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ODONTIA SACCHARI AND O. SACCHARICOLA, NEW SPECIES ON SUGAR CANE[1]

EDWARD ANGUS BURT

Mycologist and Librarian to the Missouri Botanical Garden
Associate Professor in the Henry Shaw School of Botany of Washington University

Among the higher fungi which have been collected by Mr. J. A. Stevenson in his pathological work at the Insular Experiment Station, Rio Piedras, Porto Rico, two species of *Odontia* on sugar cane are so well characterized as to be clearly distinct from species already known. Since Mr. Stevenson wishes to consider these fungi in a paper which will appear in the Journal of Agriculture, Porto Rico, Vol. 1, No. 4, 1917, the descriptions are now published.

Odontia Sacchari Burt, n. sp.

Type: in Burt Herb.

Fructification resupinate, effused—portions may be peeled from substratum when moistened — floccose, white, becoming ivory-yellow to pale olive-buff with age or in the herbarium, not cracked, the margin thinning out, floccose-reticulate under a lens; granules minute, sometimes so minute that they may be overlooked except in sectional preparations, crowded, about 8 to a mm.; in structure 100–300 μ thick, with the granules extending 15–45 μ more, composed of suberect, branched, loosely interwoven, hyaline hyphae 3½–4 μ in diameter, occasionally nodose-septate, not incrusted, bearing singly along their sides in their middle region hyaline, cylindric, even

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spores 9–11×3–4 μ; basidia simple, with 2 sterigmata; basidiospores hyaline, even, subglobose, 3¾×3–3¾ μ; cystidia septate, cylindric, more or less granule-incrusted, hyaline, 6–9 μ in diameter, protruding 20–60 μ, about 1–3 to a granule at the apex.

