

Fungus ashes and tobacco: the use of *Phellinus igniarius* by the indigenous people of North America

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The Smithsonian Institution National Museum of Natural History has unusual boxes which were made by the Inuit of Alaska in the late 1800s to hold the ashes of *Phellinus igniarius* basidiocarps. The fungus was burned and the ashes mixed with tobacco to give it a 'powerful kick'. Museum collections of *P. igniarius* indicate that its use by Native Americans as a masticatory or for smoking purposes was widespread across North America.

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Natural history museums in the United States and Canada have historic collections that often contain forest fungi used by Native Americans. Although the number of cultural artifacts that have fungi associated with them is limited, the objects that are available have revealed significant new information about the role of fungi in Native American culture. Many of these collections were made in the 19th century by ethnologists and museum collectors who wanted to obtain materials representing all aspects of Indian life. As would be expected for collections made over a century ago, some objects made from perennial fruiting bodies of forest fungi were misidentified as made from wood, roots or other materials, while those noted to be basidiocarps or polypores were not identified further and have received little subsequent study.

Museum searches by the author and many helpful curators have uncovered extraordinary objects made from fungi such as the large carvings of *Fomitopsis officinalis* sporophores collected from many regions of the Pacific northwest coast in the late 1800s (Blanchette *et al.*, 1992). Other findings included collections of fungal beads made from sporophores of *Haploporus odoratus* in medicine bundles, on ceremonial blankets and even some attached to human scalps (Blanchette, 1997). *Haploporus odoratus* was revered by the Blackfoot, Cree and other tribes of the North American plains for imparting spiritual power and used for sacred

purposes. An unexpected and curious finding from a search of the Smithsonian Institution National Museum of Natural History was a large number of Inuit objects noted to be fungus ash boxes.

Why did Native Americans make elaborate boxes to hold the ashes of a fungus and what was the cultural significance of this fungus to them? This paper provides a review of information on this subject, reports the correct identification of the fungus used, and documents how Native Americans used the fungus.

The fungus ash boxes, collected from many different sites along the Alaskan coast over a century ago, were made by the Inupiaq and Yupik groups specifically to hold the ashes of a fungus. They were made from bone, ivory and wood and ornamented with symbols and various decorations (Fig 1). The very fine workmanship and detail suggests that they were cherished personal articles. Many of the boxes in the Smithsonian Institution were collected by Edward W. Nelson and information about them was reported in an annual report of the U.S. Bureau of American Ethnology for 1896-97 (Nelson, 1899). He indicated that the boxes were used to hold the ashes of a tree fungus that was mixed with finely chopped tobacco. He states "When the tobacco has been cut sufficiently fine it is mixed with ashes obtained from the tree fungus and kneaded and rolled into rounded pellets or quids, often being chewed a little by women to incorporate the ashes more thoroughly. The tree fungus from which the ashes are made forms a regular article of trade with the Tinné of the interior, who bring it to the coast every



Fig 1 Fungus ash boxes in the Smithsonian National Museum of Natural History. This historical photograph from Nelson's 1899 publication includes two pouches, labelled 1 and 2, used to carry just tobacco. Objects labelled 3 to 14 demonstrate the wide assortment of boxes made from bone, wood and ivory that were used by the Inuit to hold the ashes of burned *Phellinus igniarius* basidiocarps. (Catalogue negative # 9619, Smithsonian National Museum of Natural History).



Fig 2 Photograph of the fungus collected by Nelson in the late 1890s that was burned by Native Americans and mixed with tobacco. An ornamented fungus ash box made from bent bone and wood is also shown. From Fitzhugh and Kaplan (1982) (Catalogue negative # 83-10850, Department of Anthropology, Smithsonian National Museum of Natural History).

summer and sell it to the Eskimo . . . The men do not usually chew the quids, but hold them in the cheek, and rarely expectorate the juice”.

