

Editorial

“On the Road with the Seed Hunters”

This editorial has been adopted from an article that appeared in the “Guardian”, a British daily newspaper on August 21, 2003.

A group of botanists, lead by Dutchman Dr. Michiel van Slageren, the international coordinator of Kew Gardens, came to Lebanon on a mission to collect seeds for the Millennium Seed Bank Project in an attempt to redress the dramatic decline in the world's flora. Kew Gardens botanists also want to work with local researchers and share knowledge with them. In a country like Lebanon, the lack of funding for science means that such international partnerships are vital. A crippling debt on the back of government promises to rebuild Beirut after the crushing 20-year civil war, means that belts have to be tightened and science is an easy target. The Lebanese Agricultural Research Institute, for example, has lost more than half of its budget over the past decade. This year there were barely enough funds to cover salary costs and no extra cash to pay for the petrol needed to get researchers out into the field.

Despite the relatively small size of the country, Lebanon has one of the most diverse ranges of plants in the world. The combination of coastal and mountainous land means that it is home to at least 2,500 species of plants - more than are found in the whole of the UK. **And nearly 300 of these plants are exclusive to the country.** But as with many other parts of the world, the number of surviving species is dropping as agriculture, housing development and industry encroach further into the countryside.

The official figures for the number of species of plant found in Lebanon are based on surveys carried out in the 1930s and the 1960s. Forty years ago in the Beka'a valley, for example, there was little cultivation and hardly any use of herbicides. The flora in the region has changed irrevocably since that time. Subsequently, a lot of the plants on the prescribed list may never be traced. And some plants that are found will be new to Kew's lists.

The specimens gathered by the seed hunters were shipped to Kew, where they were processed for storage. First they were cleaned and counted. Then they were left to dry - a step that can last anything from one month to a year, depending on the seed. Once they are dry enough for storage, they will be placed in an airtight container and stored at -25° C. Theoretically, they can remain viable at this temperature for 1,000 years (although this is obviously hard to prove). Every year, researchers check that the seeds are still alive by germinating 25 of each variety.

Dr. van Slageren and his team aimed originally at collecting 20,000 seeds from each type of plant. This proved to be unachievable, as there were often too few plants of a given species in one place to bear enough seeds. To avoid wiping out a particular plant they made sure that the majority of the seeds are left in place to ensure that it can continue to grow in the area. For the rarest plants, they picked around 10 seeds, and insisted that the flora they saw on their expedition was the prime guide as to what they collected.



Most of the high Lebanese mountains have dry and stony soils, yet grass and multi-coloured wild flowers grow. Bright yellow safflowers and purple geraniums force their way up near the roots of deep-green bushes and purple shrubs. Van Slageren explains the mystery of why there are so many plants - the sandy clay soil here in the mountains may look inhospitable but it holds many secrets, and plenty of water.

In a field nine kilometers out of the northern Lebanese town of Bcharre', the botanists collected 10 hard black seeds, each no bigger than a peppercorn from a small dead flower, the rare **Iris sofarana**, which once a delicate, variegated purple flower. They have already collected the seeds from 50 or so plants, which they believe to be new to the seed bank, along the coast of Lebanon.



Photo of *Iris cedretii* taken by Layla Saad, AUB graduate. The species is closely related to *I. sofarana* and it is equally threatened.

The **Iris sofarana** is a case in point. Endemic to Lebanon, it flowers late in spring and only grows high in the mountains. But its beauty is its downfall - the showy flowers have become popular

with locals who have nearly plucked them into extinction. Finding the iris is precisely what the mission of the seed bank is all about - collecting the rarest plants on Earth. Of course, finding the rarest plants on Earth is something of a headache. The iris is so rare that it has become a de factosymbol of the fight to stop plants sinking into extinction.

Timing makes the seed hunter's job a little bit harder. Many plants only hold on to their seeds for a few weeks, before scattering them to the ground. The number of seeds they produce and when also depends on the weather conditions that year - the amount of rainfall, the intensity of the summer and so on. Last year, Lebanon was deluged with nearly double its average rainfall. Some plants, like wild barley, thrive on the extra water. Others don't. What was a field of purple in May was now all but gone. The botanists picked over those plants they could find but the conditions clearly had not been kind to the iris this year. However, the field did contain more iris plants than they had ever seen before and they hoped that, if the site wasn't disturbed, they could find some plants next year. The **Iris sofarana** lives, perhaps, to be found another day.

Dr. Fadia R. Homaidan

For your precious contribution to this invaluable newsletter, including the editorial section contact M. Daouk at me11@aub.edu.lb Submission deadlines 20th of each month.



News

IBSAR's Internal Review is progressing! The different committees have reviewed six out of the ten activities and the remaining reviews are scheduled to take place in the second week of December. Deadlines have naturally been modified to accommodate everybody's busy schedules. The due date for committees chairpersons to send their reports has been postponed to 22 December.

IBSAR website is finally online at "www.webibsar.my.aub.edu.lb". As previously discussed some sections containing data, methodologies, databases, and internal meetings minutes are password accessible for IBSAR faculty members only. The website is not only meant for outreach but also for efficient internal information exchange. All comments (complaints) are welcomed and should be sent by email to Mona (me11@aub.edu.lb).

Meetings, contacts & Seminars

Meetings

IBSAR Meeting of November 13.

Presentation by B. Saab " **Sesame Oil Ameliorating Cough in Children: Myth or Reality**". Dr. B. Saab described the study. He reported and discussed the results. (Presentation is on the web).

Executive committee meetings. In its last meeting the executive committee reviewed the document related to IBSAR's organization and membership. This second draft will be distributed to all during IBSAR's Dec. 11 meeting for feedback and finalization of the document.

Fund Raising

Funds received!

IBSAR has been selected by UNDP to implement the following two projects:

LEB/97/G31 "Top up Biodiversity Enabling Activity"

LEB/03/010 "Development of the National Biosafety Framework"

The team is preparing the inception report and expects to sign the agreement with UNDP this month. Members involved in these two projects are R. Baalbaki, D. Jamali, H. Mohtaseb, R. Talhouk, S. N. Talhouk in addition Maitre W. Nasser, E. Sattout and A. Al Khatib will be working with the IBSAR team.

Publications from IBSAR

Talhouk S.N., M. Dardas, M. Dagher, C. Clubbe, S. Jury, R. Zurayk , and M. Maunder. Patterns of floristic diversity in semi natural coastal vegetation of Lebanon and implications for conservation. Biodiversity and Conservation. *In press.*

Holiday readings!

Recommended by Nahla Hwalla (article on honey) Jala Makhzoumi (article on tarthuth) Mona Daouk (article on Folk medicine) and Bassem Saab (Valerian).