CONVENCIÓN SOBRE EL COMERCIO INTERNACIONAL DE ESPECIES AMENAZADAS DE FAUNA Y FLORA SILVESTRES

Decimocuarta reunión del Comité de Flora
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Seguimiento de las decisiones de la CdP12

HARPAGOPHYTUM SPP. (DECISIONES 12.63-12.65): INFORME SOBRE LA LABOR REALIZADA

1. Este documento ha sido preparado por Sudáfrica.

Resumen ejecutivo

2. En la Decisión 12.63 se pide a los Estados del área de distribución de *Harpagophytum* spp. (garra del diablo) que autoricen la exportación de especímenes de esta especie para "proporcionar información actualizada sobre la aplicación de las políticas y los programas de gestión mencionados en los informes sometidos en cumplimiento de la Decisión 11.63". También se alienta a los Estados del área de distribución a "entablar negociaciones con la industria de la garra del diablo a fin de obtener apoyo para los programas de gestión" (Decisión 12.64) y a examinar "cómo podrán utilizarse los procesos y los mecanismos en otros tratados internacionales con miras a obtener apoyo para la utilización sostenible del recurso y su comercio equitativo" (Decisión 12.65). En este informe se ofrece una actualización del estado y el uso sostenible de la garra del diablo en Sudáfrica.

3. Los resultados de los estudios realizados en 2002 y 2003 confirman que en Sudáfrica hay dos especies de *Harpagophytum*. *Harpagophytum procumbens* se da en las provincias de Northern Cape, North West, Free State y Limpopo, y las mayores poblaciones se encuentran en las zonas comunales de la provincia de North West y en las partes nororientales del Northern Cape. *Harpagophytum zeyheri* se da en las provincias de North West, Limpopo, Gauteng y Mpumalanga. Los registros de distribución de ambas especies indican que no se dan simultáneamente, pero tienen distribuciones que casi se superponen en las partes noroccidentales de la provincia de Limpopo.

4. *Harpagophytum procumbens* es la única especie recolectada con fines comerciales en Sudáfrica. La mayoría de la recolección tiene lugar en las zonas comunales de la provincia de North West, donde el comercio está vigilado y regulado por el Departamento de Agricultura, Conservación y Medio Ambiente (NW-DACE) de North West. Actualmente hay 2.381 recolectores formados y registrados en la provincia, que en 2002 recolectaron unas 90 toneladas de material vegetal de garra del diablo seca. En general, los recolectores son personas marginadas con recursos limitados y que dependen considerablemente de los ingresos en metálico generados por la garra del diablo. Cada recolector registrado en la provincia de North West gana por término medio 782 ZAR anuales.

5. Con el fin de evaluar la sostenibilidad, los investigadores estimaron el tamaño de la población total en Sudáfrica, así como los niveles de recuperación en los distintos pueblos. La garra del diablo existe en más de 400.000 km^2, y la recolección sólo afecta actualmente a una pequeña proporción de la población total sudafricana de *H. procumbens.* Por lo tanto, no hay amenaza inmediata para la especie como resultado de la recolección. Sin embargo, varias poblaciones locales de *H. procumbens* han disminuido a causa de la recolección, y el NW-DACE ha paralizado la recolección en esas zonas por los aldeanos. Esto indica la necesidad de vigilancia local en torno a los pueblos donde se recolectan plantas.

6. La gestión actual del comercio por el NW-DACE comprende el registro de recolectores, la formación en el uso de técnicas de recolección sostenible, y el empleo de un sistema de cuadrante para impedir la recolección en años consecutivos. En la actualidad, la aplicación de programas de gestión no es sistemática en toda la zona donde se recolecta la garra del diablo, y las tasas de recuperación de la población después de la recolección varían entre 32 y 80%. Para lograr la sostenibilidad, los programas de formación han de llegar a todos los recolectores, hay que mejorar el nivel local de vigilancia y aplicar la mejor práctica de recolección en cuadrantes, a fin de que las plantas tengan suficiente tiempo para recuperarse después de la recolección.

