

# THE BOTANICAL PARTS OF THE PATTERSON BUNDLE:

## *A Report to the Utah Native Plant Society*

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It is with great pleasure that I present my report to Utah Native Plant Society. After almost 2 years of work, I am able to give to you my findings of the analysis of the botanical parts in the Patterson Bundle. The Bundle was discovered by Margaret and Bryce Patterson buried under a ledge in the Book Cliffs of southern Utah in 1988 and was given to the Bureau of Land Management in Moab for safekeeping. Among the varied contents are smaller bundles of roots and plant parts and basketry materials. I received permission to study the Bundle from BLM district archaeologist, Bruce Louthan, who had already had an article published on the subject in the Fall 1990 issue of Canyon Legacy. The grant from UNPS helped support my efforts.

I became interested in doing this study as a result of my experience as an herbalist. When I first spied the grouping of dried roots laid out on a piece of old leather in the back of the display case, I thought the crown of one of them looked like one I am very familiar with and use in my pharmacy, Osha, *Ligusticum porteri* (Umbelliferae). Osha grows above 7,000 feet and I knew it was in the La Sal mountains next to Moab so it could have been obtained from the area close to where the Bundle was found. As an herbal practitioner, I use Osha to help relieve bronchial problems such as coughs and congestion. Some indigenous cultures consider it sacred and useful in other ways. It is definitely an herb of great importance, potency and usefulness. Looking at this grouping, I wondered if all the plants represented could be of such important medicinal value and, if so, I wanted to try to learn what they were.

Having decided to try to identify the plant parts, I spent a considerable

time sitting with the contents of the Bundle just looking at everything. This time gave me an opportunity to make observations that helped bring focus to my study. Although the Bundle has not been attributed to a particular native culture, carbon dating had shown that the leather wrapping was between 200 and 400 years old which would have been during the time of contact with Europeans. I noticed, however, that there was nothing of Anglo nature included in the contents (i.e., no metal, woven fabric or thread). This was one of the reasons that both Bruce and I suspected that the Bundle could be older than thought which piqued my interest even more. We believed that without European influence the contents, context and nature of the Bundle would more accurately represent the culture of the people who made it. Interestingly, BLM recently resubmitted it for carbon dating using a different technique and the results show that it is between 400 and 600 years old.

Another observation I made was that there was nothing exotic among the contents such as macaw feathers or pigments from another part of the world. It appeared that everything, i.e. stones, red ochre, feathers and animal parts and even the leather wrappings, were from materials that could be found locally. These observations led me to think that it was possible that all the plant parts could be found locally as well. Considering that the horse had not yet been introduced, it was reasonable to think that all traveling was still done on foot; therefore, the areas for hunting and gathering would have a limited range. Based on this, I constructed a theory that began with the notion that everything in the Bundle could be found in fifty miles or less from the site where it was discovered. Since the region of possibility included mountains, rivers, deserts and canyons, there was a very large variety of plants that could be gathered from different elevations and bioregions.

Thinking that there must be other such collections in museums in Utah and surrounding states that might offer insight into my study, I contacted them only to learn that they had nothing remotely similar. I was even allowed to examine all the boxes in storage that contained botanical parts at the Edge of the Cedars Museum in Blanding, Utah, but found just the usual pinyon nuts and yucca fiber one would expect. Realizing how unique the Bundle collection is left me awed and a little stymied as to how to proceed. Fortunately, help and direction came from former teachers, Dr. Karen Adams of the Crow Canyon Archaeological Center in Cortez, Colo. and Dr. Enrique Salmon from Ft. Lewis College in Durango, Colo.. They advised that initial evaluation should be based on morphology by bringing modern plant material in to visually compare to the contents of the Bundle.

When I began to try to determine what the roots were, I received some suggestions about possible identities, but they did not make sense to me. For example, there is a big, chunky root in the collection that was assumed

to be Canaigre, *Rumex hymenosepalus*, "because it was used to tan hides". I investigated how much root it would take to tan a hide and realized that a thumbsized piece would not go very far in the tanning process. It was also thought that some of the roots had to be Rabbitbrush, *Chrysothamnus* sp., "because the root was known to have been chewed like gum". I asked why the people would go to the trouble to dig up, clean, dry, wrap and bury small amounts of plants that are in abundance all around them all the time. This thought created a doubt that reinforced my idea that the roots were more rare and of greater importance and supported my decision to investigate other possibilities for identification, specifically, to look for roots in the area that were known to have significant medicinal value. I had rejected the idea that the roots in the Bundle might be food because the amount stored was so small. The quantities resembled the amounts I would use as an herbal practitioner to treat an ailment.

