Miyanoura, on arthropod body, 2005–X–19, coll. T. Hosoya).

***Berkleasium* sp.**

TNS-F-12417 (Nunohiki Waterfall Park, on unidentified wood, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Berkleasium concinnum* (Berk.) S. Hughes**

TNS-F-12459 (Nonki-dake, Yodogawa entrance, on unidentified wood, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Bioconiosporium* sp.**

TNS-F-12412 (Isso, on *Miscanthus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Brachysporiella* sp.**

TNS-F-12467 (Shiratani-unsui-kyo, on submerged wood, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Brachysporiella setosa* (Berk. et M. A. Curtis) M. B. Ellis**

TNS-F-12460 (Nonki-dake, Yodogawa entrance, on unidentified wood, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Canalisporium exiguum* Goh et K. D. Hyde**

TNS-F-12450 (Forest road along Awao river, on *Alpinia speciosa* leaf, 2005–X–21, coll. K. Tanaka and T. Hosoya).

***Cylindrocladium* sp.**

TNS-F-13485 (Shiratani-unsui-kyo, on unidentified fruit, 2005–X–18, coll. T. Hosoya).

***Dictyosporium* sp.**

TNS-F-12407 (Shiratani-unsui-kyo, on *Stewartia monadelpha* twig, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Dinemasporium strigosum* (Pers.) Sacc.**

TNS-F-12440 (Awao, on *Arundo donax* stem, 2005–X–20, coll. K. Tanaka and T. Hosoya).

***Discosia* sp.**

TNS-F-12443 (Nakasegawa, on *Symplocos prunifolia* leaf, 2005–X–21, coll. K. Tanaka and T. Hosoya).

***Ellisemia adscendens* (Berk.) Subram.**

TNS-F-12409 (Shiratani-unsui-kyo, on unidentified wood, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Endophragmiella ontariensis* S. Hughes**

TNS-F-12406 (Shiratani-unsui-kyo, on *Stewartia monadelpha* twig, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Fusidium* sp.**

TNS-F-13486 (Shiratani-unsui-kyo, on *Cryptomeria japonica* leaf, 2005–X–18, coll. T. Hosoya).

***Listeromyces insignis* Penz. et Sacc.**

TNS-F-12468 (Yudomari Forest Path, on submerged wood, 2005–X–20, coll. K. Tanaka and T. Hosoya).

***Monodictys* sp.**

TNS-F-12458 (Kigen-sugi, on unidentified wood, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Monodictys abuensis* (Chouhan et Panwar) V. Rao et de Hoog**

TNS-F-12427 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Olpitrichum* sp.**

TNS-F-13528 (Yakusugi Land, on unidentified wood, 2005–X–22, coll. T. Hosoya).

***Periconia lateralis* Ellis et Everh.**

TNS-F-13498 (Nunobikino-taki, on unidentified wood, 2005–X–19, coll. T. Hosoya).

***Pestalotiopsis guepinii* (Desm.) Steyaert**

TNS-F-12418 (Isso, on unidentified leaf, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Pestalotiopsis maculiformans* (Guba et Zeller) Steyaert**

TNS-F-12408 (Shiratani-unsui-kyo, on *Rhododendron* leaf, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Piricauda cochinchensis* (Subram.) M. B. Ellis**

TNS-F-12405 (Shiratani-unsui-kyo, on *Stewartia monadelpha* twig, 2005–X–18, coll. K. Tanaka and T. Hosoya); TNS-F-12454 (Yakusugi Land, on *Benthamidia japonica* twig, 2005–X–22, coll. K. Tanaka and T. Hosoya); TNS-F-12457 (Ambo Forest Path, on unidentified wood, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Pleurophragmium simplex* (Berk. et Broome) S. Hughes**

TNS-F-12465 (Isso, on *Pleioblastus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Pseudolachnella* sp.**

TNS-F-12431 (Shiratani Forest Path, on *Pleioblastus* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Spadicoides bambusicola* D. Q. Zhou, Goh et K. D. Hyde**

TNS-F-12425 (Miyanoura, on *Phyllostachys heterocyclus* var. *pubescens* stem, 2005–X–19, coll. K. Tanaka and T. Hosoya).

