

# 2016 ACTIVITY REPORT

*Prepared by:*

***Robert Cantley - Chair***

*with reports from:*

***Charles Clarke - Scientific Focal Point & Red List Coordinator***

*and contribution from:*

***Marcel van den Broek - Communications Officer***



***Nepenthes edwardsiana* (EN) – increasingly endangered by intensive poaching**

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## PREAMBLE

### CHAIR, RLA CO-ORDINATOR & PATRON

Chair: Robert Cantley

Scientific Focal Point and Red List Coordinator: Charles Clarke

Patron: Sir David Attenborough

### OTHER OFFICE BEARERS

Communications Officer: Marcel van den Broek

Conservation Coordinator: Marc 'Drew' Martinez

### LOCATION

Colombo, Sri Lanka and are not currently affiliated with any institution, company or organization.

### MEMBERSHIP

By the end of 2016 the Carnivorous Plant Specialist Group (CPSG) had a general membership of 166 up from 112 in 2015 and with 9 actively engaged Specialist Members.

### MISSION STATEMENT

"To help ensure that the conservation status of all carnivorous plants are adequately and accurately documented and assist in raising of public awareness and encourage initiation of appropriate conservation measures."

### KEY OBJECTIVES

To ensure that the IUCN Red List for all carnivorous plants continues to be updated as quickly and accurately as possible, commencing with those species which have been identified by experts within the Carnivorous Plant Specialist Group (CPSG) as being most likely in need of conservation action.

To identify conservation imperatives and either initiate the most appropriate course of action for each case, or where an initiative is already underway, offer such support and guidance as may be appropriate.

## SUMMARY OF KEY ACHIEVEMENTS

- 1) Conducted a Red Listing Workshop utilising funds raised during 2015 through a successful online campaign hosted by Species Survival Commission of the IUCN, to which many generous individuals, societies and organizations donated. Additional funding support was obtained through the generosity of the Environment Agency – Abu Dhabi. The goal of the workshop was to assess and review ready for publication on the IUCN Red List, as many as possible of the 252 known species of carnivorous plants found in the Australasian region. To this end, it was essential to

enlist the voluntary assistance of key specialists with expert knowledge of carnivorous plants within that region. A full report is included here.

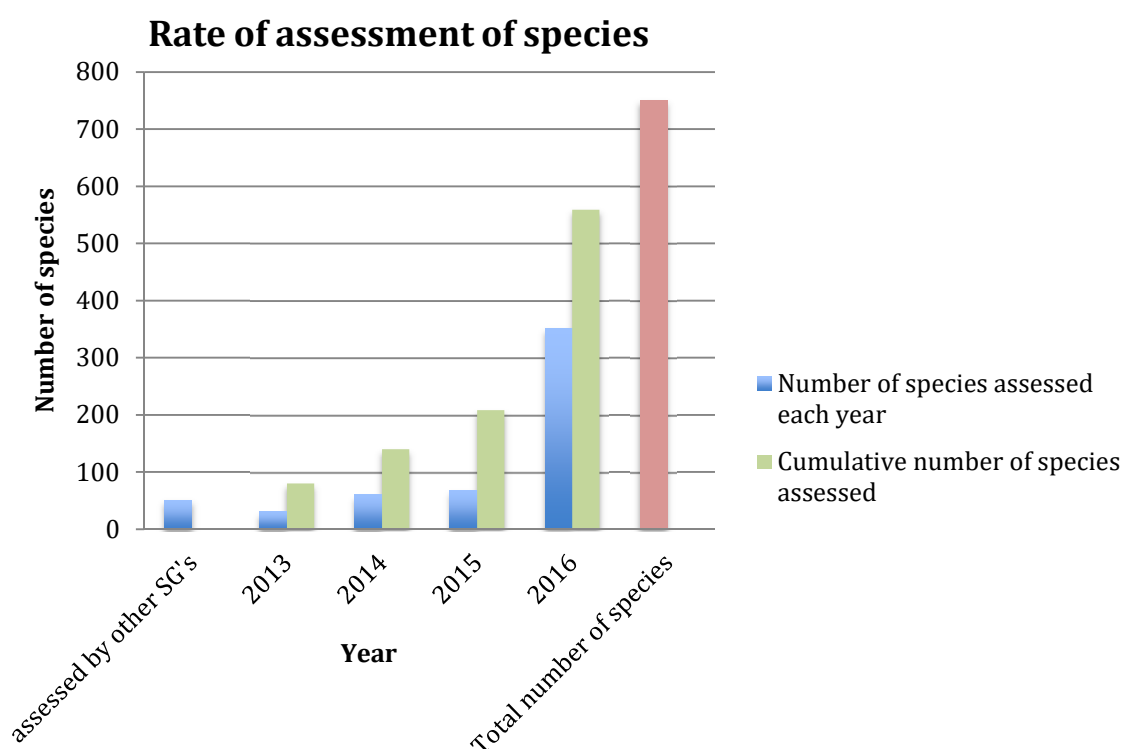
- 2) Undertook and successfully concluded a project to assess 100 species of carnivorous plants for the IUCN Red List, additional to those covered by the Workshop mentioned in achievement 1 above. A full report is included here.
- 3) Monitored and collated data regarding poaching operations taking place in parts of S.E. Asia, which are cause for serious concern. An outline report is included here.
- 4) Overall membership using our online presence has been increased by over 36% and public awareness raised by the active and careful maintenance of various online forums. A summary report is included here.