Making sense of the roots seemed like an formidable task at first because there were so many parts and pieces. I took my time to look very carefully and realized that in some cases what looked like many roots was actually a couple of roots cut into thirds or quarters. I could place the parts end to end and see how the pieces fit. It is remarkable how clean and exquisitely preserved these roots are as a result of the carefulness with which they were dug, handled and stored.

The method I used to identify the roots was to visually compare a modern root with an old one from the Bundle under a microscope. To do this, I had to create my own herbarium because most herbarium specimens do not have roots attached. This meant that I had to go out in the field, find the plant, dig it up, clean it, dry it and bring it into the BLM office where the Bundle is stored. This was very time consuming and at times discouraging. Imagine how I felt after spending the day looking for *Rudbeckia laciniata* which only grows in one small place in the state but then discover that it was not a match.

It has been a journey to get to this point in that the discovery unfolded slowly, one step at a time. It was not until I reached a destination that I knew where to go next and there were many times I thought I was at a dead end. Every time, however, a green light would eventually flicker and I would be off to the field, herbarium or library to investigate yet another idea or possibility. I had help and encouragement along the way from those already mentioned and Daryl Trotter, botanist for the BLM, Dr. Stanley Welsh and Dr. Duane Atwood of Brigham Young University, Bill King and UNPS, people at the Natural History Museum and Edge of the Cedars Museum, Margaret Patterson, Liz Montague, Sara Finnegan and others.

The following is the inventory of my findings of the plant parts in or

associated with the Patterson Bundle. The item numbers represent those assigned by the BLM to every item in the Bundle. I have separated the list into 5 categories: Herbs, Basketry Materials, Necklace and Trim, Wrapping and Miscellaneous.



## HERBS

**Item #8-** This is the largest grouping of an assortment of plant materials and, although there are many pieces, it turns out to have four plants represented: three roots and a leaf. They are wrapped together in one piece of leather and a small stone blade is with them.

### 1) Osha, *Ligusticum porteri*, (Umbelliferae)

- Medicinal Value- Just the smell of an Osha root tells you that this plant has much to offer. It is commonly given to help relieve respiratory problems brought on by the cold or flu. It has mild antiviral and antimicrobial properties. Osha has many other applications and uses and is considered sacred by some indigenous cultures. The inclusion of a small stone blade with this grouping might suggest that the roots and leaf were scraped to create smaller pieces that could be ingested or used in an infusion.

### 2) Pleurisy Root, Butterflyweed, *Asclepias tuberosa* (Asclepiadaceae).

- Medicinal Value- This is a powerful plant that is often used in cough remedies as an expectorant. It is also muscarinic meaning that it can cause cardiac inhibition, vasodilation, gastrointestinal stimulation and other parasympathetic effects.

3) Arrowleaf Balsamroot, *Balsamorhiza sagittata* (Compositae)

- Medicinal Value- This is a thumbsized piece which includes the crown. Dr. Welsh confirmed that it was Balsamroot. Michael Moore likened the usefulness of Balsamroot to that of *Echinacea sp.* from the Plains. It is an immunostimulant and inhibits respiratory viruses.

4) Yucca leaf, *Yucca sp.* (Agavaceae)-

- Medicinal Value- Dr. Welsh identified this as the base of a yucca leaf. Yucca root is used to relieve arthritis. Recent studies of some species show antiviral and antimicrobial actions.

**Item #3-** Pleurisy Root, Butterflyweed, *Asclepias tuberosa*

- This leather wrapping contains the tops of two of the same kinds of roots.

**Item #9-** Balsamroot, *Balsamorhiza sagittata*

- This small, fringed pouch contains small pieces of the big Balsamroot. These fit like puzzle pieces to the bottom of the big root in Item #8. Why these fragments were stored separately from the mother root is a mystery.

