



THE AMAZING FEATHER

As one traverses the Natural Area, you might, by chance, come across one of the nature's most diversely used, beautifully constructed, and fascinating structures, the feather. It could be a large discard from a red tailed hawk, owl, or wild turkey, or a small specimen from a song bird. The history of that piece of skin covering on the ground at your feet involves some very interesting creatures from the past. Recent fossil finds in China confirm that feathers originated as dinosaur scales that became modified for better insulation, or maybe for colorful displays to impress the other sex. While the dinosaurs disappeared, the feather carried on to become a basic component for the bird family. At first these plumes were not aerodynamic, and it would take millions of years of additional engineering to perfect the present day flying product.

So, pick up a feather and check out the details. The light, tough construction is of a special protein called keratin, the same material of our fingernails or hair. But unlike our hair that is extruded from a follicle as a stack of dead cells, growing feathers are alive and bathed in blood as they form a complex structure of shafts, branches, and barbs that lock everything together. When the feather is complete the blood vessels retract leaving a hollow, light weight shaft that makes a pretty good ink pen. The intricate mass of branches hold lots of air or loft in a small space creating an insulation unexcelled by synthetic materials. Individual birds have many different types of feathers, depending on their use, and a small bird may have over 1,500 feathers that weigh in total twice as much as the bird's skeleton. The fine, interlocking system of feathers can provide a waterproof layer for those birds that live on water. While birds have wings that act as airfoils for lift, individual flight feathers are also shaped with a curved upper surface for extra lift. They are airfoils within airfoils. The long slender flight feathers are shed and are often the ones that you will find on the ground. Birds have muscle control over all their wing feathers so they can constantly adjust their positions for optimum flight in an environment of an atmosphere that is changing in temperature, air pressure, and wind velocity.

There is another important use for feathers and it involves color. Keratin is a material that takes color well, and color is very important for a bird's life style. Selection for mating often depends on the male's ability to attract a gal with a knock-out display of color, while the female's success in raising offspring depends on colors that camouflage her from predators. Thus changes in bird genetics over time depends on colors. It is thought that dinosaurs may have used the colored feathers in the same way.

So, the next time you find a loose feather on the forest floor, ponder this amazing part of the local ecology, it's ingenious construction, it's diverse application, and it's long journey from the jungles of the Jurassic age to the forest of today.

SUMMER SUCCESS

As the summer is coming to an end, one of the successes we can look back on is the Dishman Hills Hike Program of 2012. From Early spring on there were 12 planned hikes that provided awareness, education, and recreation for many. We would like to thank those organizations and individuals that pitched in to lead and participate in these hikes, and we are looking forward to the same opportunities in 2013. The best place to check on hike schedules is our web page where the latest information can be posted in a timely manner. Thanks to: Gonzaga University, Hobnailers Hiking Club, Washington Native Plant Society, Spokane Audubon Society, Spokane Mountaineers, and individuals Karen Jurasin, and Rich Leon.

TIS THE SEASON

Once again, last month there was a small wildfire in the Natural Area. It was less than an acre and burned cool, meaning it was mainly a grass fire not effecting the trees much. The fire originated in a campfire that was left over from a weekend (very typical!). The DNR did an outstanding job of handling the small fire with a quick response and their "minimal impact" methods of accessing and extinguishing the fire. We need you all to be very, very careful when in the woods in this dry, dry season. As we work on reengineering some of our trails we are reminded that fire access is a most important issue in stewardship.

ASSOCIATION NEWS

We are a non-profit 501(c)(3) organization dedicated to saving nature areas in the Spokane region for public enjoyment and education. Call Michael Hamilton, 747-8147, if you have questions. Our board meets every month on the third Tuesday. Our next meeting will be on October 16th, 7 PM. We meet at the Moran Prairie Spokane County Library, 6004 South Regal St. Visitors are always welcomed.

The following are our August donors that have consented to be listed: Nancy Cashon, Joseph Collins, Paul Grubb, The Hobnailers, Inc., Cynthia Langlois, John O'Brian, Parviz Partovi, William Peterson, and two anonymous donors. Thank you all for your support!

*I realize that if I had to choose
I would rather have birds than airplanes.
Charles Lindbergh*

YES, I want to help protect our natural areas in the Spokane Region

Enclosed is my tax-deductable donation of:

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