7. Además de la labor de investigación, se ha establecido un grupo de trabajo nacional, que ha elaborado un plan estratégico para el comercio sostenible. La Autoridad Administrativa nacional de la CITES también ha presentado una propuesta sobre la financiación sustancial de garra del diablo vinculada al programa de alivio de la pobreza del Gobierno sudafricano.

8. No hay nada de que informar sobre los progresos realizados en la aplicación de las Decisiones 12.64 y 12.65.

9. En el Anexo al presente documento figura el informe completo (en inglés únicamente).

HARPAGOPHYTUM SPP.: PROGRESS REPORT

Introduction

1. Range States in CITES Decision 11.63 were required to submit biological and trade data on *Harpagophytum* [DC Ex Meissn. (Pedaliaceae)] to the Plants Committee as the basis for a report for the 12th meeting of the Conference of the Parties (CoP12, Santiago, 2002). The report submitted at CoP12 highlighted the lack of information available on the South African, Namibian and Botswana populations. Range States were therefore requested to submit additional information on the status and regulation of devil's claw trade to the 14th meeting of the CITES Plants Committee (Decision 12.63). Range States were also requested to provide progress reports on the implementation of Decision 12.64, relating to obtaining support for management programmes from the devil's claw industry, and of Decision 12.65 relating to processes and mechanisms in other international treaties that can be used to support sustainable use and fair trade. This report covers the implementation of Decisions 12.63, 12.64 and 12.65 in South Africa.

Decision 12.63

2. In response to Decision 12.63, a survey and assessment of devil's claw was undertaken in South Africa with funding from the Whitley Laing Foundation for International Nature Conservation (Raimondo *et al.*, 2003). In addition, a national working group was established to coordinate activities within the industry. The working group has met twice and developed a strategic plan for development of sustainable trade in South Africa.

3. The survey and assessment carried out in South Africa mean that it is now possible to provide more detailed information on the following aspects of trade in devil's claw.

   a) The distribution and abundance of devil's claw in South Africa.

   b) The nature and extent of harvesting in South Africa.

   c) The groups that are harvesting devil's claw and the role it plays in their livelihoods.

   d) The sustainability of the devil's claw Trade in South Africa.

   e) The effectiveness of management plans that have been implemented to promote sustainable trade.

   f) Requirements for additional policies to support sustainable trade.

Distribution and abundance of Devil's Claw (*Harpagophytum* spp.) in South Africa

4. Field surveys in Limpopo, North West and Northern Cape provinces (Hachfeld 2003; Raimondo *et al.*, 2003) confirm earlier reports that *H. zeyheri* occurs in the eastern parts of North West Province, in areas of Limpopo Province south of the Soutpansberg range, and in Gauteng Province. *H. procumbens* has a larger, but disjunct distribution in South Africa, and is found from the north-eastern parts of Northern Cape Province, to the central and southern parts of North West Province. It also occurs in the northern parts of Limpopo Province. Current locality data show that the two species of *Harpagophytum* do not overlap in South Africa (Figure 1).

5. Both species of *Harpagophytum* typically occur in clumped populations and their distribution is patchy, even within homogeneous habitats. This distribution pattern makes it impossible to predict the total population size for either species (Hachfeld, 2003). However, *H. procumbens* occurs most densely in the communal areas of the North West Province and along the eastern border of the Northern Cape (Figure 4). Hachfeld (2003) showed that land use affects the density of *Harpagophytum* plants and that high grazing pressure, typically found in communally owned areas,

favours the occurrence of *Harpagophytum* plants. Although this could be one reason why there is a high concentration of plants in the communal areas of the North West Province, there is also a high concentration of plants on surrounding private farms, suggesting that this area is the centre of this species range in South Africa.

