

KINKAKUBYÔ-KIN NO KOGATA-BUNSEIHÔSI,
TOKUNI SONO BUNSEIHÔSI-ZIDAI NI TUI TE

HINO-IWAO

MICROCONIDIA IN GENUS *SCLEROTINIA* WITH SPECIAL
REFERENCE TO THE CONIDIAL FORMS IN THE GENUS

by IWAO HINO

Nakami

Hasigaki

Kogata-bunseihôsi

Sclerotinia-zoku no Bunseihôsi ni tuite

Daiitino Kata : *Sclerotinia Fuckeliana* (DE BARY) FUCK.-gata

Dainino Kata : *Sclerotinia Libertiana* FUCK.-gata

Daisanno Kata : *Sclerotinia fructigena* (PERS.) SCHROET.-gata

Daisino Kata : *Sclerotinia moricola* HINO-gata

Sclerotinia-zoku no Bunrui no Sikata

Sclerotinia-kin no otagaino Kwankei

Musubi

Kwankei no aru Ronbun

Hasigaki

Sclerotinia ni zokusuru Kin ni Bunseihôsi ga aru ka dô ka to iu koto wa Hito ni yotte iroiro Giron ga ôi ga mada hakkiri kimatte inai. Kotoni, Rengesô no Kinkakubyô-kin (*Sclerotinia Trifoliorum* ERIKSS.) ya Natane no Kinkakubyô-kin (*Sclerotinia Libertiana* FUCK.) ni tuitewa mada iroiro Giron ga atte, nai to iu Hito no hô ga ôi yô de aru. Kono Bunseihôsi wo motte iru ka inai ka to iu koto wa korerano Yamai wo husegu ue karamo sitte okaneba naranu daizina koto de aru ga, mata korerano Kin wo bunruisuru ue karamo taisetuna Mondai

de aru. Watakusi wa Rengesô no Kinkakubyô-kin wo sirabete ita orini kono koto ni Ki wo tukete sirabeta ga, kokoni sono Sirabe no Aramasi wo kakisirusi awasete watakusi no Kangae womo sirusite okitai.

Kogata-bunseihôsi

Sclerotinia Trifoliorum ERIKSS. wa iwayuru Bunseihôsi wo motte iru ka to iuni ôkuno Hito wa motte inai to site oru. FRECKMANN⁽¹⁴⁾ ga *Lupinus* de mitometa mono ya HORI⁽¹⁸⁾ ga Murasaki-tumekusa de mitometa mono wa kono Kin no Bunseihôsi dewa naku *Botrytis cinerea* PERS. no Bunseihôsi de aru koto ga tasika de aru. Sotoni sizenni haete iru Syokubutu ga kono *Sclerotinia*-kin ni okasareruto kore ni tomonatte *Botrytis*-kin mo issyoni sono Shokubutsu wo okasu koto ga ôi no de aru. Sikasi, kore ni arawareta *Botrytis* to *Sclerotinia* to no aida niwa mattaku Kwankei ga nai no de aru. Sorede, Rengesô no Kinkakubyô-kin niwa Bunseihôsi ga nai to iu koto ni naru.

Sinôhosi (Ascospore) wo Midu no naka ka aruiwa simetta Tokoro ni okuto sono Hôsi ga yagate hukurete ikutunimo ware, mamonaku hatugasi, sarani komakaku mata wakareru. Sono Saki aruiwa Hôsi sonomono kara 3-4 ka no notini Tyokkei 2-3 μ no marui tiisai Hôsi no yôna mono ga dekiru. REHM⁽³¹⁾ wa 4-6 niti no noti to ii, PRILLIEUX⁽²⁹⁾ wa 3-4 ka no noti to ii, SHIRAI⁽³⁶⁾ wa 24-30 zikan no noti to itte iru.

Kono mono wo Kogata-bunseihôsi (Microconidia, Microgonidia, Sporidia, Spermata) to ii, hokano *Sclerotinia*-kin demo iroirona Hitodati ga mitukete iru.

Kono Kogata-bunseihôsi wo tukurû Gen'in ni tuitewa Yôbun no nakunatta tame de aru to iu Hito ga ôi. Tatoeba, HORI⁽¹⁹⁾ wa Baiyô-eki dewa Yôbun ga nakunaranaito arawarenai to itte iru. VOGLINO⁽⁴²⁾ mo midu no yôna Yôbun no sukunai mono dewa Kogata-bunseihôsi ga arawareru ga, mosi Yôbun no ôi Ekitai ni baiyôsureba Kinsi wo nobasu dake de aru to itte oru. DE BARY,⁽⁹⁾ WORONIN,^(43,44) SCHELLENBERG⁽³⁵⁾ nado mo Yôbun no nakunatta toki ka hutekitôna Yôbun no toki ni arawareru to itte iru. BRIERLEY⁽⁴⁾ mo Kinsi ga tositotta toki ni dekiru to sirusite iru. COLEMAN⁽⁷⁾ wa Yôbun ga ôkutemo arawareru kara, Kore to Yôbun tonô Kwankei wa hakkiri sinai to itte iru.

Watakusi wa Baiyô-eki bakari de naku iroirona Kotai-baiyôki no ue de kono Kogata-bunseihôsi wo mitometa ga, sono Arisama wa Baiyôki no Syurui ni yotte taisô tigau. Sono Zikken no Kekkwa wo kantanni Hyô de simesuto Hyô 1 no tôri de aru.

Hyô 1 *Baiyôki no ue de Kogata-bunseihôsi wo tukuru madeno
Hikazu to sono Dekiguai.*

Baiyôki no Syurui	Uetuketa Hi	Kogata-bunsei- hôsi no dekita Hi	Dekiru madeni yôsite Hikazu	Kogata-bunsei- hôsi no Dekiguai *
Suika-niziru-kanten	10gt. 23nt.	—	—	—
Denpun-kanten	10gt. 23nt.	11gt. 1nt.	9 ka	+
Budôtô-kanten	10gt. 23nt.	11gt. 6ka	14 ka	+++
Syôyu-kanten	10gt. 23nt.	11gt. 1nt.	9 ka	+++
Zyagaimo-kanten	10gt. 23nt.	11gt. 6ka	14 ka	++
Hyôzyun-kanten	11gt. 6ka	—	—	—
Peputon-mîdu	12gt. 3ka	12gt. 9ka	6 ka	++
Daikon-niziru	12gt. 3ka	12gt. 5ka	2 ka	++
Budôtô-mîdu	12gt. 3ka	12gt. 24ka	21 niti	+
Usui Syôyu	12gt. 3ka	12gt. 15nt.	12 niti	++
Tamanegi-niziru	12gt. 3ka	12gt. 15nt.	12 niti	++
Ine-niziru	12gt. 3ka	12gt. 15nt.	12 niti	+
Musi-konnyaku	12gt. 3ka	12gt. 22nt.	19 niti	+
Musi-zyagaimo	12gt. 3ka	12gt. 15nt.	12 niti	+++
Musi-satumaimo	11gt. 16nt.	11gt. 22nt.	6 ka	++
Musi-daikon	12gt. 3ka	12gt. 11nt.	8 ka	+
Musi-ninjin	12gt. 3ka	12gt. 26nt.	23 niti	+
Musi-tamanegi	11gt. 16nt.	12gt. 11nt.	25 niti	+++

* — wa Kogata-bunseihôsi no nai koto wo simesu.

+ no Kazu wa ôi hodo takusan dekita koto wo simesu.

Ueno Hyô ni simesita yôni Daikon-niziru dewa itiban hayaku kore wo tukuru. Kore ni tuide Musi-satumaimo to Musi-daikon ga hayai. Hyôzyun-kanten to Suika-niziru-kanten niwa Kogata-bunseihôsi ga mitomerare nakatta. Dekiguai wa Budôtô-kanten, Syôyu-kanten, Musi-zyagaimo, Musi-tamanegi ga itiban sakan de atta. Yôbun no sukunaku natta toki ni dekiru to iu Kangae wa, ueno Hyô de mireba wakaru ga, tadasiku nai to omou.