Along with descriptions of the boxes, a drawing of the fungus was published in the 1899 ethnology report but no identification was made. The basidiocarp used for the drawing was collected at St. Michael, Norton Sound, Alaska and deposited in the Smithsonian Institution with the notation ‘Fungus for ashes to be mixed with tobacco’, catalogue number 43365. Under the remarks section in the card catalogue it states ‘Agaricus’. My examination of the fungus at the museum indicated it was *Phellinus igniarius* (L.:Fr.) Quél. An amendment to the record made in 1985 was recently brought to my attention, indicating that a microscopic examination of the fungus was made by Dr. Amy Rossman, USDA Mycology Laboratory, Beltsville, MD and it was identified as *Phellinus igniarius*.

Photographs of this fungus and one of the fungus ash boxes (Fig 2) were published more

recently by Fitzhugh and Kaplan (1982) in a book on the Bering Sea Eskimo. The importance of fungus ash as a component of chewing tobacco is presented in a section on smoking. This indicates that the coastal tribes obtained the fungus from the Yukon Indians who collected it from birch trees. The fungus ash box photographed for the book is described as being made by bending an antler strip, soaked in urine and bent slowly over a long period of time, and then decorated with concentric circles and other patterns. The top and bottom are made of wood with polished walrus teeth sections and tufts of seal hair attached to it. A list of ‘plants’ used by the Eskimos of the Yukon-Kuskokwim Delta is presented in a table, and the identification of the fungus added to tobacco is reported to be *Fomitopsis pinicola* (Sn.) P. Karst. This information is cited to have come from a publication by Ager and Ager (1980) who completed an ethnobotanical study of Nelson Island, Alaska. They report that this polyporus bracket fungus used for chewing tobacco grows

Table 2. Collections of *Phellinus igniarius* used by Native Americans in various museums.

Accession #	Affiliation	Museum ²	Collection notes
V-B-151	Blackfoot	CMC	Yellow punk (fungus) used for smoking
IV-B-618	Labrador Eskimo	CMC	Sample of a polypore fungus formerly used by Eskimo as tobacco
3-2400	Micmac	SMAI	Punk which is smoked with tobacco or alone
AA-831	Kwakiutl	GM	Fungus is burned and used by the northern tribes to mix with their tobacco
E043365	Inuit	SNMNH	Fungus for ashes to be mixed with tobacco

²CMC = Canadian Museum of Civilization, Ottawa, Canada; SMAI = Smithsonian Museum of the American Indian, Washington, DC; GM = Glenbow Museum, Calgary, Canada; SNMNH = Smithsonian National Museum of Natural History, Washington, DC

only on paper birch trees far inland from the coast and that its use was widespread among Indian and Eskimo groups in Alaska. They also report that the fungus was burned and the ashes added to chewing tobacco and snuff to give it a 'powerful kick'. Reference to McKennan (1959) is made and it is apparently in this publication that the fungus collected by Nelson in the 1890s was identified as *F. pinicola*. Although McKennan (1959) did not report the correct identity of the fungus, important historical information is presented to indicate that the ashes of the fungus may have been added to other plant mixtures, such as cottonwood bark, for chewing and masticatory purposes before tobacco was introduced by the Russians or Europeans. A publication by Osgood (1937) reports that some Indian tribes still used the fungus ash/cottonwood bark mixture instead of tobacco when his study was completed.

It may be that the wrong name for the fungus in McKennan's (1959) publication occurred because the identification was made from the drawing of the basidiocarp (Nelson, 1899) and not the actual fruiting body stored in the Smithsonian Institution. This wrong identification has also been reported by several other researchers who cite McKennan's 1959 publication. The drawing in the 1899 ethnology report and even the photograph published by Fitzhugh and Kaplan (1982) resemble *F. pinicola* when the basidiocarp surface of these black and white images is observed. However, the colour of the hymenial layer, context and other characteristics of *P. igniarius* are distinctively different from those of *F. pinicola* making it relatively easy to differentiate if the basidiocarp

is examined. It is also not common to find *F. pinicola* on birch trees but far more common to find *P. igniarius* fruiting and decaying this tree species. Another wrong identification was made in a more recent publication on Tanaina plant lore (Kari, 1995). This reported the fungus as *Ganoderma applanatum* (Pers.) Bat. It states that the Inland, Iliamna and Upper Inlet name for the fungus is 'elch'ix' or 'elch'ish' which refers to a burning taste, and that "the Dena'ina in all areas dry and burn the fungus and mix the ashes with chewing tobacco". A description of the fungus is given as "brownish and smooth on the lower surface and black and grey and furrowed on the upper surface". This description and a photograph of an elder holding two basidiocarps clearly identify the fungus discussed as *P. igniarius*.