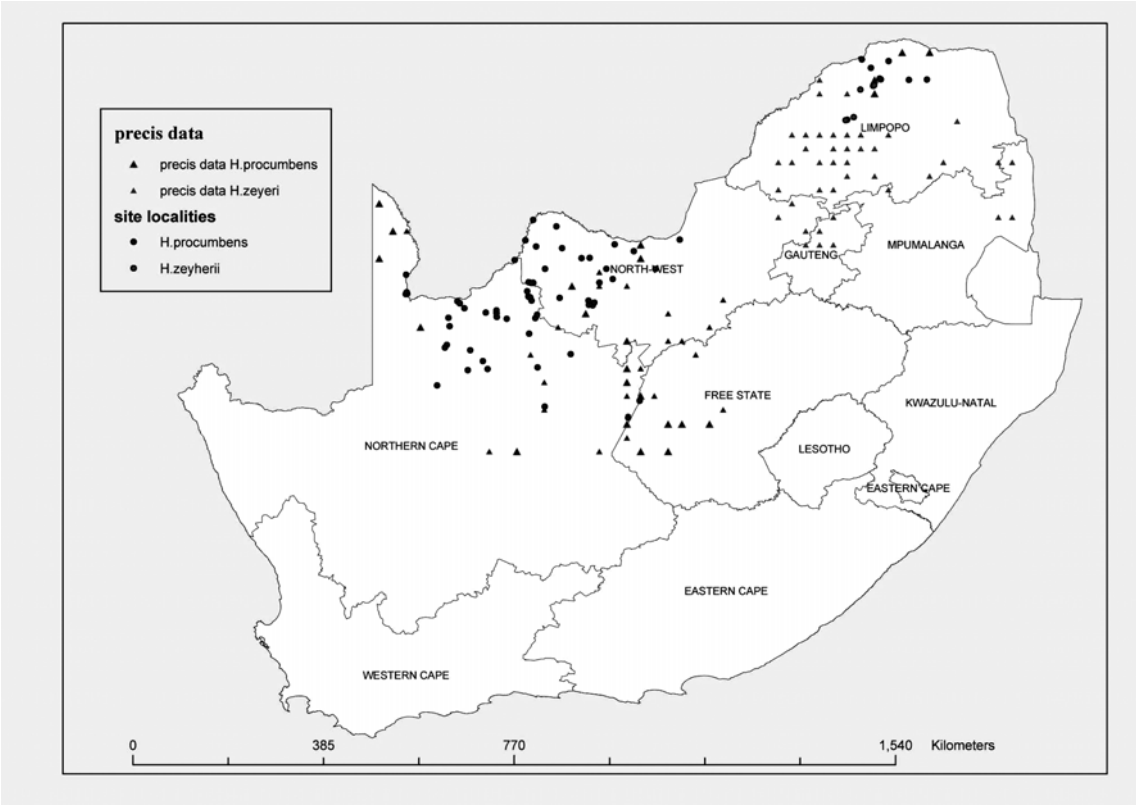

Figure 1: Distribution of the genus *Harpagophytum* in South Africa, (note: PRECIS data, taken from herbarium specimens, are accurate to quarter degrees while site localities are sites sampled over the past two years and are accurate to 10 m.)

6. In the Limpopo Province, populations of *H. procumbens* are small and disjunct owing to the scarcity of suitable soils. Populations of *H. procumbens* are typically found around sandstone outcrops, for example, around the base of the Blouberg Mountain, the Soutpansberg range and in and around the sandstone hills of the Limpopo Valley. Populations of *H. zeyheri* found in the Limpopo Province had higher numbers of individuals on average than populations of *H. procumbens* and individual plants were larger.

Quantity of Devil's Claw plants harvested

7. *Limpopo Province*. Very little harvesting is taking place in the Limpopo Province. Both *H. procumbens* and *H. zeyheri* occur in the province and traditional healers use the tubers for medicinal purposes. It was not possible to determine the exact number of harvesters who use devil's claw on a subsistence basis, but estimates range from 50 to 100 individuals. The conservation agency in Limpopo province stated that, according to their knowledge, there is no large-scale harvesting of the plant at present.