## INTRODUCTION

2016 was by far our most active year since The Carnivorous Plant Specialist Group (CPSG) was reactivated by the IUCN Species Survival Commission in 2012. This is due in main to the generosity of the ever-increasing number of volunteer experts, who continue to donate their time and expertise to further the goals of the CPSG in various ways. Also, the generosity of the Environment Agency of Abu Dhabi, as well as other sponsors, made many of the core activities and annual achievements possible. Please see the 'Acknowledgements' section at the end of this report.

Of the four key achievements summarised above, foremost amongst them are the great strides made in compiling and submitting Red List assessments. The rapidly accelerating annual progress is illustrated in the chart below:

**Figure 1.**



## 1) ASSESSMENT OF 100 SPECIES FOR CARNIVOROUS PLANTS FOR THE IUCN RED LIST

The Project Leader for this large task was our Scientific Focal Point and Red List Coordinator, Dr. Charles Clarke, who compiled the assessments and whose report is included here. The assessments were reviewed ready for inclusion in the IUCN Red List by Dr. Adam Cross of the University of Western Australia and the CPSG acknowledges and is grateful for, his particular donation of time and expertise, as well as the other participants and the host institute. This project was only made possible due to the generosity of the Environment Agency – Abu Dhabi, to whom we extend our heartfelt thanks.

*Report compiled by:*

**Dr. Charles Clarke**, Carnivorous Plant Specialist Group Scientific Focal Point and Red List Coordinator

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### BACKGROUND

The Carnivorous Plant Specialist Group (CPSG) was reactivated by the Species Survival Commission in 2012, with Mr. Robert Cantley appointed as Chair and Dr. Charles Clarke appointed as Scientific Focal Point and Red List Coordinator. The initial aim of the group was to complete Red List assessments of all c. 750 carnivorous plant species by 2020. Initially, efforts were focused on the Asian pitcher plant genus, *Nepenthes* (c. 160 species), as this genus contains the largest number of threatened taxa. Red List assessments of all *Nepenthes* species were completed in late 2015, but progress on other genera of carnivorous plants was slow at that time, due to limited availability of resources and expertise.

To address this problem, the CPSG ran an intensive workshop at Kew Gardens, United Kingdom in August 2016, which led to the assessment of 252 carnivorous plant species, mostly from Australia. An additional project, and the subject of this report, was to assess an additional 100 carnivorous plant species. Combined with other carnivorous plant species already assessed, the outputs of these two projects bring the total number of carnivorous plant species assessed for the Red List by the end of 2016 to 576.

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### PROJECT SCOPE

The scope of this project was straightforward, with the sole deliverable being the completion of drafting and review of 100 carnivorous plant species by the end of 2016.

As more than half of the world's carnivorous plant species have now been assessed, the task of assessing the remainder is becoming increasingly challenging, due to difficulties in obtaining reliable data upon which assessments can be based. Many unassessed carnivorous plant species occur in Africa and South America and are poorly known. This presented significant challenges with regards to the approach for this project. A regional approach was deemed to be too great a challenge, as few regional, unassessed carnivorous plant floras contain 100 or more species. Similarly, genera containing large numbers of unassessed species (primarily *Drosera*, *Pinguicula* and *Utricularia*) have very extensive geographical ranges, with substantial numbers of species occurring in regions where carnivorous plants have not been well-studied. In the end, it was decided to target the genus *Utricularia*, which not only contains a large number of unassessed species, but also has a global distribution (excluding Antarctica). This enabled us to avoid having to focus on a specific geographical region while at the same time giving us the ability to assess a large number of species that were either widespread or highly localized. This approach released us from the constraint of relying upon the advice of specialists who were largely unavailable during the project period.

