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# FLORA FILES: THE UA HERBARIUM

By Mike Shannon

Charles Mason opens the door to the 7-foot metal cabinet. The smell of mothballs fills the air.

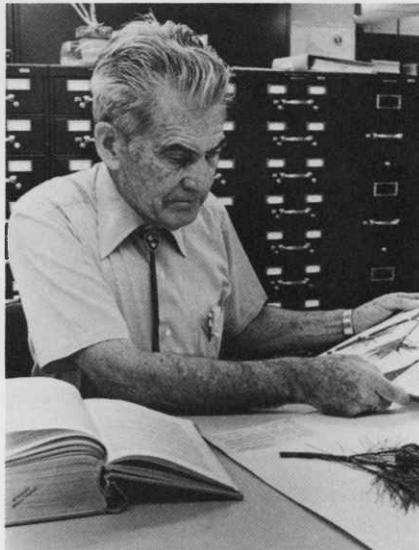
"We use moth crystals to keep beetles from damaging the specimens," he says.

Inside the cabinet, nearly 100 file folders bulge with botanical treasures, like a card catalogue of the plant world. Tiny portions of a pressed plant poke from a folder labeled: 57 Salix.

"What we have here is a library of plants," says Mason, curator of the herbarium at the UA College of Agriculture for the past 33 years.

Ninety-seven special cabinets, called herbarium cases, hold the 262,000 plant specimens that make the UA herbarium the largest such facility in Arizona.

Located at the west end of the hall in the basement of Shantz Building on the UA campus, the herbarium is more than a reference library of plant specimens. It's also home to a collection of more than 100,000 seeds and a repository for botanical research papers.



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*Dr. Charles Mason, herbarium curator.*

"It's an important historical collection especially in terms of northern Mexico, Sonora and Arizona," says Richard Felger, a research associate with the UA Office of Arid Lands Studies.

Felger says the herbarium is essential to his research involving the study of flora of the Pinacate region of northwest Sonora, Mexico.

Although the largest part of the herbarium's collection deals with the native flora of Arizona and northern Sonora, Mexico, the collection also includes specimens from around the world like Rubiaceae, *Psychotria acuminata* Benth. from Fiji.

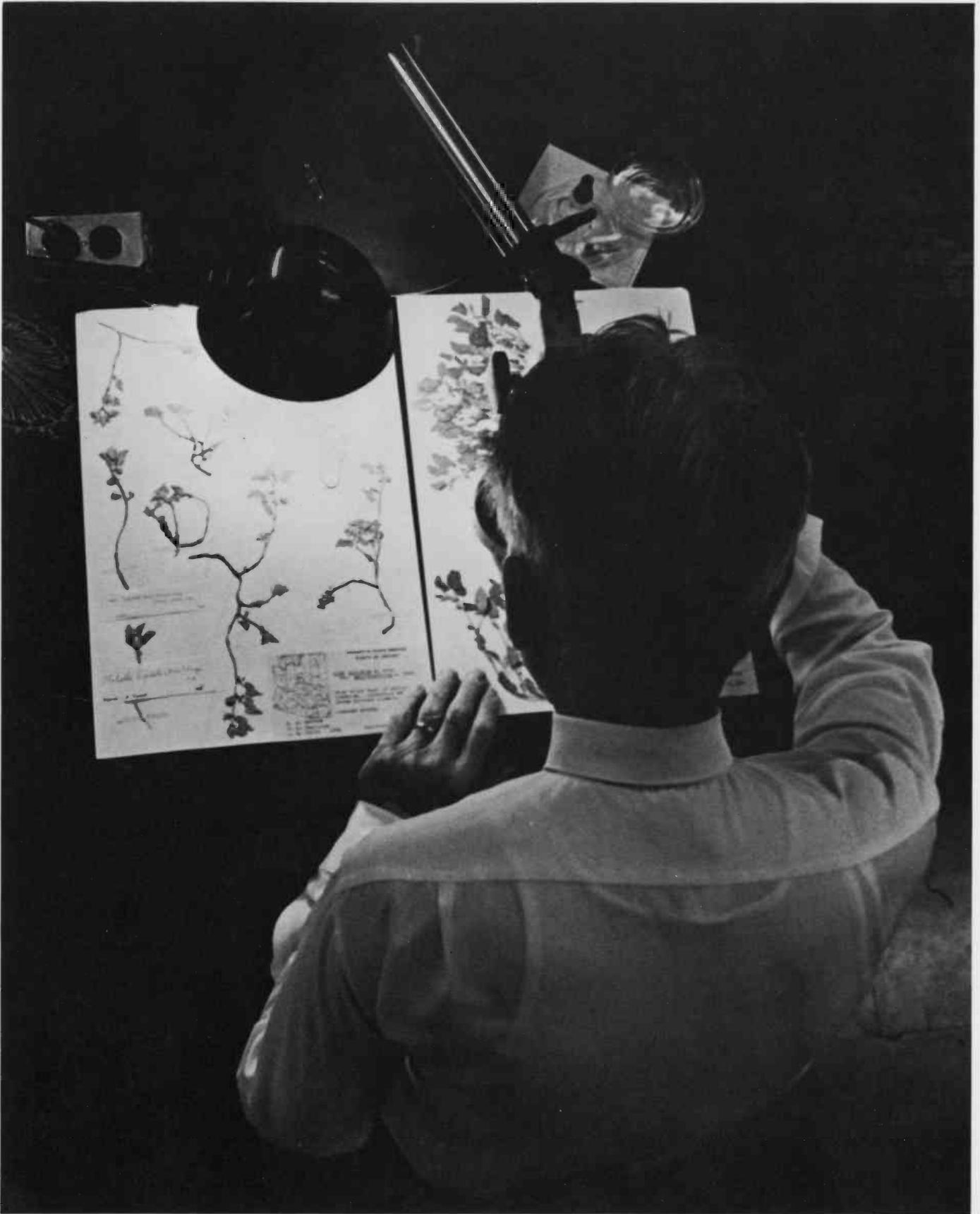
"Herbaria around the world loan specimens to one another," says Mike Donoghue, associate professor in the department of ecology and evolutionary biology. "I get specimens of *Viburnum* sent to me....then I make use of those here in our herbarium."