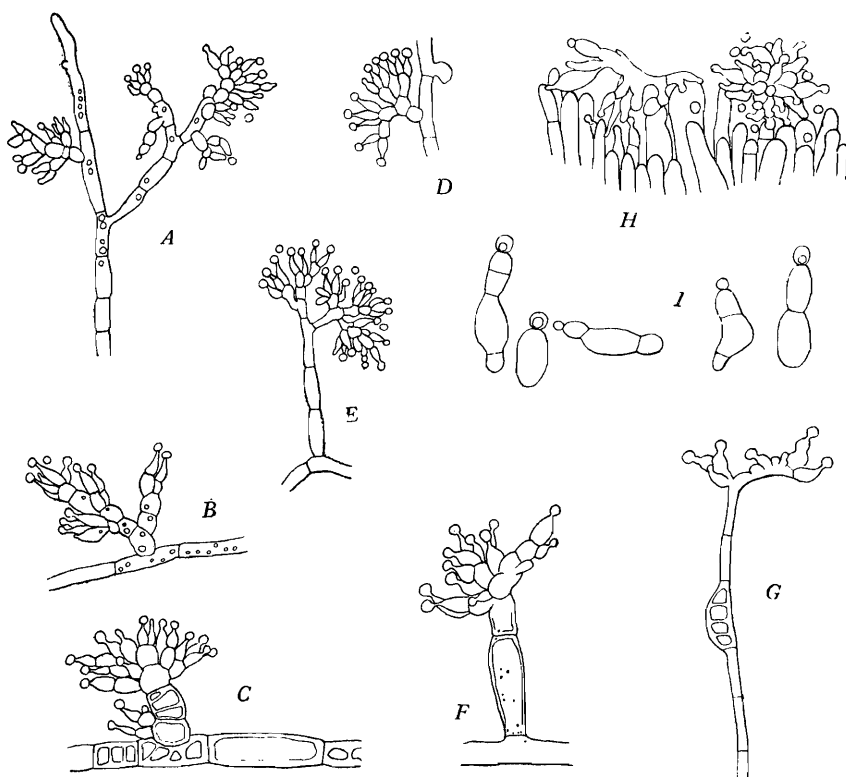
Baiyôki no ue bakari de naku, soto ni haete iru Sinôban no uenimo kôno Kogata-bunseihôsi ga mitomerareru. Hazimete kore wo soto de mituketa no wa GILBERT to BENNETT⁽¹⁵⁾ de aru ga, Sinô to Sinôban ni nokotta Sinôhosi ga hatugasite Eda wo uti Tansikô (Conidiophore) wo tukuri, korenni takusanna Kogata-bunseihôsi wo tukete iru no wo mituketa to iu koto de aru. Watakusi mo mata Sinôban no ue ni Kogata-bunseihôsi no dekite iru no wo mitometa. (Du 1, H)

Mata, WORONIN⁽³³⁾ wa Sinô no naka ni dekite iru no wo mitome, LINDNER⁽²⁵⁾, BRIERLEY⁽⁴⁾ wa Kinsi no naka ni dekite iru no wo mitometa.

Hyôhontekina Kogata-bunseihôsi no Tansikô wa Eiyô-kinsi kara tyokkakuni edawakarete, sono Nagasa wa 560 μ gurai mo aru. Takusan-

no Kakumaku (Septum) de wakatare, Eda wo takusan dasite iru. Katati wa masani *Botrytis*-gata de aru. (Du 1, A—F)

Kogata-bunseihôsi wa Tansikô no Eda no Sakai no Koeda (Sterigma) no ue ni tuku. Marukute Iro ga naku, nameraka de aru. Mannakano Bubun wa tokuni tuyoku Hikari wo kussetusuru. Ookisa wa taitei $3.3\text{--}4.0\ \mu$ no Sasiwatasi ga aru. Kogata-bunseihôsi wo tukuru niwa madu Koeda no Saki ga hukurete, soko ga kubirete Hôsi ni naru. Koeda ni tikai mono hodo wakai Hôsi de aru. Tansikô no Dekikata wa madu Kinsi kara tyokkakuni Kceda wo dasi, kore ga nobite Eda wo uti sarani tabitabi Eda wo utte osimaini *Botrytis*-gatano Tansikô wo tukuriageru. Edawakaresuru Kinsi no Saki niwa tokuni Genkeisitu ga



Du. 1. *Sclerotinia Trifoliorum* ERIKSS. no Kogata-bunseihôsi

A—G. Baiyôki no ue de dekita Kogata-bunseihôsi.

H. Sinôban no ue ni dekita Kogata-bunseihôsi.

I. Midu no naka de 48zikan no notini Sinôhosi no ue ni dekita Kogata-bunseihôsi.

atumatte iru no ga mieru.

Tansikô wa itudemo *Botrytis*-gata wo toru to wa kagiranai. Kantanna Koeda wo tada hitotu dasu koto mo aru si, aruiwa Koeda wo hitotumo dasazuni sugu Hôsi no Kabe ni kuttuite dekiru koto mo aru. (Du 1, I)

Dô iu Wake de kono Kogata-bunseihôsi wo motte iru ka to iu koto ni tuitewa, GILBERT to BENNETT⁽¹⁵⁾ wa akiraka de nai to itte iru. EIDAM⁽¹¹⁾ wa otokono Sei-saibô (Male sexual cells; Spermata) to itte iru ga, DE BARY⁽⁹⁾, BREFELD⁽³⁾, WORONIN^(43,44), SCHELLENBERG⁽³³⁾, ISTVANFFI⁽²⁴⁾ nado wa Hôsi no hatugasinai koto kara kangaete kore wo taikwasita Bunsei-hôsi to itte iru.

HUMPHREY⁽²²⁾ wa *Sclerotinia fructigena* (PERS.) SCHROET. ni tuite sono Kogata-bunseihôsi ga hatugasuru Tikara wo motte iru to itte iru ga, PEGLION⁽²⁷⁾ wa kono Kin no Kogata-bunseihôsi wa hatugasuru Tikara ga nai to itte iru. Sikasi BRIERLEY⁽⁴⁾ wa *Botrytis cinerea* no Kogata-bunseihôsi ga Midu ya Yôeki no naka de hatugasite yutakana Kinsi wo tukuri Syokubutu saemo okasita to itte iru. Watakusi wa *Sclerotinia Trifoliorum* ERIKSS. no Kogata-bunseihôsi no Hatuga ni tuite tabitabi Zikken wo yatta ga itumo dame de atta. Tada itido Peputon-midu ni baiyôsita orini sore ga hatugasita no wo mita. Taisyô 11 nen 11 gwatu 24 ka Gogo 2zi 34 hun ni Kogata-bunseihôsi wo Peputon-midu ni uetuke 25°C. no Teionki ni osamete oite 30 niti no Gozen 10 zi 20 pun ni toridasite sirabete miruto tamatama hatugasite iru Hôsi wo 10 amari mituketa. Hatsuga-kan no Haba wa 1 μ bakari de, Nagasa wa 5 μ bakari atta. Ryôhono Hazi kara Hatuga-kan wo dasite iru mono mo atta. Kono Kinsi wa sononoti zyûbunni nobinai utini sinde simatta. Kono koto kara kangaeruto, Kogata-bunseihôsi wa marenî hatugasuru Tikara wo motte iru ga, hotondo sono Tikara wo usinata mono de aru. Sitagatte imawa Hansyoku-dôgu to sitewa yakudatanai mono de aru. Watakusi wa Kogata-bunseihôsi no Katati ya Hatuga no Arisama kara kangaete, kore wo Oogata-bunseihôsi no taikwasita mono to kangaeru. Zikanteki no Taikwa dewa naku Situ no ueno Taikwa to kangaete iru.

Sclerotinia-zoku no Bunseihôsi ni tuite

Sclerotinia-zoku wa 1896 nen ni FÜCKEL no tukutta Zoku (Genus) de atte, kono Zoku niwa Helotiae no Hyalosporae no uti Kinkaku wo tukuru mono wo subete hukunde iru. Sitagatte Bunrui no Dodai ga Seisyokuki sonomono ni nakute Eiyô-kikwan no hitotuno Katati tomo iubeki mono ni oite aru kara, toki ni yoruto mattaku En no nai mono ga

hukumareru Osore ga aru. Tatoeba IDETA⁽²²⁾ no Zôtei Syokubutu-byôri-gaku no 342 pèzi ni *Sclerotium*-zoku wo *Sclerotinia*-zoku ni En no tikai mono to site *Sclerotinia*-zoku no tugini nosete iru. Kono *Sclerotium*-zoku no mono wa eikyûtekini Hansyoku-dôgu no wakaranai mono wo hitomatomeni sita Zoku de, imamo kono Zoku ni nokotte iru mono wa *Sclerotinia*-zoku ni zokusubeki mono to iu yoriwa musiro Basidiomycetes no *Hypochynus* ya *Corticium* ni zokusubeki mono ga ôi no de atte, kore wa hontono Imi no Hansyoku-dôgu de nai Kinkaku wo Meyasu to site bunruisuru kara kô iu koto ni naru.