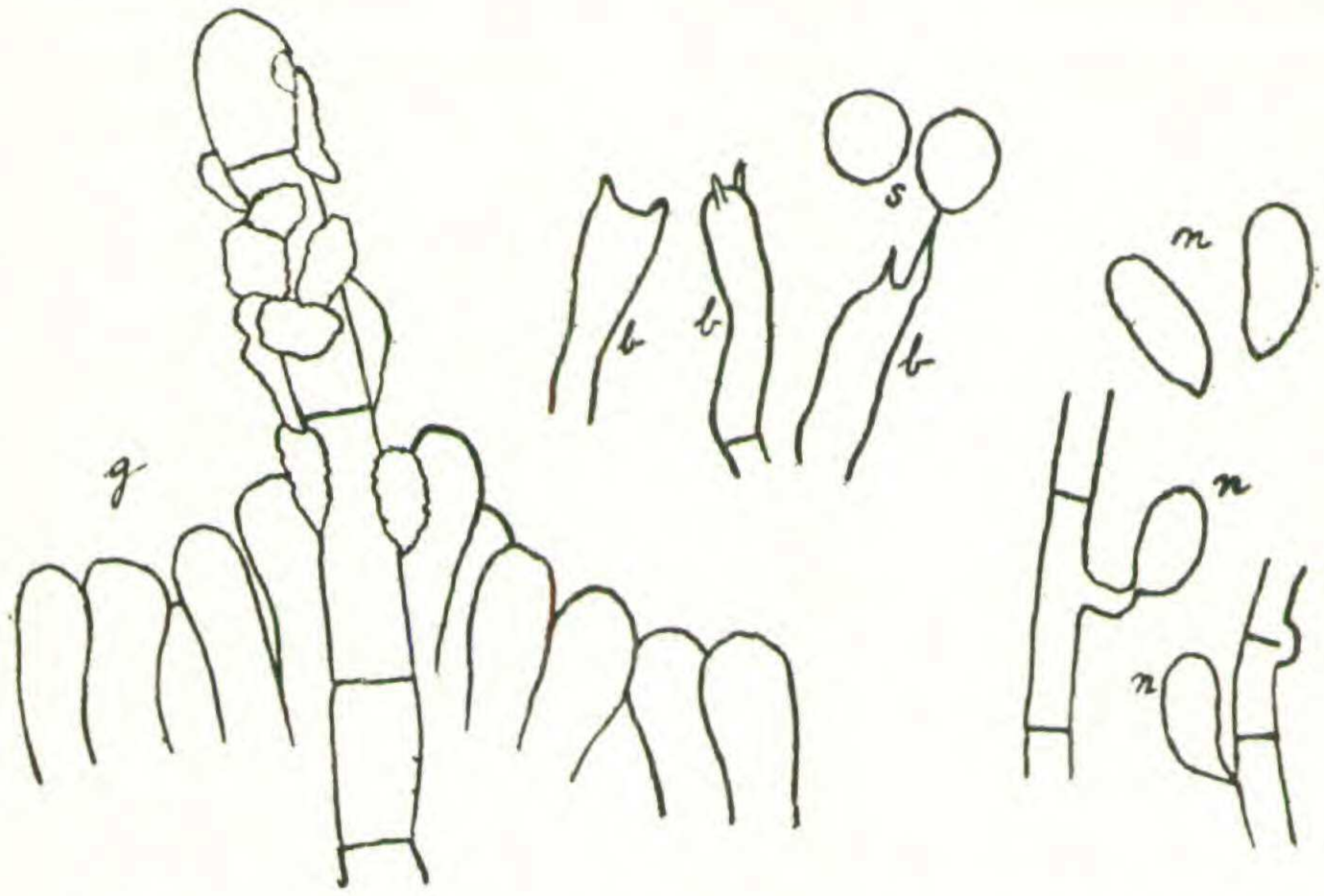

Fig. 1. O. Sacchari. Section of granule of fructification, showing young basidia and incrusted cystidium, *g;* basidia with two sterigmata, *b;* basidiospores, *s;* hyphae and lateral spores from interior of fructification, *n.* × 855.

Fructifications 3–5 cm. in diameter.

On dead sheath bases and cane trash of sugar cane. Cuba and Porto Rico. April, July, and August—the best specimen in August.

When specimens of this species were originally received from the Cuban Experiment Station in 1905, I was disposed to place the species in the genus *Peniophora,* because the hymenium was so nearly even in the dried condition. Collections recently received from Mr. Stevenson, Rio Piedras Experiment Station, show granules distinctly visible in the dry fructification. In all specimens granules show distinctly in sections prepared for microscopical examination, and each granule has one or more cystidia emerging from its apex, hence this species is a true *Odontia.* The noteworthy characters of *O. Sacchari* are its minutely granular hymenium, which is sometimes nearly even under a lens, the numerous spores

among the hyphae between the hymenium and the substratum, and the basidia with two sterigmata. The spores of the interior of the fructification are borne singly on short lateral outgrowths along the hyphae of the fructification, as shown in the accompanying figure. Only two basidiospores have been found, one of which was attached to the sterigma. Deeply staining basidia form a normal hymenium but are apparently immature, for only a very few basidia show sterigmata yet.

Specimens examined:

Cuba: Santiago de las Vegas, *W. T. Horne,* type.

Porto Rico: Rio Piedras, *J. A. Stevenson, 2908, 5628, 6382* (in Mo. Bot. Gard. Herb., 7090, 9488, and 54788 respectively, and *J. R. Johnston,* comm. by J. A. Stevenson, 4509 (in Mo. Bot. Gard. Herb., 54586).

