Mediterranean Botany
ISSNe 2603-9109

https://dx.doi.org/10.5209/mbot.67685

EDICIONES COMPLUTENSE

In Memoriam Vicki A. Funk

(November 26, 1947, Owensboro, Kentucky – October 22, 2019, Arlington, Virginia)

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It is sad to write these words to homage Vicki Funk, a member of the Editorial Board of *Mediterranean Botany* (formerly *Lazaroa*).

She was Senior Research Botanist and Curator of the Asteraceae in the Smithsonian Institution and Director of Biological Diversity of the Guiana Shield Program, a multi-disciplinary international program to document, study, and preserve the biodiversity of northeastern South America.

Our relationship was through professor Cuatrecasas, Curator at the Smithsonian Institution, and formerly Professor at the Botany Department of Pharmacy in Complutense University from 1931 to 1939 when exiled to America, first Colombia and finally to the USA working at the Smithsonian Institution. Vicki was one of his last collaborators, very close to him in the study of tropical Asteraceae. We contacted her commenting on our plans to publish a *Lazaroa* issue in honor of professor Cuatrecasas. She was very enthusiastic about such an idea and agreed to help us as guest editor of the volume. We started to look for funding, but the economic crisis stopped any funding for such a proposal. Then, we invited Vicki to be part of our Editorial Board while waiting for better times. In 2018 we started again with our idea, and one of us (R. Gavilán) visited Vicki at the Smithsonian to talk about the project, but also about a new time for the journal, now just digital, with impact factor, a new name (Mediterranean Botany) and new insights for future. The visit was very productive, Vicki was not only a great researcher but a very enthusiastic person, transmitting much energy to people around. Back in Madrid, we started to prepare the Special feature, but unfortunately, her illness stopped it. Now the plan is ready, but without her, being such homage not only to Prof. Cuatrecasas but also Vicki Funk.

We also like to mention her scientific work being the author or co-author of over 280 publications, stating what committee for the Asa Gray Award said when she obtained it in 2018: 'Dr. Funk epitomizes the most meritorious type of scientist for the Asa Gray award: an indefatigable and innovative evolutionary biologist, a field and herbarium botanist, a pure taxonomist, and an enthusiastic mentor.'

Now different grants remember her from the Smithsonian Institution and also from the American Society of Plant Taxonomist and other Institutions. One of her last ideas was an IAPT grant to help small herbaria around the world. Vicki was an interested botanist to highlight the importance of systematic collections and to warn of the continued loss of regional collections. She supported their protection and innovative use. We want to remember the list for the use of herbaria she published in 2004 to pay attention to such loss.

Dear Vicki, you were in our lives, and now in our souls!

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'From Vicki Funk. 2004. 100 Uses for an Herbarium (well at least 72). *American Society of Plant Taxonomists Newsletter* 17 (2):17–19.

An herbarium can be used to:

Basic Functions & Research

1. discover or confirm the identity of a plant or determine that it is new to science (taxonomy);
2. document the concepts of the specialists who have studied the specimens in the past (taxonomy);
3. provide material for making morphological measurements (taxonomy, systematics);
4. provide locality data for planning field trips (taxonomy, systematics, teaching);
5. provide data for floristic studies (taxonomy);
6. serve as a repository of new collections (taxonomy and systematics);
7. provide data for revisions and monographs (systematics);
8. verify plant Latin names (nomenclature);
9. serve as a secure repository for "type" specimens (taxonomy);
10. provide infrastructure for obtaining loans etc. of research material (taxonomy and systematics);
11. facilitate and promote the exchange of new material among institutions (taxonomy);
12. allow for the documentation of flowering and fruiting times and juvenile forms of plants (taxonomy, systematics, ecology, phenology);
13. provide the basis for an illustration of a plant (taxonomy and general publishing);
14. provide material for DNA analysis (systematics, evolution, genetics);
15. provide information for GIS studies of past and future collecting expeditions (taxonomy, ecology, etc.);
16. house vouchers for photographs that can be used in lectures, web sites, and publications (taxonomy);
17. provide information on rare, extirpated, or extinct species that can no longer be found in nature (taxonomy, conservation biology);
18. provide modern specimens for comparisons with fossils (e.g. classification of leaf patterns; paleobotany);
19. to trace the history of usage of binomials for a given taxon in a given area (local flora);

