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A new *Inocybe* from Tokyo, *I. fastuosa* spec. nov.

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Summary. – *Inocybe fastuosa* sp. nov. is described from material collected in Tokyo. Of special interest is the unusual fact that the stipe is covered by the caulocystidia from the apex down to about 4/5 of its length, despite the fact that it has an equal or only subbulbous base. *I. fastuosa* belongs to the section *Marginatae* Kühner in the modern sense of Singer (1986). It is remarkable because it combines two Singer's emendations of section *Marginatae*, a non marginate stipe base and the (almost) lack of caulocystidia in the lower part of the stem, in the same species.

Résumé. – *Inocybe fastuosa* sp. nov. est décrit à partir de matériel récolté à Tokyo. Sa position systématique est discutée.

Zusammenfassung. – *Inocybe fastuosa* sp. nov. aus Tokyo wird neu beschrieben und seine systematische Stellung diskutiert.

Riassunto. – *Inocybe fastuosa* sp. nov. è descritto a partire da materiale raccolto a Tokyo. La posizione sistematica di questo *Inocybe* è discussa.

Introduction

Various Inocybes are known from Japan. Imai (1938) reported six species of *Inocybe* as new records in Hokkaido, Japan. Kobayasi (1952) established seventeen new species and five new forms of *Inocybe* from Honshu, Japan. At the same time Kobayasi (1952) redescribed twenty taxa of *Inocybe* from Honshu. Seven new species of *Inocybe* were described by Hongo (1958, 1959a,b, 1963a,b, 1982) from Japan.

In recent years, several species of *Inocybe* have been reported by the author as new species or new records from Japan. Kobayashi & Courtecuisse (1993) described two new species of *Inocybe*, *I. pseudorhacodes* and *I. chrysochroa* from Gunma Pref. and Shiga Pref. respectively. Kobayashi (1993) established the new subgenus *Leptocybe* for *I. casimiri* and *I. acutata*. This subgenus is charactrized by angulate to echinulate spores and the lack of metuloids. Kobayashi & Hongo (in press) redescribed *I. flocculosa* from Shiga Prefecture, and Kobayashi (in press) redescribed *I. adaequata* and *I. napipes* and discussed their variability.

Materials and method

The specimens cited in this paper are deposited in herbarium of the Natural History Museum and Institute, Chiba (CBM-FB), Japan, the Tottori Mycological Institute (TMI), Japan, the Musée et Jardins Botaniques Cantonaux Lausanne (LAU) and the author's private herbarium (TAKK), Lausanne, Switzerland.

The colour terms used are those from Kornerup & Wanscher (1978) or refer to Munsell notation.

For microscopic observations, dried specimens were rehydrated in 5% KOH solution or 10% NH₄OH solution. Length measures exclude apiculus and sterigmata for spores and basidia respectively.

Thin-walled, clavate to pyriform elements are called paracystidia in this paper. This term is taken from Kuyper (1986).

Inocybe fastuosa Takahito Kobayashi, spec. nov. Plate 1, figs 1–6.

Pileo -70×-15 mm lato, subumbonato, brunneo-luteo, stramineo, fibrilloso, rimoso. Lamellis adnatis, adnexis, luteo-brunneolis. Stipite 50–110×5–11 mm, aequali, subbulboso, albo, flavido, apice et patre medio pruinoso. Carne alba.

Sporis (7.6–)8.4–10.2(–12.2)×(5.6)6.2–8.8 μ m, prominenter nodulosis, luteo-brunneis. Basidiis 22–28×8–13 μ m, tetra-sporicis. Pleurocystidiis 45–67×16–27 μ m, metuloideis. Cheilocystidiis 34–48(–68)×17–23 μ m, metuloideis. Caulocystidiis metuloideis, apice numerosis, base raris.

Holotypus: CBM-FB 5234

Pileus -70×-15 mm, when young hemispherical, then subumbonate; brownish yellow (10YR 6/6) to stramineous, light brown (6D6) to brown (6F8) on the umbo; fibrillose, rimose, often distinctly rimose. Lamellae subventricose, adnate to adnexed, close to crowded; yellowish brown (5D5, 5D6); edge flocculose, white. Stipe 50–110×5–11 mm, almost equal to somewhat swelling toward the apex, base sometimes subbulbous; stuffed to partly hollow; white (4A1) to pale yellow (4A3), surface farinaceous and almost smooth toward the base, shiny. No traces of a cortina could be seen. Context white, in pileus –3.2 mm thick, at umbo up to 4.4 mm, in stipe shiny. Odour strong, spermatic.

Chemical reactions on pileus: KOH (5%) negative, $FeCl_3$ (20%) olive green within fifteen minutes. On lamellae: KOH (5%) negative, $FeCl_3$ (20%) olive within fifteen minutes. On stipe: KOH (5%) rapidly pale yellow, $FeCl_3$ (20%) olive within fifteen minutes. On context of stipe: KOH (5%) yellowish white (3A2) within fifteen minutes, $FeCl_3$ (20%) dark grayish yellow within fifteen minutes.

