

COLLECTIONS CORNER

CONNECTING MUSEUM COLLECTIONS AND ARCHIVAL DOCUMENTS: WILLOW FISHING NETS FROM THE NORTHWEST TERRITORIES OF CANADA

An important supplement to living knowledge about the cultural uses of plants can be found in museum collections and in associated historical documents and correspondence. In particular, making the connection between museum objects and archival documents (which have often become physically separated from one another) can lead to important insights into historical plant use. Such was the case with a recent research project looking at four artefacts from the Northwest Territories (NWT) of Canada—fishing nets and lines made from willow (*Salix* spp.) bark—in the Economic Botany Collections (EBC) at the Royal Botanic Gardens, Kew.

These four artefacts are from the Mackenzie River District, in the northwestern part of the NWT. This region forms part of the western sub-arctic cultural area, and encompasses the traditional territory of a number of northern Athapaskan speaking peoples, known collectively as the Dene. The traditional livelihood of the Dene is generally characterised as being focused on hunting and fishing (Thompson 1987:139; Mason 1946:15; Osgood 1936b:15, 23–24); however, plant resources also played an important role in providing food, medicines, and materials (see Marles et al. 2000).

One of the earliest observations on the use of willow bark for making fishing line and nets can be found in the journals of Samuel Hearne, an employee of the Hudson's Bay Company (HBC) who travelled overland from Hudson's Bay to the Mackenzie River District between 1769 and 1772. Hearne arrived at the southern shore of Great Slave Lake, which he referred to as "Lake Athapuscow," in January 1772. His journal entry for 11 January notes a remarkable encounter with a lone Dogrib woman, who had survived the entire winter by herself after her family had been attacked by a neighbouring tribal group. Hearne noted that the woman was in good health, and that she had provided for herself by making snares from deer sinew which she used to catch partridges, rabbits, squirrels, porcupines and beavers. She had constructed a small dwell-

ing, and made herself snowshoes and clothing from materials at hand. Hearne further noted that:

Her leisure hours from hunting had been employed in twisting the inner rind or bark of willows into small lines, like net-twine, of which she had some hundred fathoms by her; with this she intended to make a fishing-net as soon as the Spring advanced. It is of the inner bark of willows, twisted in this manner, that the Dog-ribbed Indians make their fishing nets; and they are much preferable to those made by the Northern Indians. (Hearne 1911:265)

The EBC at Kew contain four examples of fishing nets and lines made of willow bark from the NWT of Canada. The earliest of these was sent to Kew in 1850 by Dr. John Rae, an employee of the HBC and a well-known arctic explorer. At the time, Rae was stationed at Fort Simpson (Athapaskan name *Liidli koe* [Vyvyan 1998:256]), at the confluence of the Mackenzie and Liard Rivers, just west of Great Slave Lake. Fort Simpson falls within the traditional territory of the Slavey (a Dene people); however, the Dogrib (another Dene group) also frequented the trading post.

Although there is no original documentation physically accompanying the Fort Simpson fishing net in the EBC, Kew's Archives contain a letter from Rae that gives some details of its origin. Rae wrote to William Hooker, then Director of Kew, on 11 June 1850, noting that he had been informed of Hooker's desire to obtain "as many of the articles manufactured from vegetable substances as possible." Hooker had established the Museum of Economic Botany at Kew only three years earlier, and was attempting to build up the collection through donations from explorers, colonial officials, and others. For his contribution, Rae sent a sample of fishing line and a net made from the bark of Arctic willow (*Salix arctica*; EBC 41363; Fig. 1). According to Rae: "Nets and lines of this substance are in common use among the Slave and Dog Rib Indians and are generally made by the women"



Fig. 1. Fishing net and string of the inner bark of *Salix arctica*, collected by Dr John Rae at Fort Simpson, Mackenzie River District, NWT, Canada, 1850. Made and used by the Slavey and Dogrib (EBC 41363).



Fig. 2. Twisted inner bark of *Salix cordata*, collected by Robert Campbell at Peel River (Fort McPherson), Mackenzie River District, NWT, Canada, 1851. Made and used by the Gwich'in (EBC 41391).

(RBG Kew 1851–1858: fo. 393). The string (or line) sent by Rae is about 3 mm in thickness. This was likely the raw material used in the construction of nets, or alternately it may have been used on its own for various purposes. The net itself is very fine; the individual twisted strands of bark are approximately 1 mm in thickness and are knotted at approximately 5 cm intervals forming the mesh of the net.

