

# An urban oasis

**A remarkable new garden is growing in an unlikely location, as Anna Levin reports.**

In a densely-populated area of eastern Istanbul, two busy motorways meet and circle around each other in an enormous intersection, surrounded by high-rise buildings. In this incongruous

setting, a remarkable garden is growing. Within the road loops of the motorway junction, thousands of oak trees have been planted and delicate irises bloom, children come to tend their own plots and families flock here at weekends to enjoy the oasis of green space in the city.

This is Nezahat Gökyiğit Botanik Bahçesi (NGBB), a dynamic and innovative young botanic garden,

which is being developed to research, conserve and educate people about Turkey's exceptionally rich flora. For the past three years, RBGE has been working with this garden in a joint project to develop the horticultural and educational potential of NGBB so that it can make a significant contribution to fulfilling Turkey's commitment to international conservation legislation.

The story of the Turkish garden begins with A Nihat Gökyiğit, a wealthy industrialist with a passion for the environment. Driving home from Istanbul one night, he was looking at the amount of land enclosed within the road loops – about 12 ha – and saw the potential to plant up these areas as a green lung for this part of the city, and to improve the soil structure that had been destroyed by the construction of the motorway intersection. Nihat is a man who makes things happen, swiftly turning vision into reality, so by the year 2000, over 50,000 trees and shrubs had





**Left:** The striking urban setting of Nezahat Gökyiğit Botanic Garden.

**Above:** A beautiful colour form of *Iris sari* thriving on the dry mountain slopes south of Erzurum, eastern Anatolia.

**Below:** Professor Adil Güner in the field preparing specimens for the herbarium at NGBB during an expedition to eastern Turkey with RBGE staff in 2006.

been planted in these spaces and the area was named the Nezahat Gökyiğit Park, a memorial garden to Nihat's wife Nezahat who had recently died.

The park was developed under the umbrella of TEMA Foundation, Turkey's leading environmental non-governmental organisation, of which Nihat had been a founder member. As part of TEMA's ambitious campaign: "Let's put 10 billion oak acorns into the ground", oak was predominant in the plantings. Indigenous and foreign oaks were planted with an aim to create the largest oak collection in the world. In planning the collections, Nihat soon came into contact with Professor Adil Güner, an internationally-respected botanist, with long-standing connections to RBGE. Adil was deeply concerned that Turkey's outstanding flora was coming under ever-increasing threat from unplanned urban sprawl, and that there weren't sufficient botanical institutions in the country to research and conserve the flora. He suggested that the memorial park be developed into a first-rate botanic garden to protect and champion Turkey's botanical wealth.

And there is much to champion: Turkey has a truly astonishing diversity of plantlife, with over 8,650 species of which 2,675 are endemic (found nowhere else). This richness is a result of Turkey's location at the meeting point of three geographical

areas, with Mediterranean, Oceanic and Continental climates within the same country resulting in a great variety of habitats. In turn, this means a great variety of plants: from the old temperate rainforest of the Eastern Black Sea coast, to cedar and cypress on the Mediterranean coast, and figs, grapes and olives in the high plateaus of Anatolia. Forests cloak 26 per cent of the land – compare this with the European average of less than 1 per cent.

And there are the oak trees that NGBB celebrates: of the 27 species found in Europe, 18 are endemic to Turkey.

Professor Adil Güner approached RBGE to advise and collaborate on the development of NGBB. Edinburgh was the natural choice of botanic garden to work with, as the garden has a long-standing relationship with Turkey, having been instrumental in the creation of the *Flora of Turkey*, which was published in 10 volumes from 1965 to 1985, then an additional volume in 2000, this time initiated and edited by Turkish botanists. Through many decades of research, the Garden has built up extensive resources in library, herbarium and living collection,

as well as staff expertise, in the flora of SW Asia and of Turkey in particular.

Led by RBGE's Director of Horticulture, David Rae, staff from the two gardens devised a project – "Horticulture and Education for Conservation in Nezahat Gökyiğit Botanik Bahçesi" – which was set up in 2004 and comes to completion this year. The project has been funded by the Darwin Initiative – a UK government

programme that arose from the 1992 Rio Earth Summit and the resulting Convention on Biological Diversity (CBD).