The widespread use of fungus ashes for tobacco by the Inuit is certainly evident by the array of different fungus ash boxes collected over a large area of the Alaskan coast. However, this fungus was more widely used by many Native American tribes throughout North America than previously realised. Table 2 presents a list of basidiocarps in collections from different museums that were identified by the author as *P. igniarius*. They are from collections representing the Micmac of Nova Scotia, Inuit of Labrador, Blackfoot of the North American Plains and Kwakiutl of the British Columbian Coast. These collections also suggest that, in addition to mixing *P. igniarius* with tobacco for chewing, it was used for smoking. Collection notes for the Blackfoot and the Micmac objects state "yellow punk (fungus) used for smoking" and "punk which is smoked with tobacco or alone", respectively. To date, these are the only

Table 1. Fungus ash boxes in the Smithsonian National Museum of Natural History, Washington, DC

Accession #	Location Collected	Description
36247	Kuskokwim Delta, Alaska	Trinket box for fungus ashes
37858	Kuskokwim Delta, Alaska	Wooden fungus ash box
38335	Kuskokwim Delta, Alaska	Wooden box for tobacco fungus ashes
38472	Lower Yukon, Alaska	Ornamented box for fungus ashes
38664	Kuskokwim Delta, Alaska	Wooden box for fungus ashes
43804	Unalakleet, Alaska	Box for fungus ashes
43822-3	Unalakleet, Alaska	Bone box for fungus ashes
44150	Cape Nome, Alaska	Wooden box for fungus ashes
44237	Cape Darby, Alaska	Fungus ash box
44390	Cape Nome, Alaska	Box for fungus ashes
44960	Sledge Island, Alaska	Fungus ash box
45515	Cape Nome, Alaska	Box for fungus ashes
48255	Nunivak Island, Alaska	Fungus ash box
48558-9	Kotzebue Sound, Alaska	Fungus ash box
48728-9	Rasbonsky, Alaska	Box for fungus ashes
49067	St. Michaels, Alaska	Bone box for fungus ashes
64182-7	Hothan Inlet, Alaska	Ivory box for snuff, fungus

examples of *P. igniarius* basidiocarps found but there are undoubtedly more of them in other museums and additional ethnological information to be found. Reports of using this fungus for snuff (Table 1 object #6418 and Fitzhugh and Kaplan, 1982) also warrant further investigation to elucidate the history of its use for this purpose.

What information do Native Americans that are living today have on this fungus? A University of Minnesota Ph.D. student in anthropology, David Tennesson, was participating in an archaeological survey in the Mulchatna River area of Alaska and learned that some Native Americans still have knowledge of mixing fungus ashes into tobacco. Two basidiocarps collected from birch near the Chilikadrotna River in Alaska were identified as "punk that was burned and ashes mixed with tobacco" by Dena'ina Athapaskan tribal elder and president of the Nondalton Tribal Council, Bill Trefon, and John Branson, Lake Clark National Park historian. The basidiocarps (Fig 3), shipped to me for identification, were both identified as *P. igniarius*.

It is clear from the information presented that ashes of *P. igniarius* basidiocarps were widely used by Native Americans to mix with tobacco. The masticatory effect and 'powerful kick' provided by the fungus appears to be unique to this particular species. Native Americans

recognized this specific type of tree fungus for its unique properties and selected it from the many other forest fungi available to them. It also appears likely that *P. igniarius* was used before tobacco was introduced to the Pacific northwest coast and may have been an important commodity among Indians of many different cultures.

