Funding crucial for Flora progress
by Linda Hardison, Project Coordinator

In the decade that the Oregon Flora Project has been in existence, we have experienced amazing progress and growth. Success has come through the combined efforts of our dedicated staff and the volunteerism that reflects the project’s commitment to public involvement.

We can point with pride to numerous accomplishments in the past year:

- In March we made the Oregon Plant Atlas available to the public. This online mapping program allows users to create maps showing the location of ~383,000 occurrences of Oregon plants with details of each sighting.
- Our collaboration on a grant with the OSU Herbarium has resulted in the databasing and georeferencing of virtually all Oregon herbarium specimens at Oregon State University. This is an outstanding resource available to all plant enthusiasts as well as anyone interested in the lives of Oregon’s collectors.
- Significant improvement has occurred within the Checklist through restructuring the database, streamlining data entry, and adding the capacity to trace the history of each plant name.
- The prototype of our Photo Gallery will provide the public with nearly 6,000 images of live plants and herbarium specimens.
- The latter will be coordinated with the release of our Digital Field Guide in the coming months.

See Funding, page 22

Increased access to the OSU Herbarium specimen database
by Aaron Liston

When Microsoft named their database software “Access” they made a prescient choice. This software is central to all of Oregon State University Herbarium’s efforts to facilitate public “access” to our collection of plant specimens. This is the software we use to enter, maintain, and archive all our specimen label information. The specimen database now contains over 150,000 records (including non-Oregon specimens), and the process of retrospective data capture for all Oregon specimens is nearly complete. In addition to providing novel insights into the history and composition of the collection (see box, page 24), the database serves as a central data resource for the Oregon Flora Project.

The specimen database is now accessible online in four formats, each with a distinct purpose and audience. The specimen information has been available for several years in the Oregon Vascular Plant Database. Here users can obtain complete label information for over 4,500 Oregon species, subspecies, and varieties, represented by 122,162 specimens. It was last updated in April, 2005. It provides access to the most extensive label and annotation data for each specimen, and is heavily utilized by students, researchers, and others.

Newsletter readers are probably most familiar with the specimen database as used in the Oregon Vascular Plant Atlas. Here the specimen records are combined with observational data to produce distribution maps for most Oregon plant taxa. The same set of specimen records is used in both the online Database and Atlas. These have undergone extensive quality checking before being placed online, including standardization of the primary collector and county names. In addition, the taxonomic nomenclature reflects the

See specimen database, page 24

About that date above the mailing address...

If you check your mailing address, you’ll notice we have added a month and year above your name. This is the date the Oregon Flora Project last received a contribution from you. If you have donated recently, thank you very much! If it’s been a while, it would mean so much to us to have your financial support. Your dollars pay for the production of this newsletter, as well as the basic research behind it. Help keep these newsletters appearing in your mailbox—contribute now!
In the last year, this progress has occurred with our four staff members funded at an average of less than one-half time. Our current employment level is equivalent to only 1.65 full-time positions, and our monthly operating budget is ~$7,500. Under these stringent circumstances, it is astonishing to consider the volume of work that the OFP staff and volunteers have accomplished in the past twelve months.

However, to maintain even our present minimal level of staffing, we need your help. Without additional funds, the OFP will be unable to provide to the public—free of charge, as it always has been—the accurate information that users have come to expect. Maintenance of existing OFP information and the addition, improvement, and curation of botanical data require adequate financing. As we continue to seek funding from granting agencies and Oregon State University, we need the sustained financial support of all of you who have an interest and investment in the success of our Flora Project.

Think now what can be accomplished if we move beyond our current level of activity with an increase in our operating budget. We can make additional botanical information accessible to all users by adding details to each facet of the project. With your generous donation:

- We will be able to complete and publish our Checklist of all plant species known to occur in Oregon.
- We will be able to extend the multiple entry key component of our Digital Field Guide so that users may identify plants to family, genus, and species.

### The Checklist: foundation of the new Flora of Oregon

by Linda Hardison

Before we can write the new *Flora of Oregon*, we must first complete the Checklist. Why? Because the job of the Checklist is to provide the framework of scientific names for Oregon’s vascular plants; thus it is the foundation of the entire Flora Project.

The overall goal of the Checklist is to identify every vascular plant growing in Oregon that is native, introduced, or has become established in a natural setting. A second goal of the Checklist is to associate each plant with its correct and defining scientific name, and to account for all other names that have ever been associated with that plant. If you have identified a plant under one name in one flora, and have then been unable to find it under that name in a different flora, you are well aware of the problem that the Checklist attempts to address. The inconsistency across multiple references, and the lack of one comprehensive flora for all of Oregon were indeed two of the factors that motivated Scott Sundberg to begin work on the new *Flora of Oregon*. It is clear that completion of the Checklist is an essential step in the preparation of the Flora.