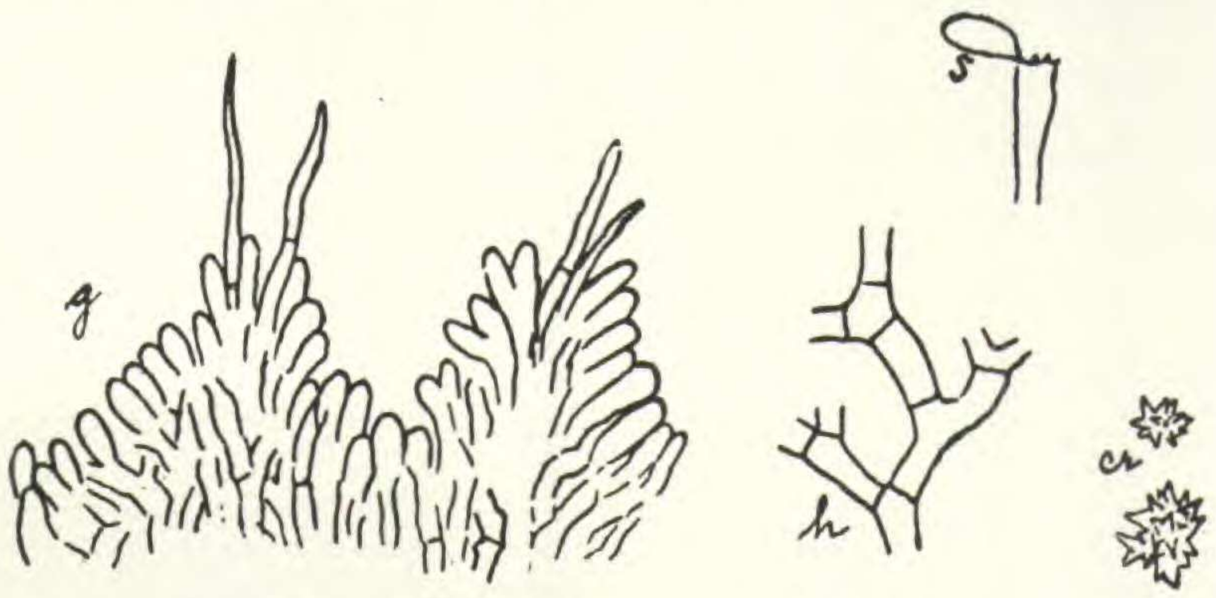

Fig. 2. O. saccharicola. Section of two granules, showing young basidia and hair-like cystidia, *g;* basidium and attached spore, *s;* hypha, *h;* stellate crystals, *cr.* × 855.

Odontia saccharicola Burt, n. sp.

Type: in Mo. Bot. Gard. Herb.

Fructification resupinate, effused, adnate, very thin, pulverulent, not cracked, whitish, drying cartridge-buff, the margin narrow and thinning out; granules minute but distinct, about 6–9 to a mm.; in structure 30–50 μ thick, with the granules extending 45–60 μ more, composed of loosely and somewhat horizontally arranged, branched, short-celled hyphae 2½–3 μ in diameter, not nodose-septate, not incrusted but having in the spaces between hyphae numerous stellate crystals 4½–7½ μ in diameter from tip of ray to tip of opposite ray; cystidia hair-like, flexuous, not incrusted, septate, weak, often

collapsed, tapering upward to a sharp point, 1½–3 μ in diameter, protruding 8–18 μ, about 1–3 to a granule at the apex; basidia simple, cylindric-clavate, with 4 sterigmata reduced to mere points; basidiospores hyaline, even, 5½ × 2½ μ, flattened on one side.

Fructifications 3–5 cm. broad, extending from the ground upward on sugar cane, in some cases 20 cm. or more and sometimes wholly surrounding the canes.

On living stalks of *Saccharum officinarum* and *Paspalum*. Porto Rico. December to February, May, June, and October—spore-bearing basidia found only in October and February collections.

This species is thinner than *O. Sacchari* and is composed of shorter-celled hyphae which are not suberect, not nodose-septate, and do not bear spores in the interior of the fructification. The stellate crystals are present abundantly in all specimens which have been received and appear to be of aid for the recognition of this species, especially so if the specimen is young.

Specimens examined:

Porto Rico: Rio Piedras, *J. A. Stevenson, 3176,* type, *564, 2657, 2657a, 3617, 6213* (in Mo. Bot. Gard. Herb., 10232, 9896, 6565, 8371, 10247, 54789 respectively); Canovanas, *J. A. Stevenson, 5502* (in Mo. Bot. Gard. Herb., 9502).