It is intriguing to find that the fungus used in the Alaskan region is the same as the one used by Native Americans in other parts of the Pacific Northwest, the northern Plains region of the United States and Canada, Labrador and in Nova Scotia. Additional investigation should be able to further document other museum collections that have examples of this fungus, and ascertain how it was used among the various Native American tribes. New ethnological studies should also reveal greater documentation of its use by Native American elders. The beautiful artistry associated with the fungus ash boxes made by the Inuit of the Alaskan coast gives us an appreciation of the special importance of this fungus, and these fungus ash boxes serve as a catalyst to further our understanding of the ethnomycology of Native American culture.

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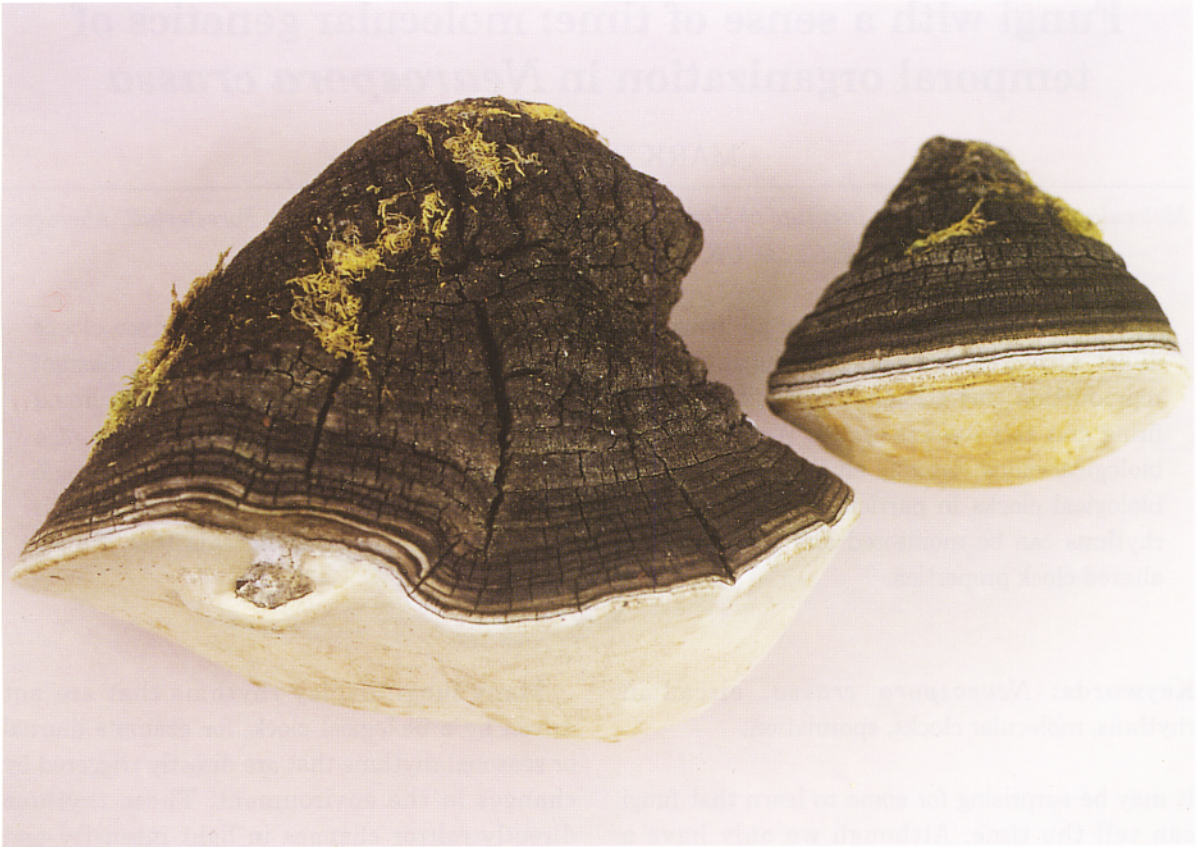


Fig 3 Two basidiocarps of *Phellinus igniarius* collected in June 2000 near the Chilikadrotna River, the major tributary of the Mulchatna River, Alaska, and identified by Dena'ina Athapaskan elder, Bill Trefon, as "punk that is burned to make ashes and mixed with tobacco".

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