



Title	水仙球茎腐朽病々原菌に就て
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FURTHER NOTE ON *NARCISSUS* BULB-ROT

BY

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In 1930 we⁽¹⁾ reported about two fungi parasitic on *Narcissus*-bulbs. One of them was named *Sporotrichum Narcissi* n. sp. and the other was identified with *Sporotrichum radiculolum* ZIMMERMANN. Herein we shall call the former fungus No. 1 and the latter fungus No. 2 for convenience.

In the course of further investigations of the fungi we came to have same questions on the taxonomy of the fungi. Under these circumstances Prof. WESTERDIJK to whom we sent cultures of the fungi under consideration has kindly sent us cultures of several fungi related closely to the present fungi. She has also offered valuable advice on the points of identification.

In our further examinations of the fungi it was found that fungus No. 1 produces conidia frequently in small heads in hanging drop cultures, and that fungus No. 2 forms sterile ends of conidiophores in old cultures. The production of conidia in heads in fungus No. 1 has been with difficulty observed by ordinary mounting on slide glass according to easy breaking up of the heads, and it could be recognized only in hanging drop cultures by allowing the conidia to be formed freely.

From to the addition of these critical characteristics we came to the conclusion that fungus No. 1 belongs to genus *Trichoderma* and fungus No. 2 to genus *Pachybasium*. Fungus No. 1 is a new species of *Trichoderma*. We propose the name *Trichoderma Narcissi* TOCHINAI et SHIMADA, as a substitute for *Sporotrichum Narcissi* TOCHINAI et SHIMADA. Fungus No. 2 is also a new species hitherto undescribed, and as its name we propose *Pachybasium bulbicolum* TOCHINAI.

(1) Y. TOCHINAI, & S. SHIMADA: *Sporotrichum Narcissi* sp. n. parasitic on *Narcissus* bulbs. Transact. Sapporo Nat. Hist. Soc., Vol. 11, Pt. 3, pp. 121-128, 1930.

[Transact. Sapporo Nat. Hist. Soc., Vol. XII, Pt. 1, 1931]

Here we give the amended technical descriptions of these fungi under question.

***Trichoderma Narcissi* TOCHINAI et SHIMADA, nom. nov.**

Synonym *Sporotrichum Narcissi* TOCHINAI et SHIMADA, in Transact. Sapporo Nat. Hist. Soc. Vol. XI, pt. 3, 1930.

Caespitulis sparsis vel hinc inde gregariis, saepe confluentibus, subrotundatis, pulvinatis, compactiusculis, dein effusis, initio albis, dein fusco-viridis, hyphis fertilibus ascendentibus, ramosis; conidiis globosis, viridis, $5.0-3.3 \times 4.5-3.0 \mu$, in capitula parva acrogena collectis, saepe in sterigmatibus acrogena solitariis; sterigmatis oblongatis, $10 \times 3.0-2.5 \mu$ ($15.0-5.0 \times 4.0-2.0 \mu$).

Hab. in bulbis vivis *Narcissi*, *Croci*, et *Lilii*.

The mycerial cushions formed on the surface of the substrata consist of densely gathered hyphae, scattered or gregarious, sometimes confluent, white in color at first, turning dark green later by the formation of conidia. Conidiophores are erect, hyaline, variously branched, $4.5-2.0 \mu$ wide. Sterigmata are observed frequently being formed laterally on the conidiophores or terminally at the ends of short branches of conidiophores, oblong, straight or curved, attenuated or acute, $15.0-5.0 \times 4.0-2.0 \mu$, mostly $10.0 \times 3.0-2.5 \mu$. Conidia are produced directly on the tips of the conidiophores or on the sterigmata, frequently in small heads, almost spherical but sometimes ovoid or ellipsoidal, green in color, $5.0-3.3 \times 4.5-3.0 \mu$.

