

Assessing non-detrimental trade for a CITES Appendix II-listed plant species: the status of wild and cultivated *Galanthus woronowii* in Georgia

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SUPPLEMENTARY MATERIAL 1 Historical background to the international trade in *Galanthus* spp. from Georgia

The first recorded attempt to export *Galanthus* spp. from Georgia was in 1994 (PC, 1997), prior to Georgia becoming an independent Party to CITES in 1996. This export of 10 million bulbs was refused by the Netherlands based on problems with the documents issued by the Russian Federation. The first successful export (10 million bulbs) occurred via Turkey in 1995, when the Netherlands granted the import permit required by the European Union Wildlife Trade Regulation to complement the CITES export permit granted by the Russian Federation (PC, 1997). All subsequent exports of *G. woronowii* from Georgia have followed this trade route, based on long-established links between traders in the Netherlands and Turkey.

The large-scale international trade of *G. woronowii* (then exported as *Galanthus ikariae* Baker) raised concerns amongst the CITES community (PC, 1997). The CITES Authorities of the Netherlands contacted their counterparts in Georgia to obtain information on the non-detriment findings. Communication proved difficult and the issue was discussed by the CITES Scientific Review Group of the European Union in 1997 (PC, 1997); the group was unable to decide whether the trade was likely to be detrimental. The Netherlands raised this issue at the 8th meeting of the CITES Plants Committee (PC, 1997), noting that the Scientific Review Group planned a mission to Turkey and Georgia to review the trade in geophytes (PC, 1997). In the meantime trade continued, with c. 10 million bulbs exported annually up to 2000.

The mission entered Georgia on 12 April 1999 for a 2-day visit to the Ajara region, the source of the bulbs in trade. It was confirmed that the unintentionally misnamed *G. ikariae* plants were *G. woronowii* and that there was extensive cultivation of that species in the region (Bimmerman, 2000). Apparently these cultivation areas were established in the mid 1990s with assistance from Turkish plant traders. The mission reported that the cultivated plants did not meet the criteria for artificial propagation defined by CITES (CITES, 2012c) and should therefore be considered wild. The CITES definition of artificial propagation requires that the plants be grown under controlled conditions, defined as ‘in a non-natural environment that is intensively manipulated by human intervention for the purpose of plant production’. The key problem raised was that the cultivation fields of *G. woronowii* lacked the necessary level of intensive manipulation, and records of such, to satisfy any potential challenge by CITES or importing CITES Parties to CITES export permits issued for artificially propagated material. Furthermore, the management of the fields was unclear, as was the exact source of some of the original parent stocks and stocks used for further supplementary planting. If the original and supplementary planting was sufficiently extensive this could affect the survival of the wild populations. Some plants of the rarer species *Galanthus krasnovii* A. P. Khokhr. were also found in the cultivation fields, implying that the survival of wild populations of this species could also be affected. However, the report noted that Georgia had the potential to develop the trade in a sustainable way (Bimmerman, 2000).

A CITES-sponsored project followed in May–September 1999 (FFI, 1999) during the period of the year in which *G. woronowii* plants are dormant, with no above-ground parts, precluding assessments of field populations. Interviews with traders and CITES Authorities revealed that c. 37 ha of bulbs were in cultivation in Ajara, with a mean stock of 39 bulbs m⁻². It was further noted that there was no functional CITES Scientific Authority, which undermined implementation of the Convention (FFI, 1999). The project report (FFI, 1999) made a series of recommendations to improve the

implementation and sustainability of the trade, which were subsequently communicated to the Georgian CITES Authorities by the CITES Secretariat (CoP11, 2000). However, there was no comprehensive CITES compliance mechanism applicable to plants until Parties adopted Resolution 12.8 on the review of significant trade in specimens of Appendix-II species, in 2002.

In May 2001 the German CITES Scientific Authority sent a technical mission to Georgia to gather data on CITES processes (PC, 2001). They reported that cultivation fields were intermingled with wild populations and that the Georgian Scientific Authority had calculated the overall population size of the cultivation fields to be c. 80 million bulbs. However, the mission expressed concerns over the methods used to calculate this figure and noted a significant lack of capacity within the Scientific Authority. The Plants Committee recommended, inter alia, that a production monitoring system and a mechanism for setting a sustainable quota be developed and a standard produced for assessing cultivation fields against CITES requirements for artificial propagation. Exports increased to 18 million in 2003 before decreasing to 15 million in 2007.

In 2004 *G. woronowii* was included in the revised CITES process for the review of significant trade (PC, 2004), which identifies detrimental trade and provides a mechanism for correcting such trade through a series of recommendations to the affected Parties. Non-compliance can lead to a move to suspend trade with that Party via a recommendation from the CITES Standing Committee (CITES, 2012a). In 2006 the CITES Plants Committee considered the IUCN consultants' reports (PC, 2006a), which had preliminarily categorized the trade as Least Concern (from a category list of Least, Possible or Urgent Concern) based on the amount of land available for bulb production. The CITES Plants Committee upgraded the species to Possible Concern because all bulbs were considered wild in CITES terms and the exact source of the bulbs entering trade was unknown. The Plants Committee recommended that the CITES Management Authority of Georgia report to the CITES Secretariat within 3 months its actions to implement the provisions of Article IV of the Convention and detail how the Scientific Authority determines that levels of export are not detrimental to the populations concerned (PC, 2006b). It further recommended that within 1 year Georgia should carry out a preliminary inventory of standing stock and establish estimates of sustainable off-take, a scientific monitoring system for harvested and unharvested populations, and a conservative export quota based on the inventory of standing stock and estimates of sustainable off-take. The CITES Standing Committee subsequently extended this deadline to December 2009 and directed that a conservative export quota based on the inventory of standing stock and estimates of sustainable off-take should be established in cooperation with the Secretariat and the Chair of the Plants Committee. CITES Project No. S302 (Improving Implementation of CITES for *G. woronowii* and *Cyclamen coum* from Georgia) was established to address these concerns (Kikodze et al., 2009). The CITES Standing Committee approved the final results and recommendations of this project in 2010 and *G. woronowii* was removed from the Review of Significant Trade.