The Darwin Initiative aims to help countries that are rich in biodiversity but poor in resources to implement the CBD through collaborative projects and capacity building.

"Developing the botanic garden is a means to an end, and that end is to enable the country to fulfil its CBD commitments," explains David Rae, "but, until it's a functioning botanic garden – with skilled horticultural staff, an education programme and looking good to attract visitors – it will not be able to do this."

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So the project has been working on capacity building, through an extensive series of workshops, staff exchanges, hands-on practical work, field trips and conferences. These have covered an impressive breadth of subjects,

drawing on expertise from the whole spectrum of the Garden's work. Horticultural staff have been busy with practical instruction, in visits to Turkey and with Turkish staff training in

Edinburgh, from pruning, cultivation and hedge maintenance to installing an automatic weather system. Plant records and database management systems and skills have also been shared.

RBGE's education team has helped develop certified horticultural courses and schools programmes, led workshops on using art in biology education and

assisted with the creation of a children's garden. "It's a two-way programme, and our staff benefit a lot as well," says David Rae. "The project has been important for staff development and has created the opportunity to learn new skills."

RBGE

horticulturist Simon Crutchley spent two weeks in Turkey this summer instructing on horticultural techniques.

"Professionally you gain a lot by

explaining and teaching, and it gives you confidence to travel," Simon continues.

"It was great to meet the staff, I love meeting other horticulturists. I think RBGE benefits a lot from the relationship because staff get the opportunity to travel and come back and share what they have learnt. It's a motivational boost as well to be away and you come back refreshed."

"I was offering a refresher in horticultural techniques, such as composting, weeding, hedge cutting – simple things, but it's the simple things that make a difference," he says. "I learnt a lot from being there. It was interesting to see how their horticultural staff cope with the challenging conditions – they get very dry spells and more extreme weather than we are used to. Also, it was a change of perspective to work in a new garden, just 10 years old – RBGE has been here for 300 years so it was interesting to see what factors are involved in planning a new garden, in terms of management and staffing as well as horticulture and education.

"It's really remarkable what they've achieved in a short space of time. If another country was thinking of developing a new garden they should look at NGBB, it's a model of what can be done."

NGBB is still new and there are still issues to be resolved – most notably access, as the garden's growing popularity means long queues on the motorway. But it has come a long way and all involved feel the project has been successful in building capacity in the garden to enable it to contribute to effective conservation. The garden now boasts a functional nursery, a small herbarium, an education centre

**Above:** RBGE's Primary Education Officer, Cath Evans, leads a children's workshop in Turkey.

**Below:** Discovered in 2005 by Professor Adil Güner, the habitat of this juno iris species is threatened by the damming of the Çoruh River. It has been named *Iris nezahatiae* in honour of the founder of NGBB.

**Right:** An area of the Rock Garden at NGBB where native species thrive against the backdrop of Istanbul's suburbs.



The garden at NGBB goes from strength to strength and is improving visually year on year.

and schools programme, and a range of publications. Turkey has a large bulb flora and so the garden is taking a special interest in these magnificent plants. Special raised beds have been constructed to grow the many species of iris, snowdrops, crocuses and fritillaries, and already NGBB has one of the most comprehensive bulb collections of any European botanic garden. Research programmes are developing the capacity for both *ex-situ* and *in-situ* conservation.

“The garden at NGBB goes from strength to strength and is improving visually year on year,” says David Rae. “Staff are cultivating more challenging plants with increased confidence and are now cultivating threatened species from Turkey. It was superb to see plants of the threatened *Centaurea iconiensis* that had been collected in the wild and then propagated and grown on, being boxed up ready for transport back into the field. How many botanic gardens at this stage in their development could have managed a reintroduction programme.”

The three-year Darwin-funded project culminates this year in a conference on the CBD in October, which will link the garden with CBD officials and NGOs. While this particular project comes to an end this year, RBGE's connections with the garden will carry on as both institutions continue to collaborate to protect the world's plantlife.

“All staff involved in Turkey and Edinburgh have found the partnership stimulating and rewarding, and there will always be exchanges of staff between the two institutions,” says David Rae. “We believe that the garden will become a major focus for conservation in Turkey, and the effort being put into training and capacity building now will be seen as a massively important and helpful investment of Turkey's plant biodiversity in years to come.” ■