Sorenaraba imano *Sclerotinia*-zoku niwa minna En no hukai mono dake ga hukumarete iru darô ka? Soretomo, En no mattaku nai mono mo hukumarete iru darô ka? Kore wo sirabete miru Hituyô ga aru. Watakusi wa kono Zoku ni zokusite iru Kin wo ikutukano Kata ni wakete ononono Seisitu wo sirabe, sarani sono aidano Kwankei wo sirabete kore wo akirakani sitai.

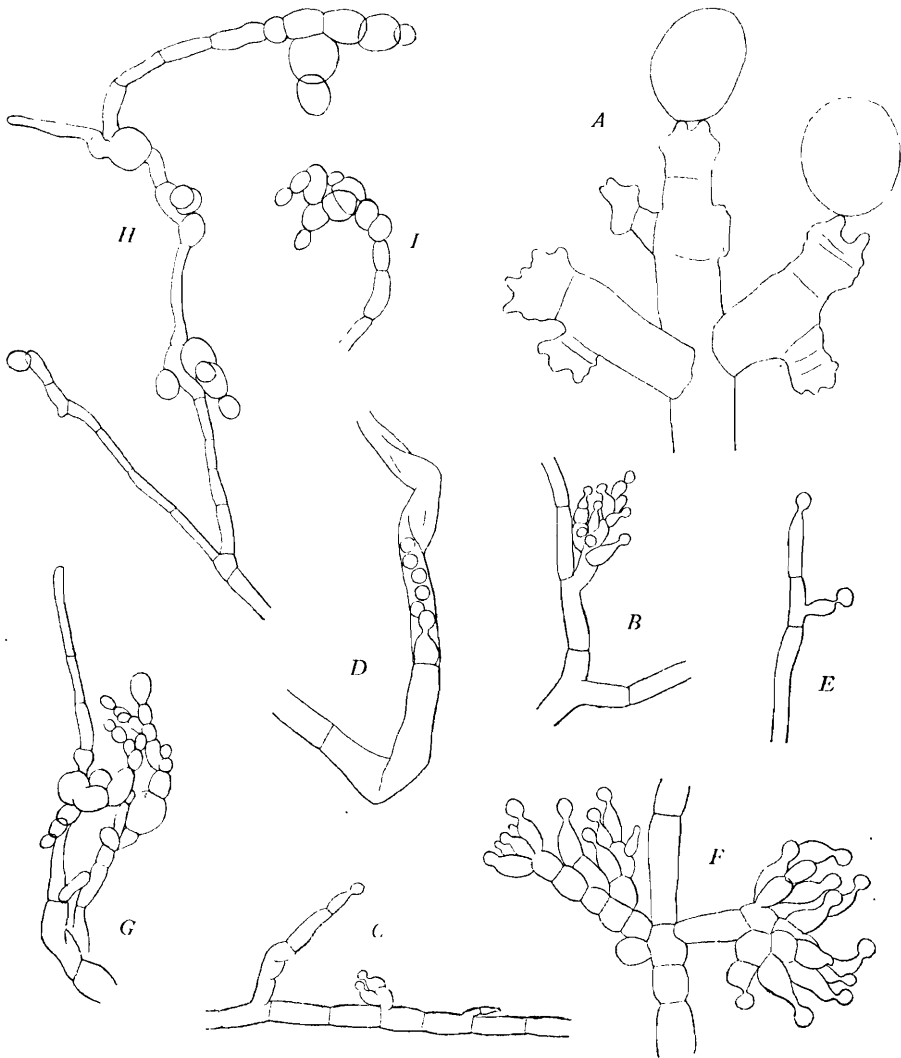
Ikutukano Kata ni wakeru ni tuitewa Bunseihôsi wo Meyasu to site wakeru no ga tugô ga yoi. Kotonatta Bunseihôsi ga aru naraba sono otagaino Hôsi ni En ga aru ka dô ka, mosi arunaraba onaziku *Sclerotinia*-zoku ni hukumete oite Sasitukae ga nai to iu koto ni naru.

Daiitino Kata: *Sclerotinia Fuckeliana* (DE BARY) FUCK.-gata

Sclerotinia Fuckeliana (DE BARY) FUCK. wa Budô nado ni tuku mottomo hutûna Kin de aru. Kono Kin no Bunseihôsi wa *Botrytis* de aru to iwarete iru.

Sclerotinia Fuckeliana (DE BARY) FUCK. to *Botrytis cinerea* PERS. to ga otagaini Kwankei ga aru koto ni tuitewa ISTVANFFI⁽²⁴⁾ ga hazimete kore wo akirakani sita ga, notini DE BARY⁽⁴⁾ mo kore wo mitometa. Sikasi, BREFELD⁽³⁾ ya TUBEUF⁽⁴⁰⁾ wa kore ni hantaisite iru si, BRIERLEY⁽⁴⁾ mo *Botrytis cinerea* PERS. niwa Sinôhôsi-zidai ga nai no de arô to itte iru.

Watakusi wa *Selectotinia Ricini* GODFREY⁽¹⁶⁾ ya *Sclerotinia Geranii* SEAVER ET HORNE⁽³⁶⁾ nado kara osihakatte, mata ISVANFFI ya DE BARY no Kenkyû kara kangaete *Botrytis cinerea* PERS. wa *Sclerotinia Fuckeliana* (DE BARY) FUCK. no Bunseihôsi-zidai ni tigai nai mono to omotte iru. Mottomo, ôkuno Hito no itte iru tôri *Botrytis cinerea* PERS. wa imawa Bunseihôsi dake de rippani hansyokusuru yôni natte iru kara nakanaka Sinôhôsi ga mirarenai ga, mosi tugôyoku Sinôhôsi ga erareta naraba utagaimonaku *Sclerotinia Fuckeliana* (DE BARY) FUCK. no Sinôhôsi ga erareru wake de aru.



Du 2. *Sclerotinia Fuckeliana* (DE BARY) FUECK. no Bunseihôsi.

- A. Oogta-bunseihôsi (Aoki ni tuku *Botrytis*)
 B—D. Baiyôki no ue de dekita Kogata-bunseihôsi (Aoki ni tuku *Botrytis*)
 E—F. Baiyôki no ue de dekita Kogata-bunseihôsi (Oranda-itigo ni tuku *Botrytis*)
 G—I. Baiyôki no ue de dekita Hôsi, Oogata-bunseihôsi to Kogata-bunseihôsi tonô aidano Ookisa wo motte irumono (Aoki ni tuku *Botrytis*)

Botrytis cinerea PERS. ni tikai mono ni *Botrytis vulgaris* FR. to iu Kin ga aru ga, sono Hôsi no Ookisa wa maeno Kin ga $10-12 \times 7-9 \mu$ de notino Kin wa $8-9 \times 6-7 \mu$ de, sono Tigai ga hizyôni sukunai kara onazi mono to mite Sasitukae ga nai.

Kono Kin niwa mata Kogata-bunseihôsi ga aru. Sudeni ISTVANFFI⁽²⁴⁾ wa Griserin-baiyôki no ue de kore wo eta koto wo nobete iru. BROOKS⁽⁶⁾ mo 10 % no Zeratin de katameta Buiyon-baiyôki de kore wo mituketa ga, sono Baiyô wa 4-daime ni natte hazimete atarimaeno Bunseihôsi ga dekiru yôni natta to iu. Sonohoka, EIDAM⁽¹¹⁾, HOPKINS⁽¹⁸⁾, BEAUVÉRIE⁽²⁾, BÜSGEN⁽⁶⁾ nado mo *Botrytis*-kin no Kogata-bunseihôsi wo mitukete iru. Watakusi wa Taisyô 11 nen ni Tôkyô de Aoki no Ha ni tuite iru *Botrytis* (Hôsi no Ookisa wa $7.9-13.6 \times 5.9-11.2 \mu$) wo mituketa ga, kore wo Zyagaimo-kanten ni uete Kogata-bunseihôsi wo eta. Katati mo Ookisa mo Rengesô no Kinkakubyô-kin no mono to sukosimo kawaranakatta. Mata, Kinsi no naka nimo Kogata-bunseihôsi wo tukuru ga, Ookisa wa yahari 3 μ gurai de hutûno Kogata-bunseihôsi to onazi de aru. (Du 2, B-F)

Kômakuhôsi (*Chlamydo-spore*) mo mata mitomerareru. Katati mo Iro mo ippanno Kômakuhôsi to kawaranai. Aoki ni tuku *Botrytis* no Kômakuhôsi wa $10.6-17.4 \times 4.2-11.9 \mu$ no Ookisa de aru. (Du 7, D-H)

Yôsuruni, kono Kata no Kin wa *Botrytis*-gata no Oogata-bunseihôsi to Kogata-bunseihôsi towo motte iru koto ni naru. Kono Kata ni zokusuru mono to sitewa hokani *Sclerotinia Ricini* GODFREY, *Sclerotinia Geranii* SEAVER ET HORNE, *Sclerotioia Douglasii* TUBEUF, *Sclerotinia Arachydis* HANSAWA nado ga aru.