In addition to the sample sent by Rae, the collections at Kew also contain three artefacts illustrating the use of willow bark in manufacturing fishing nets and lines collected near Peel's River in the vicinity of Fort McPherson, on the east bank of Peel River at the junction with the Mackenzie River. Fort McPherson (Athapaskan name *Teel'it zeh* [Vyvyan 1998:257]) was established by the HBC in 1840 under the name of Peel River Post, and was the first European settlement to be established in Gwich'in territory (Osgood 1936a:14).

The three artefacts from Peel's River were sent to Kew by Robert Campbell, also an employee of the HBC. Campbell wrote to William Hooker on 8 September 1851, with the following description of the fishing nets and their production:

I have now the pleasure of forwarding to you a set of willow bark I just procured from a Loucheux [Gwich'in] Woman with lines for backing nets, fishing & &.

The willow that yields the bark so universally used

by the Indians for nets, fortunately grows abundantly along all the water courses. I forward a slip of it, with specimens of the bark in every stage of the process, from when its inner rind is [?] with an awl till it is ripped in strips for spinning into twisted threads ready to be laced into nets.

The whole process is simple & expeditious. The woman goes into the willow thickets and bends them down till they break and strips off the bark downwards, then [?] the inner & serviceable rind with an awl, then with the teeth and hand separate it from the outer always towards the root, it is next made into slender strips, & if dry are wetted in the mouth, or water, and twisted by the hand, on the thigh above the knee, into threads joining one to one and coiling the [?] into a ball ready for lacing into nets. (RBG Kew 1851–1858: fo. 76)

The items which accompanied this letter show the bark of the heart-leaf willow (*Salix cordata*) in various stages of preparation. The specimen which appears to be in the earliest stage of production shows the narrow strands of inner bark loosely twisted together forming individual strands about 1 mm in thickness (EBC 41391; Fig. 2). The next specimen (EBC 41426; Fig. 3) shows the twisted strands plaited together forming a rope about 5 mm in thickness. It is unclear whether the plaited bark was used in the construction of nets, or on its own as rope or twine. The example of a fishing net (EBC 41446; Fig. 4) appears to be made from twisted, rather than plaited, strands of inner bark. The individual strands are about 1 mm in thickness and are knotted at approximately 7 cm intervals to form



Fig. 3. Plaited inner bark of *Salix cordata*, collected by Robert Campbell at Peel River (Fort McPherson), Mackenzie River District, NWT, Canada, 1851. Made and used by the Gwich'in (EBC 41426).

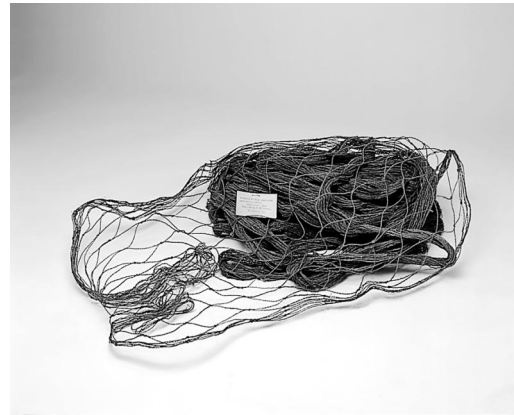


Fig. 4. Fishing net made from inner bark of *Salix cordata*, collected by Robert Campbell at Peel River (Fort McPherson), Mackenzie River District, NWT, Canada, 1851. Net is approximately 0.8 m wide, and 28.4 m long. Made and used by the Gwich'in (EBC 41446).

the mesh of the net. The net measures approximately 24.8 m in length.

Campbell's description of the manufacture of fishing nets from willow bark is important in a number of respects. First, Campbell provides a step-by-step account of the manufacture of the nets, and also comments on the division of labour in the community, whereby women were generally responsible for manufacturing nets (a statement corroborated by Rae's letter above). Second, this description dates from a time when these nets were still being actively made and used. Similar descriptions have been recorded by anthropologists and others in the early to mid-twentieth century (see for example Mason 1946:18; Osgood 1936b:72; Morice 1931:188); however, by the first decade of the twentieth century, commercial twine had already replaced willow bark as the material used for the construction of nets (Mason 1946:18). As a result, information on the construction of the nets would likely have been based on the recollections of community members. Campbell's account is based on first hand observation, and is illustrated by the physical objects that can be examined for details of technique and materials.

In recent years, organisations such as the Dene Cultural Institute have been documenting traditional environmental knowledge in the NWT (Johnson and Ruttan 1992). This knowledge is an important part of the cultural heritage and identity of the Dene people, and forms the foundation for the living relationship between

the people and the land. It is hoped that collections such as those at Kew, along with associated archival documentation, can provide a valuable source of information concerning traditional plant use among the Dene of the NWT that can complement this community-based research.

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