Spores (7.6–)8.4–10.2(–12.2)×(5.6–)6.2–8.8 µm, Q=1.1–1.5; nodulose, with prominent nodules; yellowish brown. Basidia 22-28×8-13 µm, clavate, 4-spored, with almost hyaline to light yellow (3A5) contents in NH₄OH. Pleurocystidia 45-67×16-27 µm, fusiform to broadly fusiform with short-pedicellate or rounded base, thick-walled (-5.4 µm), almost hyaline to slightly yellowish in KOH. Cheilocystidia 34-48(-68)×17-23 µm, broadly fusiform with a short-pedicellate or rounded base, thick-walled (-5.2 µm), almost hyaline to slightly yellowish in KOH. Paracystidia on edge of lamellae mixed with metuloids, rather abundant, thin-walled, frequently catenate, with a total length up to 45 μ m, terminal cells 16–20×6–11 μ m, clavate to obovoid. Hymenophoral trama subregular to regular, made of hyphae 5.2-6.0 µm in diameter. Caulocystidia descending to 4/5 or almost to the base of stipe; apical caulocystidia measure $40-69 \times 12-24 \mu m$, are narrowly utriform to fusiform with pedicellate or rounded base and thick-walled (-5.6 µm), almost hyaline to slightly yellowish in KOH; the caulocystidia of middle of stipe are similar in morphology to the apical ones and rather abundant; on the base of stipe they measure $38-55 \times 13-22$ µm, are fusiform with rounded base, sometimes with a short pedicel, thick-walled (-4.8 µm), scanty to rare. Paracystidia mixed with metuloids; apical ones catenate, with a total length up to 36 µm, terminal cells 14–21×9–11 µm, obovoid to clavate abundant; on base of stipe they are catenate, with a total length up to 47 μ m, terminal cells 19–27×12–18 μ m, obovoid, scanty. Pileipellis a cutis, with the uppermost layer up to 66 µm thick, composed of subregular hyphae 2.8–5.8 µm in diameter, almost hyaline, the subtending layer up to 57(-136) µm thick, composed of subregular hyphae 2.6–4.2 µm in diameter, brown. Clamp connections present.

Collections examined: Tsurumaki, Setagaya-ku, Tokyo, Japan, June 18, 1988, leg. T. Kobayashi, CBM-FB 5234 (= TAKK 628-1): holotype, TMI 16981 (= TAKK 628-3), TAKK 628-2 in LAU, TAKK 628-4 in LAU: Isotypes; July 15, 1989, leg. T. Kobayashi, TAKK 845. Under *Pasania* and *Cedrus*, June 22, 1992, leg. K. Iguchi, CBM-FB 5237 (= TAKK 1732-1), TAKK 1732-2.

Etymology: from latin *fastuosus* (= superb, stout), referring to the stout basidiocarps.

Discussion

Inocybe fastuosa is similar to *I. pseudohiulca* Kühner, from which it differs by the prominent-nodulose spores, the shorter pleurocystidia and strong spermatic smell. *I. pseudohiulca* has larger spores: Kühner (1933) gives $(9.5-)10-13(-13.7) \times (6.5-)7.2-9.5 \mu m$, and Stangl (1989) gives $10-13.5(-15) \times 7.5-9(-10) \mu m$.



Plate 1 Inocybe fastuosa *T. Kobayashi Carpophores in the habitat.*



Figs. 1–7 Inocybe fastuosa *T. Kobayashi* 1: *Pleurocystidia,* 2: *Basidia,* 3: *spores,* 4: *Cheilocystidia and paracystidia,* 5: *Caulocystidia and paracystidia on apex of stipe,* 6: *Caulocystidia on base of stipe,* 7: *Carpophores.*

Inocybe fastuosa is also similar to *I. glabrodisca* Orton, but the latter has an almost greasy pileus (when wet), rounded knobbly (not prominent) spores and lageniform cheilocystidia. It resembles *Inocybe nodulosa* Kauffman, but differs by the presence of metuloid caulocystidia on the base of the stipe, by strong odor and lack of a conspicuous napiform bulb.

Inocybe fibrosoides Kühner resembles *I. fastuosa* due to spore character, but can be separated by a large marginate bulb of the stipe. In addition, *I. fibrosoides* is inodorous and its pileus is rimulose.

Inocybe fibrosa (Sow.) Gill. also resembles *I. fastuosa* due to the habit, but *I. fibrosa* has a white basidiocarp, a slightly rimose pileus, weakly nodulose spores and longer cystidia (70–90×10–16 µm).

Despite the fact that *Inocybe fastuosa* lacks a marginate bulb and has caulocystidia at the base of its stipe (scanty), the present author thinks that it belongs to the subgenus *Inocybe*, section *Marginatae* Kühner, as explained below.

In 1933 Kühner defined his section *Marginatae* by the absence of a cortina on the stipe which is completely covered by caulocystidia and shows a marginate bulb. Singer (1986: 605) accepted this section but emended it to allow species without a marginate bulb or having a stipe without caulocystidia in its lower part. It is in this sense that *I. fastuosa* belongs to the section *Marginatae*.

However, with the combination both of a non marginate stipe base and the almost lack of caulocystidia in the lower part of the stem, *I. fastuosa* could also be placed in section *Inocybe* (= *Cortinatae* Kühner & Boursier 1932), if a cortina would be present. In search of cortina-like structures in section *Marginatae*, a careful examination of *I. chrysochroa*, otherwise a true member of section *Marginatae*, revealed clamped hyphae of the same colour and of the same diameters those which are described from a cortina between the marginate bulb and the margine of the pileus in very early stage, indicating that section *Marginatae* and section *Inocybe* (= *Cortinatae*) could be lumped, and need critical re-evaluation.

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