8. *Northern Cape province.* Only *H. procumbens* occurs in the Northern Cape and is distributed mostly on commercial farms (i.e. not communal areas). The majority of indigenous people in this area work in the towns or on private game or stock farms. Interviews with people living on farms indicated that Devil's Claw was used only for personal use and was not sold to generate income.

9. There was one commercial farmer in the Northern Cape involved in devil's claw trade. This farmer removed plants from the wild and planted the primary tubers in ploughed lands as part of a cultivation trial. These trials were still underway but the initial data (after four years) suggested that cultivation was not economical because of the high labour costs involved (Raimondo *et al.* 2003).

10. *North West province*. Most commercial harvesting of devil's claw takes place in North West province. Data obtained from NW-DACE (Table 1) show that there were 2,381 registered harvesters in the 2001-2002 season, which is twice the number that were registered in 2000-2001. These harvesters collected just over 90 tonnes of material in the 2001-2002 season (Table 1).

Table 1: Harvesting records for North West province (source NW-DACE).

SEASON	2000-2001	2001-2002
Total number of Harvesters	1233	2381
Total number of villages where harvesting takes place	85	105
Total wet weight (kg)	10904.2	9812.97
Total dry weight (kg)	14780.73	88744.66
Total weight (kg)	16397.84	90199.94
Average wet price paid to harvester	ZAR 0.77	ZAR 2.26
Average price for wet weight paid to tribal authority	ZAR 0.09	ZAR 0.10
Average price for dry weight paid to harvester	ZAR 8.22	ZAR 18.77
Average price for dry weight paid to tribal authority	ZAR 0.48	ZAR 0.50
Total Income to harvesters	ZAR 133,688.27	ZAR 1,799,689.66
Total Income to tribal authorities	ZAR 8,054.49	ZAR 45,313.68
Average income earned per harvester per season	ZAR 108.43	ZAR 782.47
Average income earned per tribal authority	ZAR 94.76	ZAR 431.56
Total income (total earned by harvesters and tribal authorities)	ZAR 141,742.76	ZAR 1,845,003.34

11. To determine the impact of trade on plant populations, the trade data needed to be converted into a measure of the number of plants being harvested. This was estimated in two different ways (Raimondo *et al.* 2003):

    a) Average harvest rate technique: this was calculated by determining the average number of plants from which tubers were harvested during a day and multiplying it first by the average number of days that were spent harvesting in a season and then by the number of registered harvesters.

    b) Dry weight harvest technique: to obtain an estimate of the total number of plants affected by harvesting, the total weight of devil's claw material that was collected by registered harvesters (NW-DACE records) was divided by the average dry weight of material harvested per plant.

12. Using the first technique, it was calculated that an average harvester collects tubers from 2 100 plants during a six-month's season. Multiplying this by the number of registered harvesters (Table 1) leads to an estimated harvest of 2,589 300 plants during the 2000-2001 season, and 4,830,000 plants in the 2001-2002 season.

13. Using the second technique, field studies showed that the average plant had six tubers and that 45 g dry weight of tubers was harvested per plant. Dividing the total harvest recorded by NW-DACE (Table 1) by the mean dry weight per plant gives an estimated harvest of 364,474 plants in the 2000-2001 season and 2,004,868 in the 2001-2002 season.

14. Differences between the two estimates could indicate that the figures of total weight exported gathered by the Provincial Nature Conservation Departments do not represent the total number of plants being harvested. This would suggest some illegal harvesting is taking place, which is dealt with later under implementation of management plans. However, some degree of difference would be expected between the two methods, especially since harvesters may overestimate the time they spend harvesting. The researchers concluded that a realistic estimate of the total number of plants harvested would be between 500 000 and 700,000 plants in the 2000-2001 season and between 2,500,000 and 3,000,000 plants in the 2001-2002 season.

Commercial harvesting of Devil's Claw in South Africa

15. Almost all commercial harvesting takes place in the North West province. The climate of the region is harsh, with temperatures up to 42 degrees Celsius in the summer months. Low rainfall, as well as poor quality soils impede agricultural activities. Rural people therefore exploit the natural resources occurring in their area to improve their livelihoods.