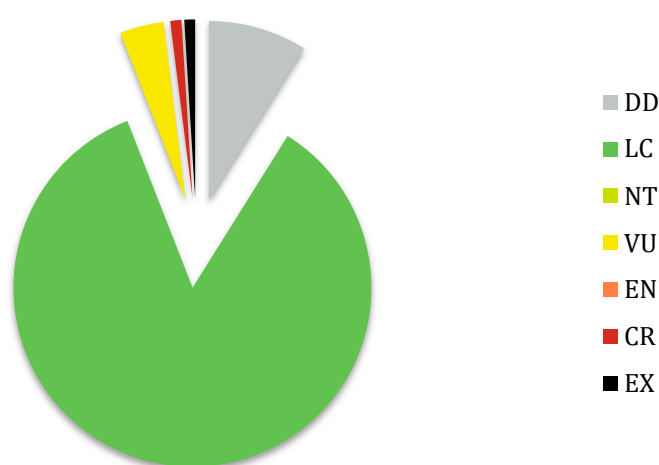
## PROJECT OUTCOMES

The project is completed, with a total of 100 *Utricularia* species, and one additional *Drosera* species (*D. oblanceolata*) having been drafted, reviewed and passed in the Species Information Service (SIS). The assessments are now ready for submission to the IUCN Red List Unit for line editing and subsequent upload to the IUCN Red List website ([www.iucnredlist.org](http://www.iucnredlist.org)).

The distribution of the 100 assessed *Utricularia* species across the IUCN Red List categories is shown in Figure 1. Noteworthy patterns include:

- 86% of species assessed were considered to be Least Concern (LC).
- 5% of species were threatened (VU, EN or CR).
- 1 species is thought to be extinct (*Utricularia podadena*).

**Figure 1.** Distribution of 100 *Utricularia* species among the IUCN Red List threat categories.



It is important to note that these patterns do not reflect those of carnivorous plants as a whole, and are not appropriate for comparison to the distributions of all plant types across the Red List threat categories detected by RBG Kew (2016). The reason for this is that the 100 species assessed in this project were not selected randomly, nor did they represent any particular biogeographic region – they were selected purely because adequate data was currently available to assess them. This approach results in bias towards LC species, and so may not accurately reflect the proportion of threatened *Utricularia* species.

An unfortunate outcome of the project was the recognition of the first known instance of an extinction of a carnivorous plant species – *Utricularia podadena*. Taylor (1989) notes that this species is known from just two collections, one from Malawi and one from Mozambique, and that the areas where it was collected are now devoted to agriculture. This species has not been recorded for more than 25 years, despite several attempts to relocate it in the wild.

Apart from the 100 *Utricularia* species assessed for this project, one additional species, *Drosera oblanceolata*, was also assessed as Near Threatened (NT). This species occurs in Hong Kong and southern China and is well known to the project leader (Charles Clarke). In the course of researching the distributions of Asia *Utricularia* species, the assessment of this additional *Drosera* species was a simple task, so it was added to the outcomes of the project.

## CONCLUSIONS AND FUTURE DIRECTIONS

With less than 200 carnivorous plant species remaining to be assessed—many of them being *Utricularia* and *Drosera* species from Africa and South America—the CPSG is now directing the focus of its red listing efforts towards these regions and genera. Another large carnivorous plant genus in urgent need of attention is *Pinguicula*, which occurs throughout the



northern hemisphere and Mesoamerica. The challenges to assessing species from the three genera listed above are significant, mostly because of difficulty in accessing them in the wild. Accordingly, the CPSG will need to seek additional funding and regional expertise to assist with this task in the near future.

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## REFERENCES:

- RBG Kew (2016). State of the World's Plants Report – 2016. Royal Botanic Gardens, Kew.
- Taylor, P. (1989). The genus *Utricularia* – a taxonomic monograph. Kew Bulletin Additional Series, 14, 1-274.

## 2) A RED LISTING WORKSHOP, JULY 31 TO AUGUST 04, 2016

*Report compiled by:*

**Dr. Charles Clarke**, Carnivorous Plant Specialist Group Scientific Focal Point and Red List Coordinator

*Threat summary data provided by:*

**Dr. Adam Cross**, (University of Western Australia, Perth, Australia) – expert on Western Australian *Drosera*, *Byblis* and *Cephalotus* species

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## BACKGROUND

In late 2015, a number of experts were appointed to the CPSG to assist with RL assessments of other large carnivorous plant genera, such as *Drosera* and *Utricularia*, each of which contains more than 200 species. Around the same time, it was proposed that an intensive workshop be conducted in 2016, to bring as many of these experts together as possible, to complete as many assessments of carnivorous plant taxa as practical in a short space of time. The goal was to hold a 5-day workshop at the Royal Botanic Gardens, Kew, in late July or early August 2016. The location and timing were chosen to coincide with the International Carnivorous Plant Society's biennial conference, which was scheduled to be staged at Royal Botanic Gardens, Kew, from August 5-7. We felt that this gave us the best possible chance of attracting experts to the workshop, as well as giving us exposure to additional experts, who might be recruited to the CPSG to assist with additional assessments in future.