Dainino Kata : *Sclerotinia Libertiana* FUCK.-gata

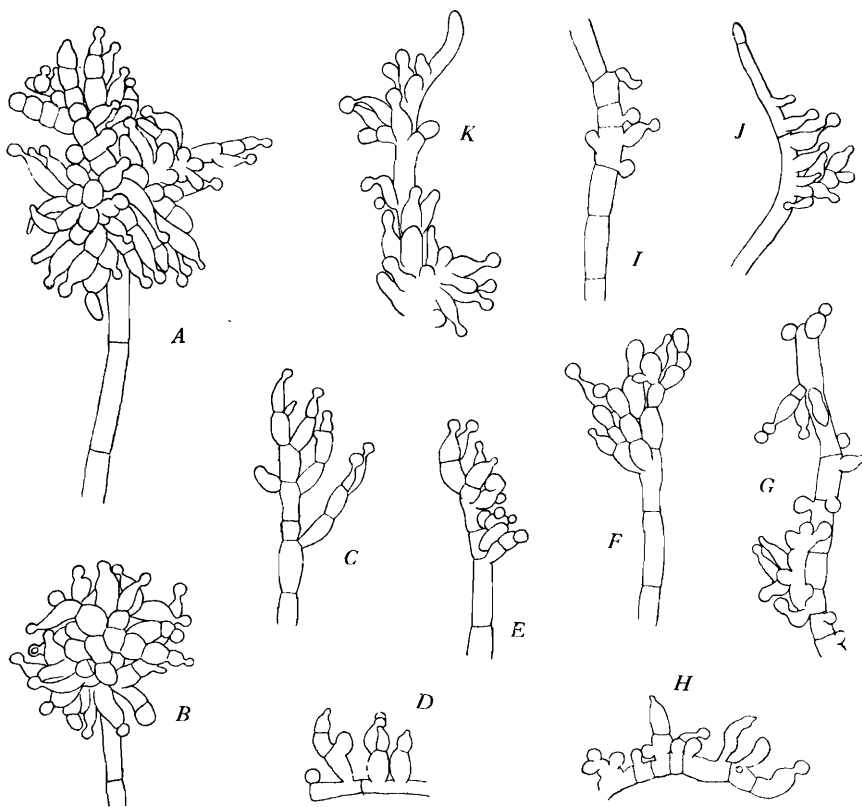
Sclerotinia Libertiana FUCK. wa mottomo hutûna Kinkakubyô-kin de iirona mono ni tuku ga, sono Bunseihôsi ni tuitewa mada nakanaka Giron ga ôi. DE BARY⁽⁴⁾ wa iroioto Zikken wo okonatta ga tôtô Bunseihôsi ga erarenakatta. Sikaruni, HUMPHREY⁽²²⁾ ya FRANK⁽¹⁹⁾ nado wa Bunseihôsi wo motiite Sossyu-siken ni seikôsite to itte iru. Osoraku *Botrytis cinerea* PERS. wo ayamari-motiita tame de arô. Sononoti R. E. SMITH⁽²³⁾ ga kuwasii Zikken wo okonatte Bunseihôsi no nai koto wo akirakani si, SAWADA⁽²²⁾ mo mata SMITH to onazi Kekkwa wo eta.

Oogata-bunseihôsi wa ueni nobeta tôri motte oranai ga, Kogata-bunseihôsi wo motte iru. Sono Ookisa wa $3-4 \mu$ de, Koeda (Sterigma) no ueni tukuru. Takusan Eda wo dasite $84 \times 77 \mu$ gurai no Katamari ni naru koto mo aru. Rengesô no Kinkakubyô-kin ni arawareru mono

to onazi de aru. (Du 3, A—K)

Kômakuhôsi mo mata mitomerareru. *Sclerotinia Trifoliorum* ERIKSS. wo Denpun-midu ni baiyô-sita orini mitometa mono wa Ookisa ga $5-8 \times 5-6 \mu$ de Maku no Atusa ga 1μ atta. (Du 7, A, C) Mata, Maku no usui Komakuhosi mo sibasiba mitomerareta ga, nagaku turanatte ite *Monilia-gata* wo arawasite ita. (Du 7, B)

Sunawati, kono Kata no Kin wa Kogata-bunsehôsi dake wo motte iru mono de aru. *Sclerotinia Trifoliorum* ERIKSS., *Sclerotinia Shiraianum* P. HENN., *Sclerotinia minor* JAGGER, *Sclerotinia scirpicola* SYDOW, *Sclerotinia Fagopyri* HORI nado ga kono Kata ni zokusuru.



Du 3. *Sclerotinia Libertiana* Fûck. no Kogata-bunseihôsi.

A—I. Natane no Kinkakubyôkin no Kogata-bunseihôsi.

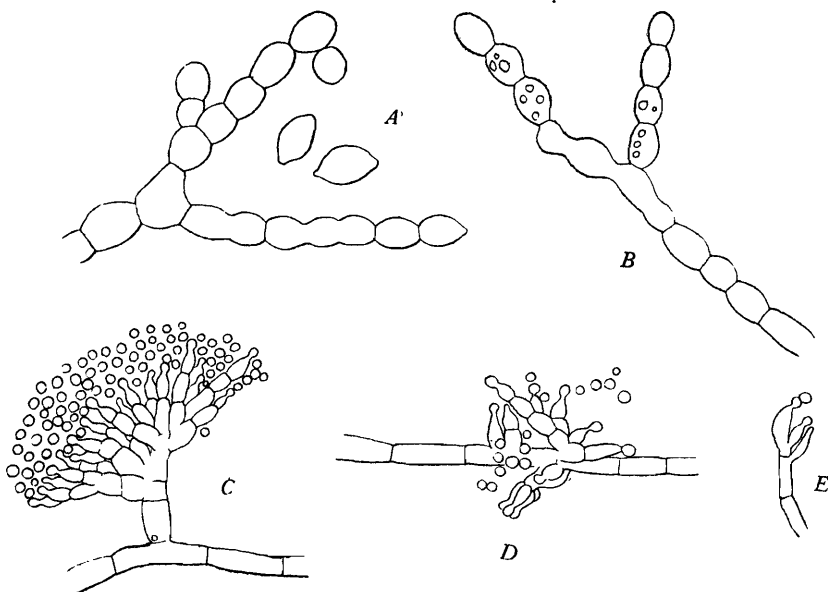
J—K. Mikan no Kinkakubyôkin no Kogata-bunseihôsi.

Daisanno Kata : *Sclerotinia fructigena* (PERS.) SCHROET.-gata

Kono Kin wa 1796 nen ni PERSOON ga hazimete mituketa mono de kore ni *Torula fructigena* to naduketa ga, 1801 nen ni *Monilia fructigena* to aratameta. SCHROETER wa osoraku *Sclerotinia*-zoku no mono de arô to itta ga notini NORTON ga Sinô-zidai wo mitukete SCHROETER no Kangae no tadasikatta koto wo mitometa.

