

## Matchmaker: Mushrooms of the Pacific Northwest

Below are written descriptions and images of fruiting bodies, mushrooms, of the fungal species in this ectomycorrhizal association. The information is from the web version of the Matchmaker: Mushrooms of the Pacific Northwest (MMPNW) created by the Canadian Forest Service and based on the Windows MMPNW version 1.3 by Ian and Eli Gibson.

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**LATIN NAME(S)** *Russula albonigra* (Krombh.) Fr. Monogr. Hymen. Suec. 2: 324. 1863; *Russula sordida* Peck; *Russula subsordida* Peck

**ENGLISH NAME(S)** blackening *Russula*, integrated *Russula*

**NOTES** easily identified by hard cap and stem and blackening (without reddening first) of all parts when old or when handled, (Arora); diagnostic characteristics are color change directly to blackish, the relatively thin and undifferentiated cap cuticle, and the low spore ornamentation, (Shaffer), Shaffer examined collections from WA, ID, also CA, MI, NY, TN, VT, France, **CHEMICAL REACTIONS** on flesh, formalin +, phenol+, FeSO<sub>4</sub>+, SV-, (Shaffer), FeSO<sub>4</sub> grayish red, in blackened part sometimes green, formalin red, in darkened areas brownish pink, quick reaction, anilin copper-red on gills, (Singer), olive reaction with cap flesh to FeSO<sub>4</sub>, gills pinkish and flesh light purplish with SV, (Grund)

**CAP** 6-17cm, pallid when young, soon becoming brownish then black; matte, margin even, unpeeling, (PNW keys), 7-20(25)cm, broadly convex or centrally depressed becoming broadly depressed when old; at first white, soon becoming grayish or blackish-brown a

**FLESH** hard, white rapidly darkening when bruised or cut to brownish gray, then black, (PNW keys), thick, crisp, brittle, white, bruising gray and then black, (Arora), thick, 1.2-2.0cm, hard, white, when cut soon becoming gray-brown to fuscous or black, (Shaffer), firm and compact, white or whitish, definitely never reddening at all, blackening directly on exposure within 1 minute when fresh, (Singer)

**GILLS** close to crowded, forked at stem, regular subgills; whitish, blackening when injured, (PNW keys), adnate to slightly decurrent, close to rather well-spaced, thick, brittle, usually alternating long and short; creamy-white staining gray or black, o



Ben Woo



John Dennis

**STEM** short; white, surface soon black from handling; unpolished, (PNW keys), 3-13cm x 2-5cm, equal or tapered downward, very hard, stout, solid, rigid; white becoming grayish or brownish-gray when old or where wounded, then black; smooth, (Arora), 2.5-10cm x 2-8cm, equal or enlarging to the base or the top, straight or curved, round or slightly flattened, solid becoming stuffed; white, when old or when bruised darkening like cap; bald to puberulent (finely hairy), unpolished, (Shaffer), 3.0-5.5cm x 1.5-3.5cm, central or somewhat eccentric, with various shapes, solid then stuffed, eventually hollow in many; pure white, usually with the base browning, becoming black where scratched and later becoming blackish all over; initially pubescent-pruinose, (Singer)

**VEIL** none

**ODOR** indistinct (PNW keys), slight or none (Shaffer), fruity or none when young, eventually developing an "adusta odor" (of old wine barrels), (Singer)

**TASTE** mild (PNW keys), mild or slowly peppery, (Arora), odd, mild with a menthol aftertaste, (Kibby), mild or faintly peppery (Shaffer), mild, slightly peppery after a few seconds, especially in gills, in very old specimens persistently mild and very slightly bitterish in the flesh, (Singer)

**EDIBILITY** edible if thoroughly cooked, but closely related Oriental species is poisonous, (Arora)

**HABITAT** mixed or deciduous woods, (PNW keys), scattered or in groups or troops under both hardwoods and conifers, (Arora), solitary to gregarious in deciduous and mixed forests, (Shaffer), on ground in woods, mostly under hardwoods, (Singer)

**SPORE DEPOSIT** white, Crawshay A, (PNW keys), white (Arora, Shaffer)

**MICROSCOPIC** spores 7.7-10 x 6.7-8.2 microns, ornamentation Patterson type C-1, (PNW keys), spores 7-10 x 5.5-7.5 microns, elliptic to nearly round, with amyloid warts and ridges, (Arora), spores (6.9)7.7-10(10.6) x (5.9)6.7-8.2(9.5) microns, usually ell

**NAME ORIGIN** means 'white-black', albus = white (Latin), niger = black (Latin)

**SIMILAR** like *densifolia* which reddens before blackening; like *nigricans* which reddens before blackening; like *dissimulans* which reddens before blackening; like *adusta* which may redden slightly before turning smoky brown or grayish black; like *R. atrata* Shaffer found at least in California, and distinguished with certainty only by examination of the cap cuticle: "*R. atrata* has a thick cuticle that is composed of interwoven hyphae with numerous free hyphal tips and varies from 200-450 microns in thickness, whereas that of *albonigra* is composed mostly of parallel hyphae with few free hyphal tips and is rarely thicker than 150 microns", (Thiers)

**SOURCES** Shaffer(5), Singer(8), Hesler(7), Arora\*, Kibby\*, PNW  
keys, Rinaldi\*, Thiers(3)

**FAMILY** Russulaceae of Order Russiales