Project Update: September 2015

Brief Summary

After our successful first project, which has mainly focused on determining population statuses of two species (*A. transgrediens* and *G. holbrooki*), we started second stage with the new budget. The first field survey was held in September 2015, after getting in contact with local authorities. The objectives of this survey can be headlined as:

- Visiting local authorities for discussing pond construction conditions, pond protection, and conservation of *Aphanius transgrediens,* and continuity of environmental education, especially by including higher age groups and/or new settlements.
- Deciding on the location(s) of pond(s) to be constructed and/or alternative plans which will serve as the same or better than pond construction.
- Sampling and preliminary studies to commence genetic conservation studies for determining some population genetic parameters such as: observed heterozygosity, Hardy-Weinberg Equilibrium, linkage dis-equilibrium, proportion of polymorphic loci, gene diversity, effective population size, inbreeding level, amount of bottleneck, genetic distances/divergences, amount of gene flow and allele frequencies.

Sampling and in-situ analyses

We investigated three populations of *A. transgrediens* which we determined last year. These separate populations had relatively large size and larger ratio than *Gambusia*. The sampling, therefore, made from those populations by using hand nets. Comparing with last year, we determined that *Carassius gibelio*, another most widespread invasive fish, spread its distribution and increased its population size. However, presently this case may not pose a serious problem for *Aphanius* populations as *Carassius gibelio* have both different habitat use and different niche from *Aphanius* transgrediens.

Although this year was rainier than the last year, no significant variation in physical water parameters were measured during our field work, but macrophyte assemblages were apparently grown much more.

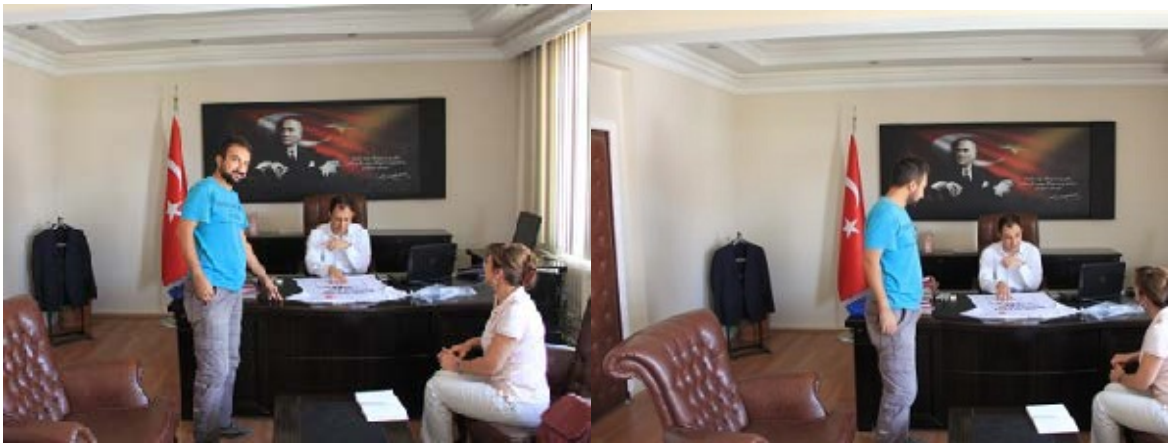
Sodaş (the sodium sulphate producer company) have been draining the excess water from their salt ponds via drainage canals. *Aphanius* population inhabiting at these location have seem to take advantage of this earthen canals and have apparently increased its population size, on the other hand *Gambusia* individuals were almost eliminated most likely because of high salt content of the water discharged.

Six-month progress plan

Acıgöl is a wetland with special status and banned on construction, therefore legal permissions should be taken from the related ministry. We will complete these procedures after making final decision on pond location. At least one environmental education study shall be carried out in Gemiş, one of the closest villages to the location of dense populations.

At the same time, we will try to convince the company Sodaş to cooperate and support conservation actions by protecting the drainage canals providing a good habitat for *A. transgrediens.*

Photos



Meeting with the Başmakçı Head Officer

Left: One of the freshwater springs. Right: Meeting with the Gemiş village headman

Left: Field Study in Sodaş Area. Middle: Evacuation Channel in Sodaş Area. Right: *Aphanius transgrediens* individuals