Kono Kin no Bunseihôsi wa *Monilia* de aru. Kono *Monilia*-gatano Hôsi wa BREFFELD⁽³⁾ no iu yôni Kômakuhôsi (Chlamydospore) no Nakama de aru kara hontôno Bunseihôsi dewa naku nizitekini (Secondarily) ni Bunseihôsi no Yakume wo site iru mono de aru. Sorede, Kômakuhôsi towa iu mono no, Maku mo wariaini usuku sonoue Hôsi ga Kusari no yôni nagaku turanatte dekuru. Keredomo, tokidoki Maku no atui mono ya itizirusiku Iro no tuita mono mo mitomerareru. WORONIN⁽⁴⁵⁾, SCHWARZ⁽⁴⁴⁾, E. F. SMITH⁽³⁷⁾ ya HUMPHREY⁽²⁾ nado mo kore wo mitomete oru. *Sclerotinia phaeospora* HORI (*Phaeosclerotinia nipponica* HORI) no *Monilia*-hôsi wa hokano mono yori itizirusiku Iro ga tuite iru ga yohodo hontôno Kômakuhôsi ni tikai mono to omowareru.

Kogata-Bunseihôsi mo mata mitomerareru. (Du 4, C—E)



Du 4. *Sclerotinia fructigena* (PERS.) SCHROET. no Bunseihôsi.

A—B. *Monilia*-hôsi (17×13 μ)

C—E. Kogata-bunseihôsi.

Kono Kata no Kin dewa hontôno Bunseihôsi ga nakute, Kômaku-hôsi ga kawatte Bunseihôsi no Yakume wo site iru mono de aru. Kono Kata ni zokusuru mono niwa hokani *Sclerotinia cinerea* (BON.) SCHROET., *Sclerotinia laxa* (EHRENB.) ADERH. ET RUHL., *Sclerotinia Kusanoi* P. HENN., *Sclerotinia mali* TAKAH., *Sclerotinia malicola* MIURA nado ga aru.

Daisino Kata : *Sclerotinia moricola* HINO-gata

Môhitotu kawatta Kata ga aru. Kono Kin no Sinô-zidai ga mada wakatte inai kara *Sclerotinia*-zoku ni ireru no wa ikenai kamo sirenai ga watakusi wa Kinkaku no Katati ya sono Nakami no Dekiguai kara osihakatte tasikani *Sclerotinia*-zoku no mono de aru to sinzite iru. *Sclerotinia*-zoku no Kinkaku to Basidiomycetes no Kinkaku towa Iro ya sono Nakami no Dekiguai ga tigau kara tayasuku miwakeru koto ga dekiru.

Kono Kin wa Taisyô 10 nen 10 gwatu 17 niti ni Saitama-ken Titibu-gun Sirakawa-mura de Kuwa no Ha ni tuite ita no wo watakusi ga mituketa no de aru.

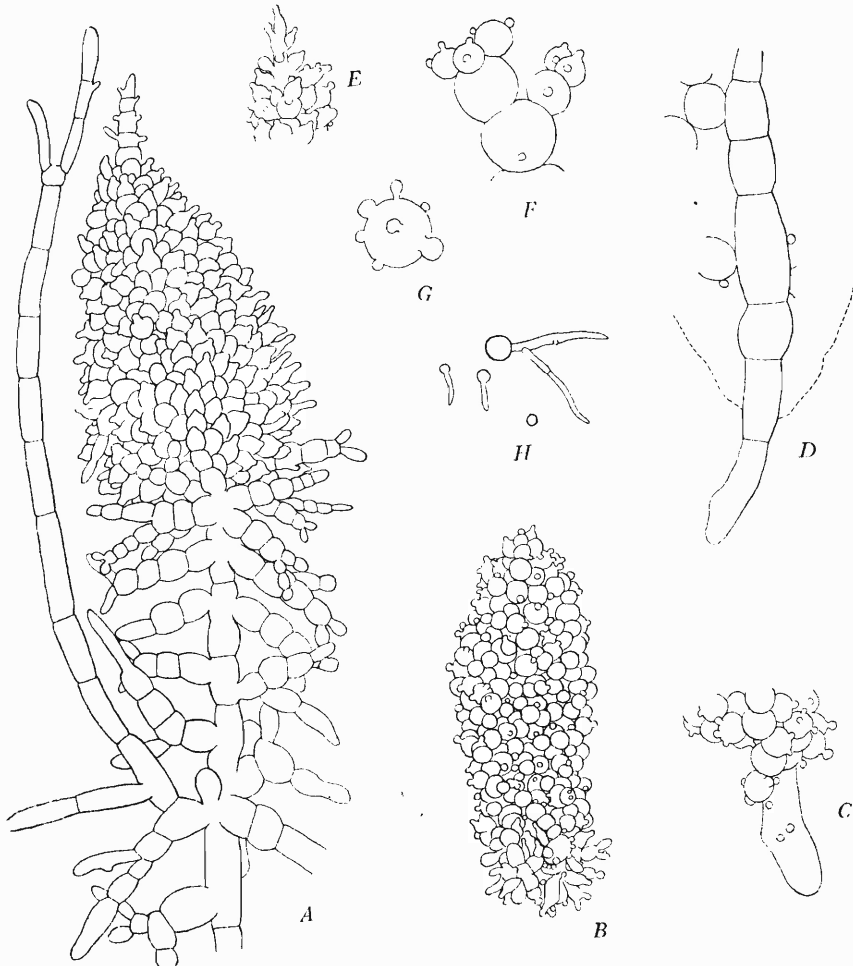
Yamai ni kakatta Bubun wa Haiiro ni nari sono Mannaka wa sukosi Aoni wo obite iru. Yaya Dôsin'en wo egaite, udugatano Mon wo katatidukuru. Sotogawa hodo Tobihiro wo obi, sono itiban soto wa koi tobihiro no Bubun ni tutumarete iru kara zyôbuna Bubun towa sugu Miwake ga tuku. Ha no ueni dekiru Hanmon no Ookisa wa kimatte oranai ga ôkii no wa hitotu de 1.7 cm. no Sasiwatasi ga aru. Mata tokidoki Hanmon ga kuttuite 2.2×1.9 cm., 3.8×1.6 cm., aruiwa 4.4×2.5 cm. guraino ôkina Hanmon wo tukuru. Kôiu yôni site Ha no Daibubun wo okasu koto mo medurasiku nai. Mata hurui Hanmon wa soko ga nukeotite Ana ni naru koto mo aru.

Hanmon no Bubun wo Kenbikyô de siraberuto midoriirono Budô no Husagatano mono ga takusan tuite iru no ga yoku wakaruru. Katati wa *Botrytis* ni yoku nite iru. Otagaini betubetuni natte ite, sono Ookisa wa $258.0-412.8 \times 110.8-154.8 \mu$ de, Iro wa tasyô Oribuiro wo obite iru. Hanmon no siroku natta Bubun niwa sukunaku tobiirono Bubun ni ôi. (Du 6, A—B)

Kono *Botrytis*-gatano mono wo totte yoku siraberuto, sono mannaka ni hutoi Ziku ga tôte ite, sono Kakumaku no Kazu wa 7-izyô aru. Yaya Oribuiro de aru. (Du 6, D) Kono Ziku kara marugata aruiwa naga-marugatano Eda wo dasite iru ga sono Sasiwatasi wa 12μ gurai aru. Kono Eda no Saki ni sarani tabitabi marui Eda wo tukete Budô no Husa no yôni naru no de aru. (Du 6, F)



Du 5. Kuwa no Haiiro-hantenbyô.
A. Yamai ni kakatta Hai.
B. Kinkaku.



Du 6. *Sclerotinia moricola* HINO no Bunseihôsi.

A—B. Tansikô ni tuite iru Bunseihôsi.

C. Tansikô no Nemoto

D. Tansikô no mannakano Ziku.

E—G. Bunseihôsi no Saki.

H. Hatugasite iru Hôsi.

Eda no itiban Saki wa 9 μ bakarino Sasiwatasi ga aru. Sono ueni mata 3.6 μ bakarino tiisai marui mono ga kuttuite iru. Dore mo mina yoku hatugasuru. 3.6 μ bakari no mono wa Kogaia-bunseihôsi ni ataru mono to omowareru. (Du 6, H)

Baiyôki ni baiyôsuruto siroi timituna Kinsi no Sitone ga dekiru. Kore ni mamonaku Bunseihôsi to Kinkaku ga dekiru. Kinkaku no Ookisa wa 1.5—9.5 \times 0.5—5.0 mm. de, ôkii no wa 9.5 \times 5.0 mm., tiisai no wa 1.5 \times 0.5 mm. de, 4.0 \times 3.5 mm. guraino Kinkaku ga itiban ôi. Katati ya Iro ya Nakami no Dekiguai nado wa hokano *Sclerotinia*-zoku no mono to sukosimo kawaranai. (Du 5, B)

Kono Kinkaku wo mata baiyôsuruto yahari onaziku Kinkaku to Bunseihôsi ga erareru. Kinsi wo baiyôsiteno onazi de aru.