We have designed the electronic component of the Checklist so as to understand clearly the characteristics of a given plant; accordingly, irregardless of its name, we refer to each unique plant in our database as a “concept.” This captures the idea of what a particular plant is and accommodates multiple names that may be associated with it. In the Checklist, we assign each botanical concept a unique number. Therefore several scientific names may have the same number, and the unique number lets us know that each of those names refers to the same plant (See back cover). Another accomplishment has been the development of the Checklist’s research component. A research table records
Oregon’s strawberries: some genetic complexity
by Rhoda Love

Strawberries have not been overlooked by song writers, poets or taxonomists. John Lennon and Paul McCartney wrote the song, “Strawberry Fields Forever,” and Kipling mentioned the fruit in his Victorian-era poem, “An English Garden.” Systematists have not ignored strawberries either. Linnaeus gave the genus Fragaria its name, from the Latin word for the fruit – fragum, and he collaborated with A. N. Duchesne on the earliest treatment of the genus. In our own time, Germany’s Günter Staudt has devoted 40 years to the study and classification of the world’s strawberries.

It is Staudt’s detailed 1999 monograph of the American strawberries that I have followed in my treatment for the Oregon Flora Project. According to this treatment, we have three species and five subspecies of Fragaria in Oregon. Older names such as variety crinita have been superceded by new combinations, and we need to watch for a recently recognized hybrid entity that may be new to many Newsletter readers. For added complexity, Staudt tells us we can expect to find back-crosses between the hybrid and one or both parents, and he also mentions the possibility of genes from cultivated strawberries mixing with our wild taxa.

Starting with the familiar Oregon species, our old friend mountain strawberry retains the name Fragaria virginiana, however Staudt places the Oregon plants in subspecies platypetala. Other subspecies of F. virginiana occur elsewhere in North America. F. virginiana subspecies platypetala grows in the Oregon Cascades and westward and also in northeast Oregon. We know it by the terminal leaf tooth which is usually shorter than the adjacent teeth. The leaves are often bluish-green. Mountain strawberry is octoploid with 2n = 56.

Another old strawberry friend is Fragaria vesca, woods strawberry. Most F. vesca in Oregon belong to subspecies bracteata. Staudt has submerged Hitchcock’s variety crinita here, however he recognizes another subspecies, F. vesca ssp. californica, in California which just gets over the border into Curry County. Woods strawberry generally has the terminal leaf tooth longer than the lateral teeth; leaf color is bright green. F. vesca is diploid with 2n = 14. It is sympatric with F. virginiana in many parts of Oregon but is not known to hybridize with the latter, no doubt due to the difference in chromosome number.

Our much-loved coast strawberry or beach strawberry, Fragaria chiloensis, keeps its familiar name, but Staudt recognizes two subspecies which he separates on the basis of the stem hairs. My simple Key to Oregon Strawberries in this issue indicates that subspecies lucida has appressed-ascending hairs, while subspecies pacifica has hairs which are dense and spreading. Staudt’s map shows the subspecies interspersed along the Oregon coast. My studies of OSC and WILLU herbarium sheets indicate that the differences may not be as clear cut as the key implies; however, I am following Staudt’s treatment at this time. Beach strawberry is octoploid with 2n = 56.

The major strawberry surprise is that Staudt recognizes a natural hybrid between F. chiloensis and F. virginiana for our state. Recall that both beach strawberry and mountain strawberry have 56 chromosomes. The F. chiloensis × F. virginiana entity was discovered early in Oregon history by Thomas Nuttall near the mouth of the Columbia River and has at times been known as F. cuneifolia. Now it is called Fragaria × ananassa ssp. cuneifolia. Interestingly, the chiloensis × virginiana combination is also that of the cultivated strawberry, Fragaria × ananassa ssp. ananassa, grown on farms and in gardens.

Alert readers will immediately realize that since strawberries are cultivated throughout much of Oregon and no doubt escape rather regularly, we may have both “wild” and “tame” hybrid individuals existing in various places. In addition, there are apparently no genetic barriers preventing the putative hybrids from back-crossing with either chiloensis or virginiana. In other words, one may encounter strawberries with a mixture of genes from either parent in almost any location where parents and hybrids coexist. Staudt includes a nice discussion of this situation in his 1999 monograph which is well worth reading by anyone who has been puzzled by the intermediate appearance of some of our plants.

One need not be a poet, songwriter or professional taxonomist to appreciate Oregon’s Fragarias. From seashore to fields, woods, and mountains our strawberries brighten the seasons with their pretty leaves, cheery flowers and jewel-like fruits. The taxonomic complexity of the chiloensis-virginiana group simply adds a soupçon of spice to the mix.