16. The land where devil's claw is harvested is managed as communal land, overseen by the local tribal chiefs. Each chief designates different land uses to community members. The main form of land use is livestock grazing with goats, sheep, cattle and donkeys. Crops such as maize, beans and watermelon are also grown on more productive lands but they make a minimal contribution to livelihoods.

17. A relatively small proportion of people in the North West province are involved in harvesting of devil's claw. The majority of harvesters in the province were women between 40 and 60 years old. On average, harvesters were supporting a household with six people and they derived an income of ZAR 784 from devil's claw during the 2001-2002 season. This small cash income played an important role in helping to provide enough food for the household.

18. Most harvesters in the North West province were Tswana. The remaining harvesters comprised people who had moved from other areas of South Africa as well as a small number of San people. Although the San people are reputed to have a long tradition of using devil's claw, their involvement in devil's claw trade in South Africa is limited.

19. Despite records of traditional use of devil's claw in the Kalahari, the majority of harvesters in the area have only been involved in harvesting and trade for two or three years. Most were unaware of the value of devil's claw prior to the efforts of nature conservation agencies (NW-DACE) to register and train harvesters. There is, however, some indication that commercial buyers were operating in this part of the province as far back as 1994, but it is not clear whether the plants were being sold locally or internationally.

Sustainability of trade

20. One measure of sustainability would be to determine what proportion of the resource is being harvested on an annual basis. Given the patchy distribution of *Harpagophytum* populations, it is not possible to determine the total population size in South Africa (Hachfeld, 2003). A sample of 89 survey sites of 1km^2 each contained 2,120,000 plants. The sites represent a minute proportion of the total range where devil's claw occurs (89 km^2 out of a total 415,000 km^2). The researchers estimated that the total population is between 500 and 1,000 times the number recorded in the sample area. Therefore, harvesting is currently impacting on a tiny proportion of the total South African *H. procumbens* population and the species is not being threatened by harvesting. Nevertheless, local populations of plants are being impacted and sustainability needs to be examined at local levels as well as the national level.

21. To determine sustainability at a local level, a pilot study was carried out in eight villages in the NW Province (Raimondo *et al.* 2003). The density of plants was recorded for each village and sites were then visited a year after harvesting to determine the number of plants that had recovered after harvesting.

22. The results of this study show that population recovery rate varied greatly from village to village (32per cent to 80 per cent, Table 2). These data indicate that it is possible to get high recovery rates for plants harvested in summer (growing season) when suitable harvest techniques are used. They also indicate that close monitoring is required to ensure that harvesters use the quadrant method of harvesting.

Table 2. Village case study on sustainability of harvesting (source Raimondo et al. 2003)

Village	Plants per ha	Number of plants sampled to determine recovery	% Population Recovered after Harvesting	Harvesting in Groups (G) or Individually (I)	Adequate Training Yes (Y) / No (N)	Harvest in Quadrants Yes (Y) / No (N)	Number of checks per annum by DACE officials
Tlhagameng	173	76	32	I	Y	N	1
Ganyesa	208	156	38	I	N	N	0
Morokeng	537	34	79	I	N	N	0
De-aar	475	8	80	G	N	Y	2
Heuningvlei	675	35	80	G	Y	N	24
Eiffel	63	46	45	G	Y	Y	7
Glenred	254	216	52	G	Y	Y	60
Mathanthanyaneng	696	87	47	I	N	N	3

Implementation of policies and sustainable management practices

23. *Northern Cape*. Northern Cape Nature Conservation requires permits for collecting, exporting or importing, moving plant parts across provincial boundaries, growing and trading in *Harpagophytum*. Permits were originally issued pursuant to proclamation 240 of 1975 relating to the Ordinance of Cape Nature Conservation 26/1965, but two new proclamations, which were in draft form when the first report was submitted at the 11th meeting of the Plants Committee (Langkawi, September 2001) (Powell, 2001), were passed in 2003.

