

# Scan & Deliver - VALLEY

10/1/2013 12:08:19 PM

Call #: QK603.2 .M9 v.93-94  
(2005 JUL-DEC)  
Location: Valley AVAILABLE

OSU ILLIAD TN#: 694872



**Journal Title:** Mycotaxon  
**Volume:** 93  
**Issue:**  
**Month/Year:** 2005  
**Pages:** 315-317

**Article Author:** Wang, Y., Castellano, M., Trappe, J.

**Article Title:** *Melanogaster utriculatus* sp. nov. from Japan

**Borrower:** Castellano, Michael  
**Email:** castellm@onid.orst.edu  
**Delivery location:** VALLEY

**Library Contact Information:**  
Valley Library  
(541) 737-4488  
valley.ill@oregonstate.edu  
<http://osulibrary.oregonstate.edu/ill/>

**NOTICE:**

When available, we have included the copyright statement provided in the work from which this copy was made.

If the work from which this copy was made did not include a formal copyright notice, this work may still be protected by copyright law. Uses may be allowed with permission from the rights-holder, or if the copyright on the work has expired, or if the use is "fair use" or within another exemption. The user of this work is responsible for determining lawful use

Oregon State University Libraries

Pagers:

Initials: \_\_\_\_\_ NOS: \_\_\_\_\_ Lacking: \_\_\_\_\_

BC: Checked Table of Contents: \_\_\_\_\_ Checked Index: \_\_\_\_\_

Scanners:

Initials: \_\_\_\_\_ Date: \_\_\_\_\_

## *Melanogaster utriculatus* sp. nov. from Japan

YUN WANG\*

wangy@crop.cri.nz

Institute of Applied Ecology, Academia Sinica  
Shenyang 110015, China

MICHAEL A. CASTELLANO

mcastellano@fs.fed.us

USDA Forest Service, Pacific Northwest Research Station  
Forestry Sciences Laboratory, 3200 Jefferson Way, Corvallis, OR 97331

JAMES M. TRAPPE

trappej@onid.orst.edu

Department of Forest Science, Oregon State University,  
Corvallis, Oregon 97331-5752

**Abstract**—A new *Melanogaster* species is described and illustrated: *M. utriculatus* from Japan. The relationship of the new species to other closely related species is discussed. A key to *Melanogaster* species from Asia is presented.

**Keywords**—Basidiomycetes, Boletales, taxonomy

Years ago the senior author visited the Forestry Sciences Laboratory, Corvallis, Oregon, USA to work on taxonomy of *Melanogaster* under the tutelage of Dr. J. M. Trappe. Examination of all available *Melanogaster* specimens in numerous herbaria from around the world revealed five new *Melanogaster* species from Asia. The senior author has described three of them with Chinese colleagues (Wang et al. 1995), these being *Melanogaster spinisporus* and *M. ovoidisporus* from China and *M. fusisporus* from China and Japan. A new species, *M. utriculatus* from Japan is described and illustrated in this paper. The type collection is deposited in OSC (Holmgren & Keuken 1974).

***Melanogaster utriculatus* Y. Wang, Castellano & Trappe sp. nov.**

**Figs 1-2**

*Basidiomata* desiccata usque ad 3 cm in diam, subglobosa, irregularia vel rugosa. *Peridium* brunneum, 300-400 µm crassum, minute tomentosum, basi rhizomorphis appressis, stratis duobus: epicutis hyphis intertextis croceis, 2-4 µm crassis; subcutis hyphis armeniaticis, 5 µm crassis, cellulis inflatis usque ad 10-15 µm. *Gleba* atra venis avellaneis. *Sporae* laeves, (9-) 11-15 (-17) x (7-) 8-11 µm, late ellipsoideae

\*Permanent address: Crop & Food Research, Invermay Agricultural Center, Private Bag 50034, Mosgiel, New Zealand.

vel obovoideae, utriculo hyalino, rugoso inclusae, singulatim obscure brunneae, aggregatae atrobrunneae.

*Holotypus hic designatus: leg. N. Sagara (OSC Yoshimi #2237), Honshu, Kyoto, Iwakara, Japan, 24 October 1970.*

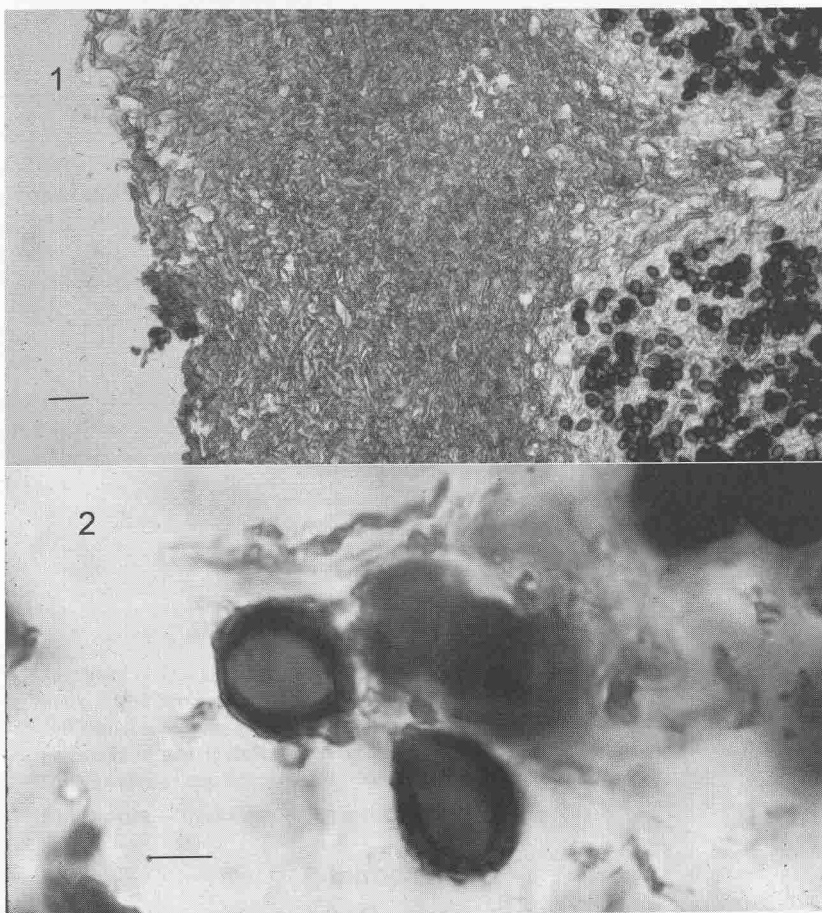
**Etymology:** Latin, referring to the utriculate spores.