Each herbarium specimen is dried, mounted and identified. A label is attached giving the plant's scientific name and pertinent collecting data like the exact locality, surrounding habitat, altitude, date and the collector's name.

Researchers and students who collect specimens are often faced with the difficult task of identification, Mason says.

"The descriptions (of plants) that we get in books may be so close that we're really not sure; is it this species, or is it this species? Some differences are very difficult to put down in words. That's when we go to the herbarium," he says.

Just by studying the herbarium's extensive Arizona and Mexico collection, researchers are able to determine the geographical range of many native



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*Assistant Curator Becky Van Devender inspects some of the herbarium's 262,000 plant specimens.*



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plants and the variations that occur within that range.

Acquisitions for the herbarium come from everywhere, Mason says. Students, faculty, researchers and even lay people donate specimens.

Also, an exchange program with 40 other herbaria around the globe provides even more material for comparative study.

On their way to study in this library of plants, people may pass unknowingly under five mobiles, which hang from the ceiling.

Created by Mason's wife from bits of branches, thistles and seed pods, the mobiles lend a bit of sedate whimsy to this serious environment.

However, serious study is the reason researchers, students and the general public come here to use these acquisitions of flora.

But now the acquisitions are creating a problem — a backlog of specimens to be identified and filed.

Mason strolls toward a door in the rear of the herbarium. "I tell people that this is Fibber McGee's closet," he says, opening the door. This time the smell of chlorophyll and green plants bursts forth.

In the room, paneled by cardboard boxes stacked floor to ceiling, thousands of specimens wait to be identified, mounted and included in the herbarium's collection.

Waving an arm at the boxes Mason says, "This is what I mean when I speak of the work that needs to be done here." With the possible donation of an additional 15,000 specimens by Howard Scott Gentry, the world authority on agave, Mason says the UA herbarium would contain the second best collection of agave in the world.

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*Plant Sciences graduate student Russ Buhrow studies plant specimens with the help of microscope.*

The foundation for the UA herbarium was laid by James W. Toumey in 1891. Hired as the University's first botanist, Toumey began collecting specimens in June 1891 and established an exchange program with the U.S. National Herbarium in Washington, D.C.

Over the next 95 years the herbarium outgrew three locations before finding its present home in the Shantz Building.

And it's still growing. Between 5,000 and 8,000 specimens are added each year.

"Our biggest problem now is (lack

of) space," Mason says. "Our cabinets are getting full."

In addition to storing specimens, the herbarium also provides community service. Staff members identify plant material for the Customs Service and the Arizona Department of Public Safety and work with agents and specialists of the Cooperative Extension Service.

Between 2,000 and 3,000 plants each year are identified, many of them for area residents who are interested in a particular plant. Becky VanDevender, assistant curator, says that the staff usually can identify plants on the spot, but added they prefer if people call first, rather than just walk in.

"People bring in plants not primarily for a name, but because they want to learn more about a plant and need the name to gain more information," VanDevender says.

Requests for plant identification come to the herbarium not only from the curious, but from the concerned.

Susan Shelnett, assistant director of the Arizona Poison and Drug Information Center, says the herbarium provides a significant community service.

"More than just give us a name, the herbarium can tell us if a plant (that someone has eaten) is toxic," Shelnett says.

The herbarium plays an important and versatile role in service to the Tucson community and the UA.

"Anybody who studies the plants of this part of the world will need to refer to this herbarium," Donoghue says. "This is not some crummy little collection, this is a very fine collection that specializes in Arizona and Sonora, and in that regard it's the best there is."

