

University of Central Asia

The University of Central Asia (UCA) was founded in 2000 as a private, not-for-profit, secular university through an International Treaty signed by the Presidents of Kazakhstan, Kyrgyzstan and Tajikistan, and His Late Highness Aga Khan IV; ratified by their respective parliaments and registered with the United Nations. UCA's mission is to promote the social and economic development of Central Asia, particularly its mountain communities, by generating world class research and offering an internationally recognised standard of higher education, to help transform lives and livelihoods across the region, including through the celebration and preservation of Central Asia's rich cultural heritage.

UCA Graduate School of Development

GSD is a School of Development Studies conducting multidisciplinary research and education on the mountainous regions of Central Asia, where communities, economies, and environments are experiencing the effects of rapid climate change. The school has three disciplinary 'hubs': social and economic sciences; environmental and climate sciences; and cultural studies. Together, they address the most significant obstacles to the sustainable development of Central Asia with a particular focus on the challenges presented by climate change.

Mountain Societies Research Institute

The Graduate School's Mountain Societies Research Institute (MSRI) applies scientific expertise to the study of earth surface and environmental processes and interactions that affect mountain societies. MSRI is present at UCA's Khorog campus in Tajikistan, Bishkek, and Dushanbe. MSRI staff also work with UCA's undergraduate Earth and Environmental Sciences Programme and are actively engaged in developing executive and postgraduate education.

The Swiss Cooperation Office, Tajikistan

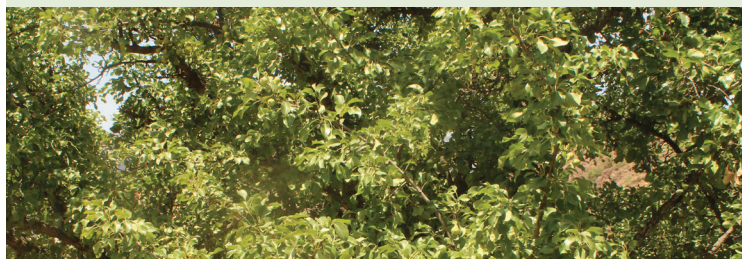
Within its Cooperation Program for Central Asia (2022-2025), the Government of Switzerland focuses on supporting economic, social, and democratic development, promoting an integrated and regional approach in the complex field of transboundary water management, strengthening economic ties, and promoting good governance. For more info:

www.eda.admin.ch/tajikistan

Join us in protecting the Tajik Pear!

How You Can Help:

- Support conservation initiatives.
- Spread awareness about endangered species.
- Promote sustainable land-use practices.



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Conserving Plant Biodiversity for Future Generations

Tajik Pear



UNIVERSITY OF CENTRAL ASIA



Tajik Pear

(*Pyrus tadshikistanica*)

Taxonomy:

- **Scientific Name:** *Pyrus tadshikistanica*
- **Family:** Rosaceae
- **Common Name:** Shaking Pear
- **Synonyms:** None documented
- **Native range:** High altitude of Tajikistan

Description:

Tajik Pear (*Pyrus tadshikistanica*) is a species of pear tree native to Tajikistan, characterised by its small to medium size, thorny branches, relatively small leaves with serrated edges, and small, roundish fruits that are typically greenish-yellow when mature. It thrives in high altitude, mountainous regions with a harsh climate, showcasing good drought tolerance and cold hardiness, making it a valuable wild pear species for its adaptability to challenging environments.

Key Characteristics:

- **Size:** A small to medium sized tree (5-10 m tall), a deciduous tree.
- **The leaves:** Simple, oval to lanceolate, with finely serrated margins, glossy green on the upper surface, and paler underneath.
- **Flowers:** White, small, arranged in corymb-like inflorescences, appearing before or with the leaves.
- **Bark:** Rough, grayish-brown bark with shallow furrows.
- **Fruit:** Small, roundish pears with a greenish-yellow color when mature, often with a slightly gritty texture.
- **Habitat:** Primarily found in mountainous regions of Tajikistan, adapting well to high altitudes and harsh climatic conditions.

Distribution:

- **Typographic Extent:** It is endemic to Tajikistan, especially the Pamir-Alai and Gissar mountain ranges.
- **Altitude Range:** Grows at altitudes between 1,500 and 2800 m above sea level.
- **Habitat:** Dry rocky slopes, mixed woodlands, and montane shrublands.

Ecological role:

- **Pollination:** Pollinator insects, including bees.
- **Seed Dispersal:** Birds and mammals eating its fruit can count on fruit seed dispersion.
- **Associations:** Frequently found along with wild almonds (*Amygdalus spp.*), hawthorn (*Crataegus spp.*), and juniper (*Juniperus spp.*).

Conservation Status:

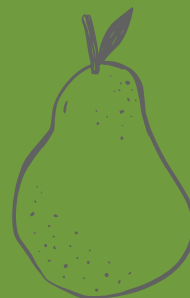
- **IUCN Red List:** Restricted to the Darvas Mountains at 1,300–1,600 m, populations of this endemic pear are very small and fragmented. The species is threatened, and the possible threats are overgrazing, deforestation, and habitat loss.
- **Conservation Actions:** Needs to bring under regional planning of protected areas and ex-situ conservation.

Uses:

- **Traditional Uses** - Local edible fruit; leaves and bark may have traditional medicinal uses.
- **Agricultural Potential** - Potential for improving pear cultivars in breeding programs for drought and disease resistance.

Cultural significance:

Important in local folklore and traditional agroforestry.



Morphology:

- **Root System:** Deep taproots are well adapted for arid conditions.
- **Wood:** Hard, durable, sawn for carpentry on a small scale locally.

Reproductive Biology:

- **Flowering:** March-April.
- **Fruiting:** August-September.
- **Propagation:** Mainly by seeds; vegetative grafting possible.

Threats:

- Habitat degradation and loss due to deforestation and agricultural expansion.
- Over-harvesting of fruits and wood.
- Climate change affecting its growth zones.
- Limited natural regeneration.

Research needs:

- Systematic population and distribution surveys.
- Genetic studies for considering diversity and the possibility for crop improvement.
- Investigating ecological roles in local ecosystems.

Ongoing Conservation Efforts:

- Protection within botanical gardens and conservation areas.
- Seed collection and propagation programs.
- Community-based conservation projects.