The most productive year: 1927 with 5,849 specimens. The five most prolific collectors: Morton Peck (20,652 specimens), Louis Henderson (10,402), Georgia Mason (4,445), Lilla Leach (4,122), and Leroy Detling (3,837). Morton Peck was a Willamette University professor, while the other four were associated with the University of Oregon. The most prolific Oregon State University collector is the current curator, Richard Halse (3,664 specimens).

The most productive year: 1927 with 5,849 specimens. By coincidence, Peck, Henderson & Leach all collected more specimens that year than any other, over a thousand each!

The two persons who have identified the most specimens: Henrietta Chambers (32,009) and Kenton Chambers (29,035). Most of this tremendous contribution has been as volunteers for the Oregon Flora Project.

Most collected county: Lane with 12,714 specimens.

Least collected county: Columbia with 353 specimens.
**Key to Oregon Strawberries**

We have 5 taxa of wild strawberries in Oregon plus one hybrid taxon which is intermediate between its putative parents.

1. Leaves noticeably thick and coriaceous, strongly reticulate-veiny beneath; strictly coastal………………………………………Fragaria chiloensis
2. Hairs on stem appressed-ascending ………………….ssp. lucida
2. Hairs on stems dense and spreading ………………….ssp. pacifica

1. Leaves generally thinner, not restricted to the coast
3. Terminal leaf tooth usually shorter than lateral teeth
   4. Leaves thin, green to bluish-green, Oregon Cascades and westward, also in Blue and Wallowa mountains……………
       ………………………………………Fragaria virginiana ssp. platypetala
4. Leaves somewhat leathery; hybrids intermediate between F. chiloensis and F. virginiana; to be expected where parental species are sympatric………………Fragaria × ananassa ssp. cuneifolia
3. Terminal leaf tooth usually longer than lateral teeth ………
   ………………………………………………..Fragaria vesca
5. Leaflets ovate or obovate; common in western Oregon, Wallowa and Blue Mountains …………..sssp. bracteata
5. Leaflets approximately round; extreme southwest Oregon (Curry County)………………sssp. californica

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**How can I contribute?**

Donations to the Oregon Flora Project are a critical part of our operating budget. Your contributions help pay the salaries of our staff and students, as well as all newsletter expenses.

There are two ways to donate to the Oregon Flora Project: (1) with a check payable to the Oregon State University Foundation, attn: Oregon Flora Project; and (2) through the Friends of the Oregon Flora Project, with a check payable to the Native Plant Society of Oregon, attn: OFP.

With your contribution, please let us know if you do not wish your name listed in our “Thanks” column, and if you would like to be added to our Oregon Flora Newsletter mailing list.

**Mail your check to:**
Oregon Flora Project
P.O. Box 402
Corvallis, OR 97331-2902

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**Thanks**

The Oregon Flora Checklist currently contains 10,251 plant names at the species, subspecies, or varietal level. Each plant name is assigned a single nomenclatural status: either accepted, synonym, evaluate, or excluded. It is up to the checklist author to decide which status he or she will attribute to each name. As suggested by the category ‘evaluate,’ further study of specimens or the literature may be needed to make a final decision on a proposed name.

True to the grassroots nature of the Oregon Flora Project, it is a group of skilled volunteers who do the research and decision-making for each Checklist treatment. The 18 members of the Checklist Advisory Board and the Checklist Project Leaders (see pg. 22) are overseeing the process, and many of these individuals have contributed numerous treatments. Each author is responsible for preparing the treat-ment for an entire genus; the 972 genera of Oregon plants have been distributed to over 40 authors for completion.

One of our most prolific contributors of Checklist manuscripts is Advisory Board member Henny Chambers; thus far she has prepared treatments for 248 genera, from Ajuga to Zizia. The Checklist has benefitted from the expertise of botanists around the state and beyond—for example, Clifford Schmidt of Salem prepared the treatment of Ceanothus, and Dr. Jim Reveal of Montrose, Colorado has submitted his work on the buckwheat genus Eriogonum. We give hearty thanks to all the Checklist contributors who are moving us ever closer to our final goal, the new Flora of Oregon.

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**Fragaria chiloensis ssp. pacifica. Illustration by Rena Schlachter, OFP Illustrations Editor.**
Did you know?

France’s Antoine Duchesne (1747-1827) gave the cultivated strawberry its present name *Fragaria ananassa*, leaving us to wonder about the meaning of the specific epithet which is something of a tongue-twister. Reference books tell us:

- The word *ananas* is French for “pineapple.”
- The word *anassa* is Greek for “queen.”

Putting these together as Duchesne may have done in the word *ananassa* might have been his playful attempt to describe the strawberry as fruit fit for a queen.

*(We would be glad to hear other interpretations.)*

This view from the checklist database illustrates many of the categories of data gathered for each taxon (see article on page 22).