Baiyôsite dekita Bunseihôsi mo sizenuo mono mo sukosimo Tigai ga nai. Huruku naruto mannakano Ziku dake nokosite Eda wo sukkari otosite simau ga, Hutûno *Botrytis*-kin no Baai to onazi de aru.

Kinkaku wo Tuti no naka ni umete oita ga Sinôban ga dekinakatta. Sorede *Sclerotinia*-zoku ni irete simau koto wa dekinai wake de aru ga maeni nobeta yôna Wake de *Sclerotinia*-zoku no mono de aru koto wa Utagai ga nai kara *Sclerotinia moricola* HINO n. sp. to site oku. Matano Na wo *Botrytis moricola* HINO n. sp. to sadametai.

Kono *Botrytis* wa hokano *Botrytis* to yohodo tigau Ten ga ôku, Katati wa *Botrytis*-gata de aru ga sono Eda no Seisitu nado wa *Monilia* ni taisô tikai yôni omowareru. Sorede, *Moniliramulus* to iu atarasii Zoku wo môkeyô ka to omotta ga, *Sclerotinia* no motomotono Bunseihôsi wa *Botrytis* de aru to iu ippano Kimari ni hazureru kara *Botrytis* to site okitai.

Kono Kata no Kin wa hokani hitotumo miataranai.

Sclerotinia-zoku no Bunrui no Sikata

Sclerotinia-zoku wa hutû kore wo *Eusclerotinia* to *Stromatinia* to ni wakeru. SORAUER⁽³⁹⁾ ni yoruto maeno mono wa Kuki ya Ha ya Ne ni Kinkaku wo tukuri, notino mono wa Mi ni Kinkaku wo tukuru to itte iru. Tyotto miruto Kubetu ga akiraka no yô de aru ga sô dewa naku, tatoeba Kuwa no Kinkakubyô-kin (*Sclerotinia Shiraianum* P. HENN.) wa kore wo *Stromatinia* ni ireru koto ga dekinai kara Kinkaku no tuku Basyo dake dewa kimerarenai.

Mata, maeno mono wa Bunseihôsi ga *Botrytis* de notino mono wa *Monilia* de aru to iu. Keredomo kore nimo Hutugô ga aru. Tatoeba,

Rengesô no Kinkakubyô-kin (*Sclerotinia Trifoliorum* ERIKSS.) wa dotirano Bunseihôsi mo nai no de aru kara bunruisuru no ni komaru wake de aru. *Botrytis*-gatano Kogata-bunseihôsi ga aru kara *Eusclerotinia* ni ireru to ittemo, hokano Kin nimo mina kono Kogata-bunseihôsi ga aru no de aru kara sono Rikutu ga tatanai.

DELACROIX to MAUBLANC⁽¹⁰⁾ wa *Monilia* wo Bunseihôsi to site iru mono wo *Sclerotinia* kara wakete *Stromatinia* to iu dokurituno Zoku wo môkete iru ga, kono mono dake wo *Sclerotinia* kara hanasu no wa yokunai koto de aru. Mosimo, wakeru Hituyô ga aru naraba medatu mono dake wo hikinukazuni byôdôni subete wo komakaku wakeru Hituyô ga aru. Medatu mono wo hikinuite hokano mono wo sonomama maziriatta mamani oite oku koto wa Rikutu ga tatanai.

Sclerotinia-zoku wo komakaku wakeru to sureba Sinôhôsi ni yoru ka Sinô ni yoru ka Sinôban ni yoru no ga itiban yoi no de aru ga korera wa amari Tigai ga sukunai kara Bunrui no Meyasu niwa naranai. Medatu mono wo hitotu dake hikinuita no dewa maenimo sirusita tôri kaette yorosikunai. Sokode, Bunrui no Meyasu to naru no wa Bunseihôsi de aru. Kore ni yotte wakeru no ga mottomo yoi yôni omowareru.

Sclerotinia-zoku wo sarani ikutukano Zoku ni waketari, aruiwa Azoku (Subgenus) ni waketari suru Hituyô wa nai yôni omowareru. Mosimo, Bunrui no ôkii Yoridokoro de aru Yûsei-zidai (Sexual stage), sunawati Sinôhôsi ni Tigai ga aru naraba sono Hituyô mo arô to omou ga Musei-zidai (Asexual stage) no sukosino Tigai de Zoku wo komakaku waketari suru Hituyô wa arumai. Wakereba kaette keitôtekina otagaino Kwankei wo yaburu koto ni naru kamo sirenai.

Watakusi wa tada otagaino Kwankei wo akirakani suru to iu Imi kara *Sclerotinia*-zoku wo ikutukano Kata ni wakeru no ga yoi to omou. Sono Bunrui no Meyasu wa motiron Bunseihôsi ni oku no ga itiban tugô ga yoi yôni omowareru. Watakusi wa tugino 4-tôrino Kata ni wakeru koto wo syutyôsuru.

Perfect form : Sinôhôsi, Oogata-bunseihôsi. Kogata-bunseihôsi wo motte iru mono. (Tatceba, *S. Fuckeliana* (DE BARY) FUCK.)

Conidia-lost form : Sinôhôsi, Kogata-bunseihôsi wo motte iru mono. (Tatoeba, *S. Libertiana* FUCK.)

Modified form : Sinôhôsi, Kogata-bunseihôsi, Hansyoku-ôgu to siteno Kômakuhôsi (*Monilia*) wo motte iru mono. (Tatoeba *S. fructigena* (PERS.) SCHROET.)

Intermediate form : Sinôhôsi (?), *Monilia* no Seisitu wo obita

Oogata-bunseihôsi, Kogata-bunseihôsi wo motte iru mono.
(Tatoeba, *Sclerotinia* (*Botrytis*) *moricola* HINO)

Botrytis-kin to *Monilia*-kin wa *Sclerotinia*-zoku no mono ga Sinôhōsi-zidai wo usinata mono to omou. Hukwanzen-Kinrui (Fungi Imperfecti) towa Syokubutu-bunruigaku-zyōno hitotuno Kōmoku dewa naku, Yūsei-zidai (Sexual stage) no mada wakaranai mono wo hitomatomeni sita Yoriai-syotai no Namae ni suginai no de aru. Sorede, Hukwanzen-kinrui ni zokusite iru mono wa tōzen Ascomycetes ka Basidiomycetes ni kuwawaraneba naranu mono de aru. Ko.10 Imi kara *Botrytis* to *Monilia*^(*) towō kangaete miruto korerano Kin wa *Sclerotinia* ni kuwawarubeki mono to omowareru. Yotte, *Sclerotinia*-zoku ni tugino lutatuno Kata wo kuwaeru.

Botrytis form : Oogata-bunseihôsi, Kogata-bunseihôsi wo motte iru ga Sinôhōsi-zidai wo usinata mono (Tatoeba, *Botrytis Liliorum* FUJIKURO)

Monilia form : Kogata-bunseihôsi, Hansyoku-dôgu to siteno Kōmakuhôsi (*Monilia*) wo motte iru ga Sinôhōsi-zidai wo usinata mono. (Tatoeba, *Monilia Kenjiana* MIURA)

Sclerotinia-kin no otagaino Kwankei

Ueni sirusita muttuno Kata wo kantanna Hyô ni suruto Hyô 2 no yôni naru. + wa sono Hôsi ga aru koto wo simesi, — wa nai koto wo simesu. Mata, Kakko no site aru no wa aru hazu dewa aru ga mada mitukerarete inai koto wo simesite iru.

(*) *Monilia* niwa kokoni nobeta nizitekino (Secondary) Hôsi no hokani itizitekino (primary) Hôsi womo hukunde iru kara, *Monilia* wa kanarazusimo *Sclerotinia* no Bunseihôsi towa kagiranai. Sikasi, *Monilia* ga nizitekino Hôsi de, Kinkaku ya Kogata-bunseihôsi wo motte oreba utagai monaku *Sclerotinia*-zoku no mono de aru.