**Item #2-** Stream Orchid, Helleborine, *Epipactis gigantea*, (Orchidaceae)

- This clump of multiple roots is stored in what looks like the heel of a worn out moccasin. This was one of the most difficult ones to determine but, after examining many possibilities, I believe these roots most closely resemble the Stream Orchid. It is another powerful herb that has many uses, i.e., for tachycardia, migraines and poison ivy, to name a few. Michael Moore recommends using it in place of the rare Lady Slipper, *Cypripedium sp.*, also from the Orchid family.

All of these plants I have discussed are available within the close region I described. Most would have to be harvested at certain times of the year when they were available and the people were in the area where they grew, such as during a summertime hunting expedition in the mountains. It has been very exciting to discover that these few plants represent the most potent and effective plant medicine that the area has to offer.

**BASKETRY MATERIALS**

There are four circles of uniformly stripped lengths of bark.

**Item #53-** Sumach, *Rhus trilobata*, (Anacardiaceae)

**Items #52, #54, and #55-** Willow, *Salix sp.*, (Salicaceae)

Some possibilities are: *Salix amygdaloides*, *S. eriocephala*, *S. interior*, *S. lucida*.

### **NECKLACE AND TRIM**

*Juniperus sp.*

Exquisite hand work created these fragile and beautiful pieces that include juniper seeds along with bone, sinew and leather. The seeds have been drilled to allow them to be strung.

### **PRESERVATIVE WRAPPING**

*Juniperus sp.*

Margaret Patterson who found the Bundle reported that when she unearthed it she had to dig through considerable juniper bark that had lined the pit it was in. It is presumed that the juniper bark acted as an effective repellent to bugs and organisms that could destroy the contents since they are still so beautifully preserved.

### **MISCELLANEOUS**

There are sixteen small plastic bags that contain bits and pieces of what appear to be fragments of the plants already mentioned. They may have broken off from the larger roots over time or as a result of being handled. There is a small twig or branch that was unidentifiable to me and Drs. Welsh and Atwood. There is also a horn spoon with a wooden handle.

**I**t has been such a unique experience to have the opportunity to examine these botanical parts so closely. I feel I have now taken the study as far as possible with my findings on morphological comparison. I can imagine taking it further to have more sophisticated anatomical testing done, especially on the *Epipactis* and *Yucca*. Although I could not predict what herbs I would discover when I started, now that I see the whole picture, it does make very good sense that the biggest medicine of the area would be stored and protected in such a careful manner, especially if it was not easily

obtainable throughout the year. I cannot presume to know for what or how these plants were meant to be used, but I can imagine concocting a very effective infusion from what is available here. Either singly or in combination it is reasonable to believe that these herbs could have a significant, positive effect on a very sick person. Even if they were meant to be used ceremonially, they represent powerful healing potential.

In an attempt to understand more about the context of the botanical parts of the Bundle, I brought the animal parts to the University of Utah to be analyzed by Jack Broughton, assistant professor of anthropology, and Dr. Eric Rickart, curator of vertebrates. I had not examined these materials very closely because I did not feel I had the expertise, and I did not want to disturb the contents more than necessary. They determined that the contents of the five small pouches that contained animal body parts were; cottontail rabbit foot bones, a tail of a short-eared owl, a single, headless native trout, a rabbit arm bone, a rabbit leg, the skin of a small mammal, and an unidentifiable body part.

It seems apparent that the entire contents of the Bundle were much more than a stash of extra supplies. It looks to me to be more of an assembly of precious, valuable and important materials of great significance, and I always regarded it in this way. Maybe we can never know the use of the herbs in the Bundle but I think we can surmise that these plants were of special importance to the people who assembled it.

I am greatly appreciative of the grant from UNPS. It seems particularly fitting that the funds from the grant went to research a most unique representation of Utah cultural and botanical history from a time and people about which little is known. Thank you for your support!

### **Suggested Reading:**

Louthan, Bruce D. Fall 1990. "*The Patterson Bundle: A Pre-horse Ute Subsistence Kit?*" Canyon Legacy: a Journal of the Dan O'Laurie Museum-Moab, Utah, Number 7. ISSN: 0897-3423

Moore, Michael. 1979. *Medicinal Plants of the Mountain West*.  
\_\_\_\_\_. 1989. *Medicinal Plants of the Desert and Canyon West*. Museum of New Mexico Press, Santa Fe, N.M.

Moerman, Daniel E. 1998- *Native American Ethnobotany*. ISBN 0-88192-453-9

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