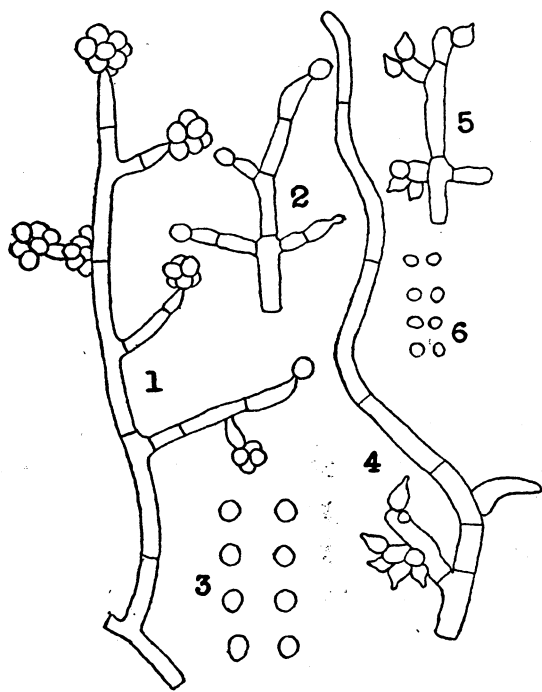
It is parasitic on the living bulbs of *Narcissus pseud-Narcissus* L., *Crocus*, and *Lilium*.

***Pachybastium bulbicolum* TOCHINAI, sp. nov.**

Caespitulis gregariis sparsisque, subinde confluentibus, initio albis, dein ochraceo-viridulis vel griseo-ochraceis; hyphis fertilibus ascendentibus, ramosis, ramis ultimis saepe sterillis; ramulis seu sterigmatibus saepe verticillatis; sterigmatibus piriformis, $5.5 \times 3.5 \mu$ ($9.5-4.5 \times 5.0-3.3 \mu$); conidiis globoso-ellipsoideis, pallido ochraceo-viridulis vel fere hyalinis, $4.5-2.5 \times 3.0-1.8 \mu$, achrogenis ad sterigmata.

Hab. in bulbis vivis *Narcissi* et *Croci*.

The mycerial cushions produced on the surface of the substrata consist of

**Figures 1-3.***Trichoderma Narcissi* nom. nov.

1. Conidiophore with spore heads.
2. Branch of conidiophore with sterigmata and conidia.
3. Conidia.

Figures 4-6.*Pachybasium bulbicolum* sp. n.

4. Conidiophore with sterile end.
5. Branch of conidiophore with sterigmata.
6. Conidia.

($\times 600$. del. Shimada)

densely gathered hyphae, scattered or gregarious, sometimes confluent, white in color at first, turning pale yellowish green or buff color by the formation of conidia. Conidiophores are erect, hyaline, branched, $5.5-4.5\ \mu$ wide, with sterile ends sometimes in old cultures. Sterigmata are produced laterally on the conidiophores or terminally on the short branches of conidiophores, piriform, $9.5-4.5 \times 5.0-3.3\ \mu$, mostly $5.5 \times 3.5\ \mu$. Short branches of conidiophores and sterigmata are sometimes verticillate. Conidia are produced on the attenuated ends of the sterigmata, mostly oval or ellipsoidal, pale yellowish green or almost colorless, $4.5-2.5 \times 3.0-1.8\ \mu$ in size.

It is weakly parasitic on the bulbs of *Narcissus* and *Crocus* accompanying the former fungus.

The authors wish to express their sincere thanks to Prof. Dr. J. WESTERDIJK to whom they owed very much in the present identification of the fungi.

摘 要

水仙球莖腐朽病々原菌に就て

栃 内 吉 彦 島 田 昌 一

余等は、昨年本會報第十一卷第三號に於て、水仙の一新病害に就いて報告し、被害水仙球莖に着生する病原菌二種を認めて其の一を新種として、*Sporotrichum Narcissi* と命名し、他の一を *Sporotrichum radiculorum* ZIMMERMANN に該當するものとしたり。

然るに、兩菌に就きて更に研究を繼續する間に第一菌は、之を懸滴培養中に發育せしめて胞子を形成せしむる場合に、擔子梗先端に分生胞子を頭上に群生する事を見出し、其の他の性質をも更に詳細に觀察考量したる結果、之を *Trichoderma* に歸屬せしむる事の至當なるを認め、爰に本菌の學名を改めて、*Trichoderma Narcissi* TOCHINAI et SHIMADA とせり。

第二菌は、古き培養基上に於て、屢々擔子梗の先端菌絲狀に伸長し、又擔子梗の小枝或は小柄が輪生する事あり。依りて本菌は *Pachybasium* に屬する未記載の一新種なる事を認め、*Pachybasium bulbicolum* TOCHINAI と命名せり。

本研究の遂行に當りて、有益なる助言を與へられ、貴重なる近縁菌類の生標品を送附されたる和蘭國ユトレヒト大學教授 WESTERDIJK 女史に深厚なる感謝の意を表す。