Hyô 2. *Ononono Kata no otagaino Kwankei.*

K a t a	Yûsei-zidai	M u s e i - z i d a i			
	Sinôhôsi	Motomoto Hôsi		Nizitekino Hôsi	
		Taikwasita mono (Kogata- bunseihôsi)	Atarimaeno mono (Oogata- bunseihôsi)	Atarimaeno Kômaku- hôsi	Henkwasita Kômakuhôsi (<i>Monilia</i> -hôsi)
<i>Botrytis</i> form	—	+	+	+	—
Perfect form	+	+	+	+	—
Conidia-lost form	+	+	—	+	—
Modified form	+	+	—	—	+
<i>Monilia</i> form	—	+	—	—	+
Intermediate form	(+)	+	+	—	+

Kono Hyô de yoku wakaruru tôri, *Sclerotinia*-zoku no otagaino Katati no aidani kisokutadasii Uturikawari ga aru.

Kwanzenna *Sclerotinia*-kin wa Perfect form de, Yûsei-zidai to site Sinôhôsi wo moti, Musei-zidai to site Oogata-bunseihôsi wo motu mono de aru. *Sclerotinia Ricini* GODFREY nado wa yoi Rei de aru ga, *Sclerotinia Fockeliana* (DE BARY) FUCK. dewa sono Bunseihôsi-zidai de aru *Botrytis cinerea* PERS. ga tuyoi Kiseiryoku wo motte iru kara tokidoki Sinôhôsi wo usinatte iru mono mo mitomerareru. Kono Kata no mono ga mattaku Sinôhôsi-zidai wo usinatte simauto *Botrytis* form ni naru.

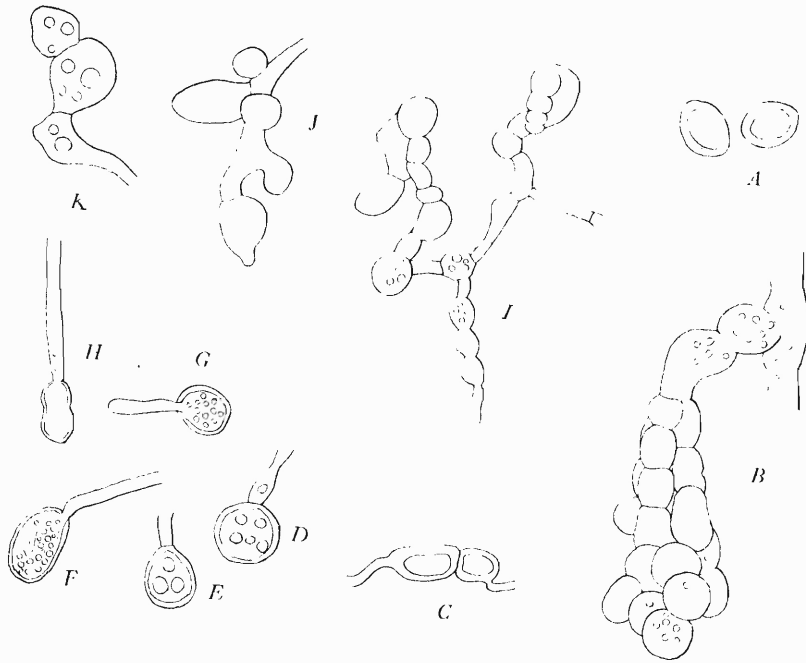
Conidia-lost form dewa Oogata-bunseihôsi wo motte inai. Kono Nakama dewa Sinôhôsi to Kinsi wo daizina Hansyoku-dôgu to site iru. Kômakuhôsi mo aru ga, tokidoki Iro no usui Maku no usui mono ga nagaku turanatte iru kara Modified form ni yohodo En no tikai mono de arô.

Modified form wa Oogata-bunseihôsi wo usinatte iru ga, sono Kawari ni Kômakuhôsi ga atte sono Yakume wo hatasite iru. Kômakuhôsi dewa aru ga Maku mo wariaini usui si, mata Zyuzu no yôni nagaku turanaru si, Bunriki (Disjuncter) mo yoku hattatusite ite Hansyoku ni taisô tugô no yoi yôni dekite iru. Atarimaeno Maku no atui Kômakuhôsi wa hutûno Baai wa miataranai.

Kono Modified form ga Sinôhôsi-zidai wo usinauto *Monilia* form ni naru.

Intermedaite form wa *Botrytis*-gatano Oogata-bunseihôsi wo motte i nagara *Monilia*-gatano Kômakuhôsi womo seisituzyô kanete iru no ga itizirusii Tigai de aru. Sunawati, sono Bunseihôsi wa *Botrytis*-gata de aru ga sono Eda no Tunagarikata ya Seisitu wa mattaku *Monilia* de aru. Kogata-bunseihôsi to mirubeki mono mo mata motte iru.

Daitaino Katati kara ieba kono Kata wa Perfect form ni tikai



Du 7. *Sclerotinia*-zoku no Kin no Kōmakuhōshi

A—C. Rengeshō no Kinkakubyō-kin no Kōmakuhōshi

D—H. Aoki no *Botrytis*-kin no Kōmakuhōshi.

I—K. Tyōsen-ninjin no Kinkakubyō-kin no Kōmakuhōshi.

mono de arō to omou ga tokubetuna mono de aru. *Sclerotinia Trifoliorum* ERIKSS. demo marenī Kōmakuhōshi ga kōiu Katati wo toru si, *Botrytis cinerea* PERS. demo mata mitomerareru koto ga aru kara, tokubetuna Katati to ittemo sō mattaku En no nai Katati dewa nai. Sitagatte kono Kin ga *Sclerotinia*-zoku no mono de aru koto wa iyoiyo tasika de aru.

Sorede, kono Kata no Kin wa subeteno Kata ni tikai hukai En wo motte iru mono to ieru wake de aru. Tyūkanno Katati, sunawati Intermediate form to yobu koto ni suru.

Subeteno Kata wo tūzite kyōtūna mono wa Kogata-bunseihōshi de aru. Sorede, Kogata-bunseihōshi wa *Sclerotinia*-kin no Mezirusi tomo itte yoi wake de aru.

Kono Kogata-bunseihōshi no Arawarekata wa Conidia-lost form ni itiban ōku, tugiwa Modified form ni ōku, itiban sukunai no wa Perfect form de aru. Kore kara miruto Oogata-bunseihōshi wo motte iru mono ni sukunaku, Kōmakuhōshi wo Hansyoku-dōgu to suru mono niwa yaya sukunaku, nanimo nai mono niwa mottomo ōi to iu koto ni naru. Mata,

dono Kata demo *Botrytis*-hôsi ya *Monilia*-hôsi ga ôito Kogata-bunseihôsi ga hette yuki, hantaini Kogata-bunseihôsi ga ôi toki niwa *Botrytis*-hôsi ya *Monilia*-hôsi ga sukunaku naru Katamuki ga aru. Osoraku Kogata-bunseihôsi wa taikwasita Oogata-bunseihôsi de, imawa hotondo sono Yaku-me wo usinata mono to omowareru. Mareniwa hatugasuru Tikara no aru mono mo aru ga hutûniwa sono Tikara no nai mono de aru. Kono Hôsi wa taikwasita Oogata-bunseihôsi de aru kara sono Arisama ni iroirona Teido ga aru. *Botrytis cinerea* PERS. wo baiyôsuruto Ondo ya Yôbun no Kwankei de iroirona Teido no Bunseihôsi ga erareru. (Du 2, G, H) Rippana Kogata-bunseihôsi wa *Botrytis*-gata de aru ga iroiro kantanna Katati ga atte, nakaniwa Sinôhosi no Kabe ni sugu kuttuite dekiru mono mo aru.

Yôsuruni, Kogata-bunseihôsi wa Oogata-bunseihôsi ga situtekini taikwasita mono de aru kara idureno *Sclerotinia*-kin nimo idureno Baai nimo kore wo mitomeru koto ga dekiru. *Sclerotinia*-kin de aru koto wo simesu Mezirusi nimo naru.

Musubi

Watakusi wa Kogata-bunseihôsi ga taikwasita Oogata-bunseihôsi de aru koto wo simesi, kono Hôsi ga ôku naruto atarimaeno Hôsi wa hette yuku Katamuki no aru koto womo nobeta. Nao, Kogata-bunseihôsi no Katati ya sono arawareru tokino Dyôken nado womo akirakani si, Yôbun no sukunaku natta tameni dekiru no dewa nai to iu koto wo sirusita.

Kogata-bunseihôsi wa zikantekino Taikwa dewa naku Situtekino Taikwa de aru kara idureno Kin ni oitemo, mata idureno Baai nimo mitomerareru. Kono Hôsi ga areba *Sclerotinia*-zoku de aru to iu koto ga dekiru.

