NOTE ON A NEW SPOTTED BAMBOO "YÔRAKU-MONTIKU" CAUSED BY *Lembosia tikusiensis* n. sp.

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(日高醇: *Lembosia tikusiensis* の寄生による新斑竹 "瓔珞紋竹")

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INTRODUCTION

In June 1937, the writer found at Mt. Hōman near Hukuoka city several beautiful spotted bamboo stalks of *Phyllostachys nigra* MUNRO var. *Henonis* STAPF. And in February 1939, the same spotted bamboos were found at Mt. Hiko being sold as souvenir sticks made at Yunomae at the foot of Mt. Itihusa in Prov. Higo. The production is great and it is localized at the foot of Mt. Itihusa which extends over both Prov. Hyuga and Higo. It was ascertained that these spots were formed on the bamboo stalks when they were affected by a fungus new to science which the writer named *Lembosia tikusiensis* and called the spotted bamboo "Yōraku-montiku".

The writer wishes to dedicate this paper in remembrance of late Professor K. NAKATA and expresses his sincere gratitude to Assistant Professor H. YOSHII for his kind directions and valuable suggestions during the course of the investigation.

THE SPOTS

The culms of *Phyllostachys nigra* MUNRO var. *Henonis* STAPF affected by the fungus indicate at first the minute dark brown spots, and then the latter swell in size gradually, but never over the node. The spots form the indefinite concentric rings; the centre and edge of them are dark brown in colour (Bone Brown, Rdg. Pl. XL), while the other parts show light brown (Pinkish Buff, Rdg. Pl. XXIX). Frequently the spots are entirely coated with mortar-like substance, but when the oils in the culm are drown out over the fire and rubbed off, the mortar-like matter

fades away from the spots, and then turn into the colour described above. Later, the spots become elliptical with irregularly waved margins, and the size of them reaches about 12×6 mm. The spots were generally on the stalks between the third and tenth node above the earth,——between 10 to 180 cm in height. Under suitable conditions they were on the branches and stalks in higher parts than stated above and also rarely on the stalks in the soil which are not subterranean shoots. The writer could not find the spots on the leaf. The part of the culm forming spots may be affected by environmental conditions; on the sunny side of the culm, the spots tend to be few and small. Mostly, the spots were found on the culms of more than two years old, especially on those of which upper parts were weakened or killed by various causes. The spotted bamboos are found in the extremely crowded growths of *Phyllostachys nigra* MUNRO var. *Henonis* STAPP, or in the bamboo groves made gloomy in the daytime by mixtures of other broad leaf trees which compose about 30 per cent. of the grove. In either case, there was always a very high humidity created by small springs or running waters under the grove both at Mt. Hôman and at the foot of Mt. Itihusa. The other bamboos such as *Phyllostachys reticulata*, *Pleioblastus Simonii*, *Pseudosasa japonica*, and *Shibataea Kumasaka* growing near the spotted bamboos were found to be indifferent to the fungus. The spotted bamboo stalks may be excellent materials for industrial products, because of the handsomeness of the *Lembosia* spots.

THE CAUSAL FUNGUS

The perithecia are found on the surface of the spots. They appear at first as small tawny black specks, scarcely observable to naked eyes. Infructescence they attain oblong or linear sometimes radial shield shapes and almost black in colour, measuring $153-1064 \times 82-216 \mu$. The linear fissures, or ostiols are observed along the ridge of perithecia. Numerous asci are observed in a perithecium; each of them contains eight spores. The asci are hyaline, smooth, ovoid or piriform in shape, and measure $32-44 \times 16-19 \mu$ in size. The ascospore is slightly constricted at the septum. The ascospores are at first hyaline, but later become light brown in colour, and are $16-18 \times 7-9 \mu$ in size. The paraphyses are numerous, hyaline, filiform with swollen apices, longer than the asci, and measure about 44μ in length. The aerial mycelium $2.5-3 \mu$ in which is dark brown in colour, superficial, branching and radiating irregularly. The hyphopodia are brown, round or irregular

in shape, measuring $14-26\ \mu$ in diam. The Latin description of the fungus is as follows:

Lembosia tikusiensis n. sp.

Culmicola. Myceliis superficialibus, brunneis, ramosis, $2.5-3\ \mu$ crasis; hyphopodiis sparsis, concoloribus, $14-26\ \mu$ diam.; peritheciis superficialibus, elongatis, interdum radiatis, primum brunneis, demum nigro-brunneis, rigidis, $153-1064 \times 82-216\ \mu$ diam.; ascis ovoideis, octosporis, $32-44 \times 16-19\ \mu$, paraphysatis; sporidiis brunneis laevibus, oblongo-ovoides, constricto-1-septatis, $16-18 \times 7-9\ \mu$; paraphysibus filiformibus, numerosis, hyalinis, apice incrassatis, asci ssuperantibus.

Hab. ad culmos vivis *Phyllostachidis nigrae*, Prov. Tikusi, Japoniae.

REFERENCES

- THEISSEN, F.: *Lembosia*-Studien. Ann. Myc., Vol. XI, no. 6, s. 427-467, 1913.
THEISSEN, F. und SYDOW, H.: Synoptische Tafeln. Ann. Myc., Vol. XV, no. 6, s. 389-491, 1917.

摘 要

1937 年 6 月福岡市近郊の寶満山にハチクの新斑竹を採集し、又 1939 年 2 月豊前國英彦山の土産物店で英彦山登山記念の杖の中に同様の紋のある竹の杖を見出して、その産地が熊本縣球磨郡と宮崎縣兒湯郡との境に聳ゆる市房山の麓一帯の廣い範圍である事が判つた。

該斑竹は未知の菌の寄生によるものであり、又斑竹としての名稱も與へられて居なかつたので、茲に菌名を *Lembosia tikusiensis* として九州の古名筑紫國の名に因み、斑竹名を^{エウラク}環珞紋竹と命名した。

本斑竹は市房山麓一帯に相當の産額があり、又斑竹類中最も美麗なものであつて竹種がハチクであるから杖その他の工藝品として用途は廣いであらう。

Fig. 1

Fig. 2

Explanation of plate

Plate III

Fig. 1. The spotted bamboo stalks “Yôraku-montiku”.

a: Natural state.

b, c: Oils drawn out and polished.

Fig. 2.

a, b: Mature and immature perithecia of *Lembosia tikusiensis*.

Plate IV

a, b: Mature perithecia of *Lembosia tikusiensis* under ultra-pak.

c: A cross-section of the perithecium of *Lembosia tikusiensis*.

d: Ascus, paraphyses and ascospores of *Lembosia tikusiensis*.

e: Hyphopodia and mycelia of *Lembosia tikusiensis*.