

Reaching Out

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data for a master plan, 2) to study ecological variation of secondary compounds in several native species of aromatic plants, and 3) to study agricultural education models used successfully in the region. Mihalko and I concentrated on the first of these, Affolter, Giannasi, and Chapman on the second, and Navarro on the third. (Navarro speaks fluent Spanish and served as our official translator when broken Spanish and hand signals weren't sufficient!)

Medicinal and aromatic plants are collected in the wild in huge quantities. Natural remedies are popular in Argentina and herbal teas, e.g., yerba mate, are popular beverages. Many of these plant species are threatened in the wild due to overcollection. Many families supplement their incomes by collecting such plants while some families depend on collecting for their entire subsistence.

Affolter's knowledge of plant conservation practices will help develop strategies for sustainable production thereby reducing pressure on wild populations. Giannasi's knowledge of aromatic chemistry will help identify superior clones. Chapman will be working on

several of these species for her master's research.

Navarro, a native of Spain, has studied instructional and educational delivery programs in several foreign countries. Success in getting local plant collectors and growers to adopt sustainable production techniques will require an understanding of how to convey the information—how to get them to abandon old ways and get them to adopt new ones.

It is difficult to predict just what the success of our venture will be. We can most certainly provide the Jardín Botánico with information and advice needed in their long-range and strategic plans. Hopefully the master plan may include an ethnobotanic collection where people can come and see first-hand native aromatic and medicinal plant species that are endangered in the wild. Staff and student exchanges are a possibility in the future.

One thing is certain—we live in a global society and global environment. We must manage our resources carefully and help others do the same. Isolation won't solve the world's environmental problems. We must reach out and work together. ☸

Nose Knows

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sounds. Organoleptic is an adjective that means "involving the use of sense organs", so our field analysis involved a lot of sniffing. Even the least experienced among us could easily detect differences in fragrance from plant to plant; the more astute (Giannasi and Lagrotteria) could detect and name specific chemical oils that were conspicuous in one plant or another.

Back in the laboratory we will analyze the samples using techniques such as thin layer and gas chromatography. This will enable us to identify and quantify the most important aromatic constituents. We also purchased some samples of these species from herb stores in Córdoba, which will be included in the analyses. The results of this work will be interesting from an ecological perspective since variation in plant chemistry can provide clues to ecological and evolutionary strategies that plant species pursue to deter herbivores, battle microorganisms, or enhance their physiological competitiveness. From a practical perspective, the chemical variation we document in these ecological studies may be useful to herb suppliers interested in selecting superior clones from natural populations for agricultural production. As field biologists, we learned it sometimes pays to be nose-y! ☸

Irrigation

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insect infestation. Fertilize sparingly during periods of water stress. Plants frequently enter an essentially dormant state to conserve moisture. You don't want to encourage active growth that can not be sustained due to lack of moisture.

Finally, never water during the heat of the day. This is the time for greatest water loss due to evaporation. Try to irrigate early in the morning or late in the evening. And run your sprinklers when there is little wind to insure that the water you distribute remains where you put it and is not blown into your driveway or street!

We try to set our overhead sprinklers to deliver an inch of water per hour. Watering well at this rate once a week is all most landscapes should require. It is better to put out sufficient water once a week than to deliver smaller amounts more often. You want your plants to develop good, deep root systems that will sustain them during drought periods. How often and how much you water will effect root development.

Our environment is changing. We must mend our ways and make plans to conserve species and resources. By adhering to good water management practices, we can all make a difference. One drop at a time... ☸