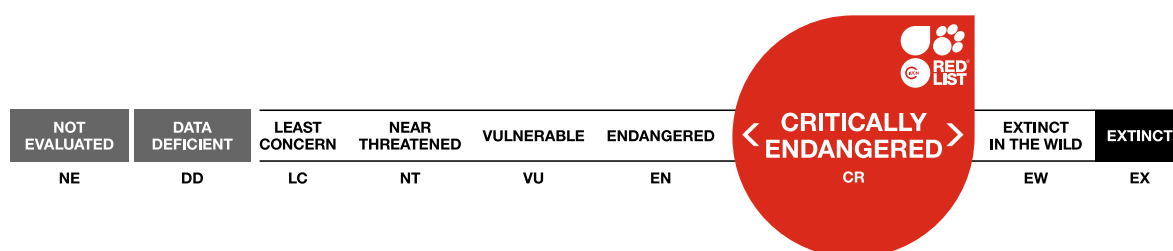


# Carex acocksii

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Liliopsida	Poales	Cyperaceae

Scientific Name: *Carex acocksii* C.Archer

### Taxonomic Source(s):

AFD. 2019. African Plant Database (version 3.4.0). Conservatoire et Jardin botaniques de la Ville de Genève and South African National Biodiversity Institute, Pretoria Available at: <http://www.ville-ge.ch/musinfo/bd/cjb/africa/>. (Accessed: April 2019).

Board of Trustees of the Royal Botanic Garden, Kew. 2019. World Checklist of Selected Plant Families. Available at: <http://apps.kew.org/wcsp/home.do>. (Accessed: April 2019).

### Taxonomic Notes:

The species was described in the genus *Carex* (Archer and Victor 2006), but it was not placed within any subgenera or section until recent morphological and molecular analyses have supported its inclusion in *Carex* section *Schoenoxiphium* subgenus *Psyllophorae* (Márquez-Corro *et al.* 2020). *Carex acocksii* displays unique morphological features among other species within sect. *Schoenoxiphium*: inflorescence reduced to a single terminal androgynous spike and utricles with papyraceous-membranaceous walls.

## Assessment Information

Red List Category & Criteria: Critically Endangered B1ab(i,ii,iii,v) [ver 3.1](#)

Year Published: 2020

Date Assessed: April 13, 2020

### Justification:

*Carex acocksii* is known only from two locations in the Northern Cape of South Africa. Its area of occupancy (AOO) is only 12 km<sup>2</sup> and the extent of occurrence (EOO) is 55 km<sup>2</sup>. The main threat is overgrazing pressure by livestock and possible impacts of climate change. The species is thus considered Critically Endangered (CR) under criterion B (B1ab(i,ii,iii,v)). The species is rare and poorly known and is likely to be under recorded within its known distribution range.

## Geographic Range

### Range Description:

*Carex acocksii* is restricted to the semi-arid western escarpment of South Africa, within the Northern Cape province. This species is known from two locations near Calvinia and Sutherland. Surveys of nearby regions such as the Tankwa Karoo National Park or the Nuweveld Mountains have not recorded *C. acocksii* during field surveys of these areas (Clark *et al.* 2011b, Steyn *et al.* 2013). The known EOO is 55 km<sup>2</sup> and the AOO is 12 km<sup>2</sup>, and the species occurs in just two locations.

### Country Occurrence:

Native, Extant (resident): South Africa (Northern Cape Province)

## Distribution Map

## Population

There is little information about population trend or sizes for *Carex acocksii*, however a continuing decline in the number of mature individuals is inferred as most of the individuals near Calvinia had been heavily grazed and seed set was thus unlikely which could lead to a decrease in the number of individuals in the future. Previous observations have not given any information regarding population size. The species has been described as locally common at a single recorded locality west of Sutherland by N.A. Helme (pers. comm. 2020).

The species is considered to be severely fragmented as the two known subpopulations are separated by 100 km, making outcrossing between both subpopulations unlikely. Intermediate subpopulations may be present, but are currently unrecorded.

Current Population Trend: Decreasing

## Habitat and Ecology (see Appendix for additional information)

This species occupies an ecologically narrow range, inhabiting dolerite outcrops and Beaufort series shaliferous sandstones. Soils are usually rocky sands, growing between shrubs (Archer and Balkwill 1997, Archer and Muasya 2013, Clark *et al.* 2011a; N.A. Helme pers. obs.). Soils may be seasonally (winter) wet, especially where found on dolerite outcrops (Snijman 2013).

Systems: Terrestrial

## Use and Trade (see Appendix for additional information)

This species is not known to be utilized.

## Threats (see Appendix for additional information)

The main threats for *Carex acocksii* are overgrazing by livestock and habitat loss due to global warming. Previous studies have noted the impacts of heavy grazing sheep (Victor 2002, Archer and Victor 2006, Raimondo *et al.* 2009, Márquez-Corro *et al.* 2020), and linked the almost exclusive presence of *C. acocksii* individuals under shrubs to the high herbivore pressure. Moreover, as climate change predictions are for increasingly hot and dry conditions in the region, the habitat in which *C. acocksii* dwells is at enormous risk (Clark *et al.* 2011a). This will likely lead to a scenario of habitat deterioration and range shrinkage, as the species already occurs at or close to the highest points in the landscape. Extent of occurrence, area of occupancy and the number of locations/subpopulations and mature individuals are all expected to decline.

## Conservation Actions (see Appendix for additional information)

*Carex acocksii* is not legally protected at the national level and there are no conservation plans for this species. The species was assessed as Vulnerable (D2) for the Red List of South African Plants (Archer and Victor 2006). The inclusion of this species in national and global red lists is warranted, if only to raise awareness. The species should be searched within suitable habitat within the Tankwa Karoo National Park, large areas of which (much of it difficult to access) lie between the two known subpopulations. The species constitutes a rare, ancient lineage within *Carex* sect. *Schoenoxiphium* that has resulted in unique morphological and ecological features, and population monitoring programs should be initiated.

## Credits

Assessor(s): Márquez-Corro, J.I. & Martín-Bravo, S.  
Reviewer(s): Maguilla, E., Helme, N.A. & Allen, D.J.  
Contributor(s): Helme, N.A.

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## External Resources

For [Supplementary Material](#), and for [Images and External Links to Additional Information](#), please see the Red List website.

# Appendix

## Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
3. Shrubland -> 3.5. Shrubland - Subtropical/Tropical Dry	Resident	Suitable	Yes

## Plant Growth Forms

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Plant Growth Form
GR. Graminoid

## Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Whole (>90%)	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	Whole (>90%)	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Whole (>90%)	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		

## Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action in Place
In-place land/water protection
Conservation sites identified: No
Occurs in at least one protected area: No

## Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
5. Law & policy -> 5.1. Legislation -> 5.1.1. International level
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level

## Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

## Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km!): 12
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km!): 55
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 2
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 1,450
Upper elevation limit (m): 1,600

Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: Yes
No. of subpopulations: 2
Continuing decline in subpopulations: Unknown
Extreme fluctuations in subpopulations: Unknown
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes

# The IUCN Red List Partnership

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