

## Genetic resources of water caltrop *Trapa* L.

Artyukhin A.E.<sup>1</sup>, Mikhaylova E.V.<sup>2\*</sup>, Kuluev B.R.<sup>1,2</sup>

<sup>1</sup> *Bashkir State University, Ufa, Russia*

<sup>2</sup> *Institute of Biochemistry and Genetics, UfRC RAS, Ufa, Russia*

\* e-mail: [mikhele@list.ru](mailto:mikhele@list.ru)

Water caltrop (water chestnut) is a valuable aquatic plant. Its seeds are edible and rich in protein and starch. Antimicrobial compounds are found in the seed coat and can be used in medicine. Water caltrop is widely cultivated by men since Neolithic, however, on the territory of Europe and Russia its population decreased dramatically over the last century. The plant became very rare and now is included in the Red List of Threatened Species in 36 regions of Russia and protected in most of the EU countries. The extinction could happen due to the change in climate and water regime of the habitats, as well as human factor. Now northern border of its area lies near Moscow, however, several populations of water caltrop still remain in regions with even more severe and continental climate (near Ufa city in the Republic of Bashkortostan and in Novosibirsk and Altai mountains). It is not clear, why water caltrop is preserved on these territories. In spite of great morphological differences, using RAPD and ISSR primers, we did not detect any genetic polymorphism between water caltrops from different regions of Russia, except for several samples from Far East, distinguished as *T. maximowiczii*. Most probably, they belong to one species *T. natans*. To verify that, we performed sequencing of the ITS, trnH-psbA and several other regions. It is possible that water caltrop has a great potential to adapt to different climate conditions and can be reintroduced to its previous habitats from the south and be used as a food source again. Study of its genetic and morphological diversity is important for the survival and recovery of the unique populations.

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