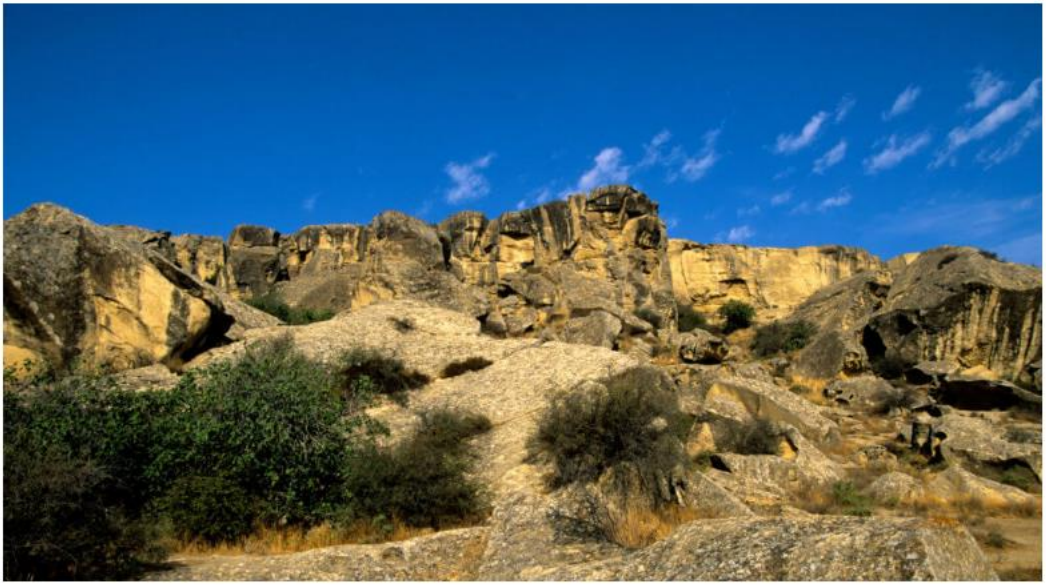

CONSERVATION CORNER: YELENA GAMBAROVA ON RARE PLANT CONSERVATION IN AZERBAIJAN

CONSERVATION CORNER: YELENA GAMBAROVA ON RARE PLANT CONSERVATION IN AZERBAIJAN

JULY 23, 2018

Rare plant conservation might not be the sexiest topic in today's headlines, but it's a crucial part of wildlife conservation. Sophie Breitsameter speaks to researcher and scientist Yelena Gambarova about what exactly vegetation conservation involves, the current threats to rare plants in Azerbaijan and how Azerbaijan's nine climate zones affect her work

Yelena Gambarova has been working on rare plant conservation in Azerbaijan for 10 years. In her role as Researcher, Geographic Information Systems and Remote Sensing Specialist at **R.I.S.K. Scientific Production Company**, the race is on to identify and describe potential threats to rare vegetation communities in the country and combat potential extinction in the face of various threats. We speak with Yelena to find out more about her work and the projects that she is currently involved in.

So tell us, what exactly does vegetation conservation involve?

Plants are a vital part of biological diversity and an essential resource for the planet – just as we work to protect fauna, so too we need to protect the planet's flora. We work to conserve natural habitats and species of flora in order to ensure healthy biodiversity. Plant life is fundamentally important to human life as a source of food, shelter and medicine, amongst many other things.

Issues of protection and conservation of biodiversity are given serious attention in Azerbaijan, with serious legislation on biodiversity including codes, laws and government decisions being developed and implemented.

What are the current threats to rare vegetation in Azerbaijan?

The key pressures on vegetation in Azerbaijan mean we're witnessing a loss of habitat. There are many reasons this can happen, including unsustainable livestock practices (which causes serious overgrazing of various grasslands and semi-arid areas) resulting in reduced species diversity as well as soil erosion and desertification. Another issue is the contamination of soil (by oil and petroleum products), which is an unfortunate side effect of the country's infrastructure development.

Why is habitat loss so dangerous?

Nature is a fine balance, and the loss of even one seemingly 'low value' species of plant life can throw everything off balance – if you violate the equilibrium of the biosphere, you can cause the destruction of entire ecosystems.

Azerbaijan uniquely includes examples of nine of the world's key climate types. What does this mean for your work?

Azerbaijan actually possesses the richest natural reserves among all other Caucasian countries. Nine out of the world's 11 climate zones are observed in Azerbaijan, as you say, and are home to some 4500 species of multicellular plants. That's about 64 per cent of the plant kingdom of the whole Caucasian region and 24 per cent of that of the former Soviet Union.

Climate is the major determinant of vegetation. Plants, do, in turn, exert some degree of influence on climate. Both climate and vegetation profoundly affect soil development and the animals that live in an area. I intend to continue my work in this area in order to examine the relationship between vegetation and climate how climate and vegetation interact together.

Where are your current projects focused?

We are currently conducting an inventory of fauna and flora species and building an electronic database to improve the monitoring system of biodiversity. Modern monitoring methods are able to assess existing negative impacts in biodiversity-rich areas, which is great.

How does one even gather data on vegetation?

I collect new data from field surveys and from satellite imagery, which I then compare with data from existing administrative boundary, land use and landcover maps. This data is used for two purposes – firstly, to measure ground reference points in order to correct satellite imagery data within the geographic coordinate system and secondly, to locate testing and training sites, or sample plots, for collecting sample data from.

What have been some of your most memorable projects to date?

The Rare Vegetation Conservation in Azerbaijan: Monitoring threats initiative was quite special. This project was supported by the **Rufford Small Grant Foundation** (RSG) which provided resources for my research, the main focus of which was the assessment of rare vegetation threats within buffer zones, that is, areas between industry zones and non-industrial protected areas. This research helped prove that infrastructure development has a negative effect on vegetation in an important semi-arid region in Azerbaijan.

Are there any upcoming projects that you would like to tell our readers about?

I recently started working on a project to develop education around conservation. Students will be able to apply particular skills to monitor the threats to rare vegetation. I think it's important to raise awareness of responsible environmental behaviour.