**Sporocarp** up to 3 cm in diam, subglobose, irregular to wrinkled, deep brown, minutely tomentose when dried; rhizomorphs concolorous, abundant and appressed at base. **Gleba** black, firm, hard when dried, marbled with pale brown trama; the locules rounded or irregular, filled with spores embedded in gelatinous matrix at maturity. **Peridium** up to 300-400  $\mu\text{m}$  thick, two-layered: epicutis exuding a brown pigment in KOH, 15-20  $\mu\text{m}$  thick of pale yellow-brown, thin-walled, compactly interwoven hyphae, 2-5  $\mu\text{m}$  in diam; clamp connections abundant; subcutis 280-380  $\mu\text{m}$  thick, of deep orange-yellow, thin-walled, interwoven hyphae, 2-5  $\mu\text{m}$  in diam with many cells inflated 10-15  $\mu\text{m}$ ; clamp connections present. **Trama** of pale orange-yellow, interwoven hyphae, 4  $\mu\text{m}$  in diam, with round inflated cells up to 10  $\mu\text{m}$  in diam. **Spores** smooth, bilaterally symmetric, enclosed in a smooth to wrinkled, slightly inflated, or partially ephemeral utricle, (9-) 11-15 (-17) x (7-) 8-11  $\mu\text{m}$ , broadly ellipsoid to obovoid, pyriform or subglobose; the base truncate-cupped, 2-2.5  $\mu\text{m}$  in diam; walls 1-1.5  $\mu\text{m}$  thick; in KOH dark brown singly, black-brown in mass; not distinctive in Melzer's reagent; utricle 0.5  $\mu\text{m}$  thick but appearing thicker or inflated; **Basidia:** rehydrating poorly, hyaline, sphaeropedunculate, 4-spored, gelatinized at maturity.

On most spores of the holotype the utricle is smooth and tightly appressed to the spore wall, thus appearing to be the outer layer of a double wall. On some spores, however, it becomes wrinkled or inflated away from the spore wall, being revealed thereby as a true utricle. On apparently older spores the utricle flakes away. No other *Melanogaster* species has been described as having utriculate spores.

### Key to species of *Melanogaster* from Asia

1. Spores spiny or with utricle ..... 2
1. Spores smooth ..... 3
2. Spores minutely spiny ..... *M. spinisporus*
2. Spores with appressed or inflated utricle ..... *M. utriculatus*
3. Spores fusoid; basidia with 2-4 spores ..... 4
3. Spores not fusoid; basidia with 4-8 spores ..... 6
4. Spores longer than 13  $\mu\text{m}$  long ..... *M. trappei*
4. Spores shorter than 13  $\mu\text{m}$  long ..... 5
5. Peridium prosenchymatic, spores (8-) 10-11 (-15) x 6.5-7 (-9)  $\mu\text{m}$  ..... *M. natsii*
5. Epicutis prosenchymatic, subcutis pseudoparenchymatous, spores (10-) 11.5-13(-15) x (5-) 5.5-6 (-6.5)  $\mu\text{m}$  ..... *M. fuisporus*
6. Spores subglobose to globose, 8-10 (-11) x 7-8 (-9)  $\mu\text{m}$  ..... *M. subglobo sporus*
6. Spores ovoid, (5-) 5.5-6.5 (-7) x (3.5) 4-5 (-5.8)  $\mu\text{m}$  ..... *M. ovoidisporus*



**Figs. 1-2.** *Melanogaster utriculatus* (Yoshimi #2237). **Fig. 1.** Peridial section, bar = 32  $\mu\text{m}$ .  
**Fig. 2.** Spores, bar = 6  $\mu\text{m}$ .

### Acknowledgements

We appreciate the review comments of Drs. E. Cázares, R. Halling, and T. Lebel. We are indebted to herbaria cited for loan of specimens as well as these individuals: S. Yoshimi and Dr. N. Sagara, Kyoto, Japan. This study was supported by the Chinese Academy of Sciences, China.

### References

- Holmgren PK, Keuken W. 1974. Index Herbarium. Part I. The Herbaria of the world. 397 pp.  
Wang Y, Chang MC, Tao K, Liu B. 1995. New species and new varieties in the genus *Melanogaster* from China. *Journal of Shanxi University (Natural Science Edition)*, 18(4): 449-453.