Related Research - Collections are the lynchpin of biological research

20. provide pollen for taxonomic, systematic, and pollination studies as well as allergy studies (taxonomy, systematics, pollination ecology, insect ecology, and medical studies);
21. provide reference samples for the identification of plants eaten by animals (animal ecology);
22. determine native ranges and document which plants grew where through time (invasive species, climate change, habitat destruction, etc.)
23. document what plants grew with what other plants (phytogeography, ecology);
24. provide material for microscopic observations (anatomy and morphology);
25. document the morphology and anatomy of individuals of a particular species in different locations (environmental variation);
26. serve as a repository for voucher specimens (ecology, ethnobotany, environmental impact studies, etc.);
27. provide material for chemical analysis (lead-uptake; pollution documentation; bio-prospecting, for coralline algae - determining past ocean temperatures and chemical concentration);
28. provide information for studies of expeditions and explorers (history of science);
29. provide the label data and field notebooks necessary for accurate data-basing of specimens (biodiversity and conservation biology, biogeography);
30. serve as a reference library for the identification of parts of plants (e.g., seeds) found in archeology digs (paleoethnobotany);
31. provide context for accompanying library and other bibliographic resources (library sciences, general research, taxonomy, etc.);
32. serve as an archive for related material (field notebooks, letters, reprints, etc.);
33. provide information on common names and local uses of plants (anthropology, linguistics, ethnobotany, economic botany);
34. provide insect collections that have been incidentally collected along with the plants (entomology, ecology);
35. serve as a means of locating rare or possibly extinct species via recollecting areas listed on label data (conservation biology, environmental impact statements, endangered species, etc.);
36. provide information on plant predators (e.g., leaf miners, leaf-cutter ants; entomology, ecology);
37. establish the presence and distribution of plant diseases (e.g. anther-smut);
38. track introduction and spread of invasive species (ecology);
39. document CO2 change over past 10,000 to 10,000,000 years, a more precise proxy for this than ice core data (climate change);

40. provide information for foliar physiognomy studies of leaf form as it is related to climate change (paleoecology);
41. to document polyploid populations that occur naturally by leaf and epiderml stomatal complex size (phylogeography, paleoecology);
42. to document fungal/vascular plant symbionts;
43. to document biogeography of past plant distributions including regional extinctions (paleobiogeography);
44. document the evolution of major groups of vascular plants (paleobotany);
45. document minor cycles in climate (paleoecology);
46. provide carbon isotope ratios (e.g., Lewis and Clark specimens from 200 years ago have increased C12) (climate change);

Education & Training

47. provide material for teaching (botany, taxonomy, field botany, plant communities; ethnobotany; agriculture; dendrology, forestry);
48. promote appreciation of botanical diversity by making specimens available for viewing by students, researchers, and the public.
49. provide internship and job opportunities for undergraduate and graduate students
50. provide opportunities for students and young scientists to meet more established scientists;
51. expose students to systematic research;
52. train local volunteers for specimen handling, scanning, and databasing etc.;
53. run education courses for the public (e.g. local plant families);

Outreach

54. serve as an identification center for all kinds of plants parts for many different groups of individuals, e.g., samples for the identification of plants that may be significant to criminal investigations (forensics);
55. serve as an educational tool for the public (garden clubs, school groups, etc.);
56. provide a focal point for botanical interactions of all types (lectures, club meetings, etc.);
57. provide samples for museum and educational exhibits;
58. provide a location for government and state agencies to work on specimens, i.e., USDA, USGS, NPS;
59. provide a home for long-term initiatives (e.g. Smokey Mt. NP ATBI);
60. provide a home for global, regional or local studies;
61. help establish new museums;
62. foster good international relations (e.g. sister institutions, joint field tribs);
63. provide material for the public (e.g. accurate illustrations);
64. provide inspiration for painters;
65. interact with the local people to form volunteer groups for conservation efforts;
66. maintain websites for dispersing specimen information, databases, images, public service information;
67. repatriate data and images from collections to the country where they were collected (international relations);
68. help artists prepare accurate drawings for children's books;
69. provide information on the wild relatives of cultivated plants;
70. facilitate international exchanges of field expeditions;
71. organize photographs of plants associated with voucher collections;
72. help design natural history products for sale in gift shops (e.g. old illustrations for note cards).'