24. *North West province*. The majority of the communal areas within the North West province were part of the former Bophuthatswana Homeland set up under apartheid legislation. Democratic local government, charged with the development of the area, was only introduced to these areas after the 1994 elections and traditional authorities (i.e. tribal chiefs and their advisors) still have power over land and natural resource use. The roles and functions of local government and tribal authorities, and how these institutions interact and cooperate, are still in the process of being clarified at a national level. This political context influences the development and implementation of policies for sustainable resource use.

25. The government department with responsibility for managing devil's claw trade is the Department of Agriculture, Conservation and Environment (NW-DACE). Policies and management plans for the sustainable use of devil's claw have been developed and implemented by NW-DACE. The management plan aims to avoid overexploitation of devil's claw and facilitate the sale of devil's claw to buyers. The plan has four components.

    a) Trade in devil's claw is regulated by permits. Buyers need a permit and may only obtain plant material from registered harvesters.

    b) Harvesters must be registered with NW-DACE and receive their registration card only after they have completed a training course on sustainable harvesting methods.

    c) Training is based on the principle of sustainable use.

        i) Harvesting is allowed in Summer (growing season) when the above ground parts of the plant are visible.

        ii) Harvesters are required to use a wooden digging stick to limit damage to the primary tuber.

        iii) Harvesters must replant the primary tuber if it is dislodged.

        iv) Harvesters are encouraged to work in groups. The rationale being that harvesters can monitor each other, making sure that the devil's claw plants are harvested correctly.

v) Harvesting sites are divided into four quadrants and harvesters are expected to collect devil's claw tubers from only one quadrant in a given year (i.e. each quadrant has a rest period of three years) (van der Vyfer 2001).

d) Adherence to regulations is monitored and harvesting permits can be withdrawn if harvesting has a negative impact on devil's claw populations.

26. The system implemented by NW-DACE makes provision for very strict control of trade. In most places covered by the survey, harvesting was carried out as per the NW-DACE recommendations. There were, however, some problems with implementation.

a) Researchers noted that, in some areas, harvesters were not using the techniques advocated by NW-DACE. A small proportion of harvesters used metal digging tools and several villages did not adhere to the quadrant system of harvesting.

b) Researchers also noted that illegal harvesting was taking place in villages where there were no registered harvesters. It was impossible to quantify the number of illegal harvesters or to determine whether they were all harvesting for commercial purposes as opposed to personal use.

c) Provincial records (source NW-DACE) did not give a complete record of trade (Raimondo *et al.* 2003). This was due to the absence of monitoring in villages where the Chief would not cooperate with conservation officials. This problem has now been resolved and future trade figures should be more representative of the actual trade taking place.

d) Monitoring was not consistent. Some villages where harvesting exceeded 5,000kg had not been monitored.

e) Training was inadequate in some areas.

27. As a result of the research work, a series of recommendations have been made to the national devil's claw working group and the nature conservation agencies. These can be summarized as follows.

a) Monitoring of population recovery should be included in management plans. There are simple methods that can be used to achieve this.

b) The quality of training, being given to harvesters by local officials needs to be monitored at regular intervals, e.g. once a year.

c) Provincial policies must ensure that harvesting only occurs in areas with high resource concentrations. These have been identified as the communal areas of the North West Province and the eastern parts of the Northern Cape.

d) As there is no means of monitoring exports at the national level, it is imperative that the Nature Conservation Departments monitor exports from their provinces as closely as possible. (An inclusion in Appendix III for South Africa could still be considered as an option if provincial monitoring is not effective).

e) New regulations pertaining to the National Biodiversity Bill, which was passed by Parliament in 2003, should ensure that *Harpagophytum* is listed as a protected plant to facilitate monitoring and managing trade. The South African Devil's Claw Working Group must ensure that these regulations facilitate sustainable use.

f) The South Africa Devil's Claw Working Group should commission a study to investigate importers' willingness to pay premium prices for sustainable harvested produce.

Decision 12.64

36. No support has been sought from the devil's claw industry.

Decision 12.65

37. No progress to report.

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