Two new species of *Endothia*

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During recent years, the writers have collected many specimens of *Endothia* inhabiting various kinds of broad-leaved trees and classified them into seven species. Among them five were identified as the following hitherto known species: *Endothia parasitica* (Murr.) P. J. et H. W. Anderson, *E. singularis* (P. et H. Sydow) Shear et Stevens, *E. fluens* (Schw.) Shear et Stevens, *E. havanensis* Bruner and *E. tropicalis* Shear et Stevens, but the other two are considered as new to the science. In this paper, the writers describe these two new species of *Endothia* with brief supplementary notes.

1. *Endothia japonica* sp. nov.

Stromatibus corticola, sparsis v. dense gregariis, "Deep Chrome" v. "Cadmium Yellow"; peritheciis globulosis, 280–600 μ in diam.; collis nigris, erumpentibus, 480–1390 μ longis; ascis subclavatis v. oblongo-ellipticis, 43–66 $\times$ 7–11 μ , octosporis; ascosporidiis irregulariter biseriatis, ellipticis v. obovoidis, utrinque rotundatis, hyalinis, uniseptatis, ad septum constrictis, (9)–10.5–12.5–(17) $\times$ (3.5)–4–4.5–(5.5) μ .

Hab.: On the bark of stem of dead or living *Quercus grosseserrata* Bl. (Mizu-nara) and *Q. glandulifera* Bl. (Ko-nara).

Distribution: Japan (Honshû).

Materials: On *Quercus grosseserrata* (Mizu-nara)—Meguro, Tokyo, May 19, 1954, coll. by T. Kobayashi (TYPUS)¹⁾; Mt. Ôtake, Tokyo, May 23, 1954, coll. by T. K.; Mt. Togakushi, Nagano Pref., July 18, 1954, coll. by T. K.; Higashine, Yamagata Pref., Aug. 6, 1954, coll. by T. K.; Mt. Zaô, Yamagata Pref., Aug. 7, 1954, coll. by T. K.; Narusawa, Yamanashi Pref., Sept. 23, 1954, coll. by T. K.; Agematsu, Nagano Pref., Oct. 11, 1955, coll. by T. K.; Wada, Nagano Pref., Oct. 13, 1955, coll. by T. K. On *Q. glandulifera* (Ko-nara)—Kanô, Nagano Pref., Oct. 24, 1954, coll. by T. K.; Hinoharu, Yamanashi Pref., April 19, 1955, coll. by T. K.

Notes: Perithecia are irregularly embedded in the lower portion of the stroma and usually 50 or more in number. The present species is very near in type to *Endothia tropicalis* among the already known species. But it has larger asci and ascospores than the latter, distinguishing both sufficiently to classify them into different species. In *E. tropicalis*, asci are 40–50 $\times$ 7 μ and ascospores are 7.5–10.5 $\times$ 3.5–5 μ , mostly 8–10 $\times$ 4–4.5 μ , whereas in our fungus the sizes are respectively as follows: 43–66 $\times$ 7–11 μ and 9–17 $\times$ 3.5–5.5 μ , mostly 10.5–12.5 $\times$ 4–4.5 μ .

In culture on potato sucrose agar, the fungus grows flatly and has yellowish orange ("Orange" to "Cadmium Yellow") colored mycelium on which a few pycnidial bodies are produced.

Fig 1. *Endothia japonica* sp. nov.

A. Asci and ascospores

B. Germinating ascospores

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1) The type specimen is deposited in the Herbarium of the Government Forest Experiment Station, Meguro, Tokyo, Japan.

2. *Endothia macrospora* sp. nov.

Stromatibus corticola, sparsis v. dense gregariis, "Orange"; peritheciis globulosis 340–580 μ in diam.; collis nigris erumpentibus 790–1090 μ longis; ascis oblongo-subclavatis v. oblongo-ellipticis, 62–73 $\times$ 10–11 μ , octosporis; ascosporidiis irregulariter biseriatis, ellipticis, hyalinis, uniseptatis, ad septum constrictis, 14–18 $\times$ 5–5.5 μ ; pycnidii stromaticis, irregulariter cavitatis; conidiis oblongis, hyalinis, 3.5–4.5 $\times$ 0.7–1.1 μ .

Hab.: On the bark of dead *Shiia Sieboldii* Makino (Shii) (Shinagawa, Tokyo, June 22, 1954, by T. Kobayashi—(TYPUS).

Distribution; Japan (Tokyo).

Notes: Perithecia are irregularly embedded in the lower portion of the stroma, usually 50 or more, and has open conical ostioles on the surface of the stroma with black slender necks. In this species asci and [ascospores are far larger than those of all the other species of the genus.

One-month-old cultures on potato sucrose agar are flat and have pinkish yellow ("Bittersweet" or "Pinc" to "Salmon Orange") mycelium on which the viscidous conidial masses are pushed out from a few large pycnidia.

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Fig 2. *Endothia macrospora*
sp. nov.

A. Asci and ascospores
B. Germinating ascospores