Sarani, susunde *Sclerotinia*-zoku no Bunseihôsi no Katati to sono Imi wo akirakani site *Sclerotinia*-zoku no Bunrui ni oyonda. Watakusi wa imanotokoro kono Zoku wo komakaku wakeru Hituyô wo mitomenai. Hutatuni wakeru koto wa mottomo Sansei ga dekinai. Tada kore ni zokusuru Kin no otagaino Kwankei wo akirakani si, keitôlateru tameni ikutsukano Kata ni wakeru koto wo môsidasita. Snawati, *Botrytis* form, Perfect form, Conidia-lost form, Modified form, *Monilia* form, Intermediate form no muttuno Kata ni waketai. Kô sureba sono aidano kisokutadasi Uturikawari ga mitomerare otagaino Kwankei ga akirakani naru no de aru.

Kono Ronbun wa Taisyô 12 nen ni Tôkyô Teikoku Daigaku wo deru

orini kaita mono de aru ga sconoti happyôsuru Toki wo usinatte ita mono de aru. Kokoni sonotino Kangae womo tukekuwaete Yo ni dasu koto ni natta. Iroiro Osie wo uketa SHIRAI Hakusi, nakunarareta UYEDA Hakusi, SUEMATU Nôgakusi, OGAWA Nôgakusi, HUDIOKA Nôgakusi ni atuku Orei wo môsiageru.

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(Miyazaki Kôtô Nôrin Gakkô, Syokubutugaku Kwankei Gakka Kyôsitu Kiyo, Dai 36)

MICROCONIDIA IN GENUS *SCLEROTINIA* WITH SPECIAL REFERENCE TO CONIDIAL FORMS IN THE GENUS

IWAO HINO

(Résumé in English)

As regard the conidial forms of *Sclerotinia* fungi, some different

opinions are forwarded and not yet definitely determined. *Botrytis* and *Monilia* are no doubt the conidial forms of some species in the genus, but not in all cases. *Sclerotinia Trifoliorum* and *Sclerotinia Libertiana* are known to have no conidial forms except microconidia, which are subjected to be discussed in this paper.

Microconidia, which are also known as microgonidia, sporidia or spermatia, are observed by various investigators in almost all species in the genus. Typical forms are bushy and very much resemble that of *Botrytis* fungi. In some cases, there are more simple forms, of which extreme ones are direct spore formation on the wall of ascospores or of mycelia. Microconidia measure 3—4 μ in size, and are almost of similar size in every species in the genus. HUMPHREY stated that microconidia of *Sclerotinia fructigena* germinate on culture media, while PEGLION is against him. Germination experiments of the author has not been proved to be successful except a few rare cases. Microconidia of *Sclerotinia Trifoliorum*, inoculated in peptone water and kept in thermostat at 25° C., germinated with great difficulty, extending the germ-tubes of 4 \times 1 μ in size, but they could not grow further more in that case.

Some investigators, such as HORI, DE BARY, VOGLINO, WORONIN and others, stated that microconidia are only produced in the case of starvation owing to the lack of nutriment in culture media. But, the author confirmed by his experiments that microconidia are produced on culture media even in the case of ample supply of nutriment, and also found on apothecia of the fungus in crop field.

From these facts above mentioned, the author considers that microconidia are degenerated abortive forms of normal macroconidia, and that they have almost lost the power of germination and further growth. As microconidia are to be found under all conditions and in all species in the genus *Sclerotinia*, the existence of microconidia are claimed as the symbol of the genus.

Microconidia-bearing sclerotial fungi are to be divided into following six forms based on their conidial stages. *Botrytis* spp. and *Monilia* spp.^(*)

(*) As in genus *Monilia* the spore forms of primary origin as well as of secondary one derived from chlamydo-spore are also included, *Monilia* is not always an asexual stage of *Sclerotinia* or its related genera. K. KITAZIMA (Ann. Phytopath. Soc. Japan, Vol. 1, No.6, 1925) found that *Monilia aurea* is a conidial stage of *Anthostomella* sp. and not of *Sclerotinia*. *Monilia*, which is secondary conidium and bears sclerotia or microconidia, is no doubt a derivative of *Sclerotinia*.

are also included in this group, as they are probably the derivatives of *Sclerotinia* fungi.

Perfect form : Species which embrace ascospore and *Botrytis*-conidia. (Ex. *S. Fuckeliana*)

Conidia-lost form : Species which embrace ascospore only and no conidia (Ex. *S. Libertiana*)

Modified form : Species which embrace ascospore and secondary conidia. (*Monilia*), which are essentially a sort of chlamydo-spore. (Ex. *S. fructigena*)

Botrytis form : Species which embrace *Botrytis*-conidia only. (Ex. *B. Liliorum*)

Monilia form : Species which embrace *Monilia*-conidia only. (Ex. *M. Kenjiana*)

Intermediate form : Species which embrace ascospore (?) and *Botrytis*-conidia, whose branches are moniliform and have similar characteristics of *Monilia* spores (Ex. *S. moricola*)

To clarify the systematic relationship of these forms, they are briefly tabulated as follows :

F o r m	Sexual stage	A s e x u a l S t a g e			
	Ascospore	Primary	Spore	Secondary	Spore
		Degenerated Conidia (Microconidia)	Normal Conidia (<i>Botrytis</i>)	Normal Chlamydo-spore	Modified Chlamydo-spore (<i>Monilia</i>)
<i>Botrytis</i> form	—	+	+	+	—
Perfect form	+	+	+	+	—
Conidia-lost form	+	+	—	+	—
Modified form	+	+	—	—	+
<i>Monilia</i> form	—	+	—	—	+
Intermediate form	(+)	+	+**	—	+**

+ denotes presence, while — absence

() presence possible, but not yet observed by the author

** *Botrytis* whose spores and branches have the similar characteristics as observed in *Monilia* spores.

From the above table, we see that the regular gradation is clearly demonstrated, and the unnecessary of subdivision of the genus is also certified.

Imperfect fungi may be all derived from ascomycetaceous or basidiomycetaceous ones, therefore *Botrytis* spp. and *Monilia* spp. must be transferred into either one of these classes when their sexual stages are found

by future investigations. The author considers that *Botrytis* spp. may be derived from Perfect form, and *Monilia* spp. from Modified form of genus *Sclerotinia* in Ascomycetes.

Conidia-lost form has no conidial stages, and has close relation to Modified form. The author found in the culture of *Sclerotinia Trifoliorum* two sorts of chlamydospores, normal thick-walled and thin-walled. Thin-walled chlamydospores are somewhat continuous in moniliform shape, and have close resemblance to the *Monilia* spores of Modified form.

Monilia spores of Modified form are no doubt the modified secondary ones of chlamydospores, which are already stated by BREFELD. Normal thick-walled chlamydospores are not found in this form except a few rare cases. *Sclerotinia phaeospora* (*Phaeosclerotinia nipponica*) has moderately colored *Monilia* spores, which probably come more near to normal chlamydospores.

Being severed the close connection of systematic relationship in genus *Sclerotinia*, this genus is divided into two subgenera, *Eusclerotinia* and *Stromatinia*. According to SORAUER, the former forms sclerotia on stem, roots or leaves and has *Botrytis* spores as its conidial stage, while the latter forms sclerotia on fruits and has *Monilia* spores as its conidial stage. But, this conception may be inappropriate, because *Sclerotinia Shircaianum*, which belongs to Conidia-lost form according to the author, has no conidia except microconidia, and besides forms sclerotia in fruits of mulberry in Japan.

Some mycologists intended to separate *Stromatinia* from other *Sclerotinia* for the reason of the presence of marked moniliform conidia in *Stromatinia*. It is, however, quite unreasonable that the species of peculiar form, such as *Monilia*-bearing *Sclerotinia*, are singled out, while the other unnoticeable ones are left wholly mixed, because some of the left species have *Botrytis* conidia, while others no conidia as its conidial stage.

It seems to the author that there is no necessity to establish subgenera in Genus *Sclerotinia* or to divide the genus into two or more new genera. It is rather advisable to bring out some "forms" in order to denote the difference or clarify the systematic relationship of the fungi, as some marked variances are observed among the fungi in genus *Sclerotinia*.

(This paper is a part of the graduation thesis submitted to Tôkyô Imperial University in 1923, and is reserved unpublished till now. Consequently, some important literatures published after 1923, such as the papers of RAMSEY or of ZIMMERMANN, are not referred in this paper.)