***Spadicoides obovata* (Cooke et Ellis) S. Hughes**

TNS-F-12455 (Yakusugi Land, on *Benthania japonica* twig, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Spadicoides* sp.**

TNS-F-12464 (Isso, on *Pleioblastus* stem, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Tripisporium* sp.**

TNS-F-12469 (Shiratani-unsui-kyo, on submerged wood, 2005–X–18, coll. K. Tanaka and T. Hosoya).

***Virgariella* sp.**

TNS-F-12456 (Ambo Forest Path, on unidentified wood, 2005–X–22, coll. K. Tanaka and T. Hosoya).

***Wiesneriomyces javanicus* Koord.**

TNS-F-13499 (Nunobiki Waterfall Park, on unidentified leaf, 2005–X–19, coll. T. Hosoya).

Discussion

Although the above list includes some specimens unidentified at the species rank, 82 taxa distributed among 68 genera were recognized. These include 41 genera, 49 taxa assigned to 9 orders of ascomycetes and 27 genera 33 taxa of anamorphic fungi (excluding those induced from the teleomorphs). The collected ascomycetes were classified to Helotiales, Hypocreales, Hysteriales, Patellariales, Pezizales, Pleosporales, Rhytismatales, Sordariales, and Xylariales.

Both temperate and subtropical fungi were recognized, suggesting a complex mycobiota in Yakushima, but the mycobiota was characterized mainly by fungi in subtropical areas (such as *Boedijnopeziza insititia*, *Byssosphaeria schiedermayeriana*, *Lachnum palmae*, *L. varians*, *Nectria pseudotrichia*, *Rhytidhysterium rufulum* and *Wiesneriomyces javanicus*). Although several taxonomic entities were recognized, identification of species in large genera that await mono-

graphic work (such as *Orbilbia* and *Mollisia*) was reluctantly left in the present study due to the lack of sufficient information. Among the fungi collected in the present study, the followings are noteworthy.

The following three anamorphs were induced on at least one of the media examined. *Strossmayeria* sp. (TNS-F-13491) produced a *Dactylaria*-like anamorph on Miura's agar. The anamorph is similar to *Dactylaria* in having clavate, one to several septate conidia, but differs in lacking discrete conidiophores. The teleomorph differs from hitherto known *Strossmayeria* in the aseptate ascospores, but the ectal excipulum structure best agrees with that of *Strossmayeria*. Although the distribution is wide, records of *Strossmayeria* is relatively limited in Japan (Hosoya, 2000). Further examination is required to settle the taxonomic position of this fungus. *Calonectria* sp. (TNS-F-13539) revealed a *Cylindrocladium* anamorph on all the media examined, but produced conidia best on PDA. *Nectria pseudotrichia* produced a synnematous anamorph, *Tubercularia lateritia* (Berk.) Seifert, on all the media.

The occurrence of *Kirschsteiniothelia incrustans*, the teleomorph of *Dendriphiopsis atra* (Corda) Hughes, was first recognized in the present study in Japan (Tanaka and Hosoya, 2006), although the anamorph has been known previously (Otani and Tsubaki, 1976). For fungi with anamorphs, the difference of distribution is known between teleomorphs and anamorphs (Nakagiri and Tubaki, 1985). For these fungi, comparison of teleomorphs and anamorph distribution will be an intriguing subject.

Bactrodesmium microleucurum, *Canalisporium exiguum*, *Pestalotiopsis maculiformans*, *Spadicoides bambusicola*, *Acrogenospora altissima*, *Endophragmiella ontariensis* and *Pleurophragmium simplex* are new records from Japan. Detailed morphological descriptions of these species will be given in a separate paper (Tanaka, in preparation). *Canalisporium exiguum* was first found on submerged wood in Australia, and believed to have a fresh water habitat (Goh et

al., 1998; Hyde and Goh, 1998), but recently reported as a seed decay fungus (Samrithipol *et al.*, 2004). The present material (TNS-F-12450) was found on dead leaves of *Alpinia speciosa*, suggesting wider host selectivity of this fungus.

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