**Some of the participants of the Red Listing workshop**

The goal of the workshop was to draft RL assessments for approximately 200 carnivorous plant species, with emphasis on the genera *Drosera* (sundews) and *Utricularia* (bladderworts). Both genera have global distributions, occurring on all continents except Antarctica. An additional objective was to complete reviews (and, if necessary, revisions) of all species assessed at the workshop by the end of 2016. Funds for the workshop were raised through the IUCN and were used to reimburse the travel and accommodation costs of the attending experts and facilitators.

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## WORKSHOP DETAILS

The final dates for the CPSG workshop were set for July 31-August 4, with July 31 being set aside for orientation and planning, leaving four full days for drafting assessments, at a tentative rate of 50 species per day. A range of expert members of the CPSG were approached to see if they could attend, but many had existing commitments at the time of the workshop and were unable to assist. In the end, we obtained firm commitments from the following specialists:

- Dr. Adam Cross (University of Western Australia, Perth, Australia) – expert on Western Australian *Drosera*, *Byblis* and *Cephalotus* species.
- Mr. Greg Bourke (Royal Botanic Gardens, Mount Tomah, New South Wales, Australia) – expert on Australian *Drosera* and *Utricularia* species.
- Dr. Charles Clarke (CPSG RLA and Focal point, Cairns, Queensland, Australia) – knowledge of carnivorous plant flora of Queensland, Australia.
- Dr. Fred Rumsey (British Museum, United Kingdom) – expert on the flora of Europe and the British Isles.
- Mr. Marcel van den Broek (President, International Carnivorous Plant Society) – knowledge of European carnivorous plant flora.

We were also fortunate to secure the services of four experienced facilitators to assist with data entry:

- Mr. Richard Lansdown – Lead Facilitator (Chair, Freshwater Plants Specialist group, United Kingdom).
- Ms. Serene Hargreaves, Royal Botanic Gardens, Kew, United Kingdom.
- Ms. Cátia Canteiro, Royal Botanic Gardens, Kew, United Kingdom.
- Ms. Emma Williams, Royal Botanic Gardens, Kew, United Kingdom.

All logistics and disbursement of funding was arranged by:

- Mr. Robert Cantley - Chair of the IUCN SSC Carnivorous Plant Specialist Group

The venue at the Jodrell Laboratories, Royal Botanic Gardens, Kew, was provided by:

- Dr. Martin Cheek – Head of Africa & Madagascar team and Assistant Head of Science, Identification & Naming, Royal Botanic Gardens, Kew, United Kingdom.



Because the primary areas of expertise of the attending specialists was on the carnivorous plant flora of Australia (and, to a lesser degree, Europe), it was decided that the workshop would focus exclusively on the species from these two regions, to maximize the chances of reaching our goal of 200 Red List assessments in four days.

## WORKSHOP OUTCOMES

A total of 252 species were assessed at the workshop, which represents a 125% output relative to target projections. This number also represents about one third of all known carnivorous plant species. Table 1 provides a summary of the numbers of species assessed in each relevant genus of carnivorous plants, and the IUCN Red List threat categories that they were assigned to. Approximately 13% of all species assessed were considered to be threatened (i.e. VU, EN or CR). This compares favourably to a generalised estimate for all plants by RBG Kew (2016), which found that about 22% of plant species are threatened.



Red Listing workshop in progress

**Table 1.** Numbers of Carnivorous Plant species assessed at the workshop, and their distribution among the IUCN Red List threat categories.

IUCN Red List Category	<i>Byblis</i>	<i>Cephalotus</i>	<i>Drosera</i>	<i>Pinguicula</i>	<i>Utricularia</i>	Total
Data Deficient (DD)				1	1	2
Least Concern (LC)	6		133	17	60	216
Near Threatened (NT)	1		1			2
Vulnerable (VU)		1	14	2	4	21
Endangered (EN)	1			3	1	5
Critically Endangered (CR)			4	1	1	6
Total	8	1	152	24	67	252

Australia is the world's richest region for carnivorous plants, accounting for almost a third of all known species. As a result of this workshop, the entire carnivorous flora of this country has now been assessed. This represents an important milestone for the CPSG, as this is the first biogeographic region in the world for which this task has been completed, and as such, provides an opportunity to examine some broad trends in the threats to carnivorous plants.

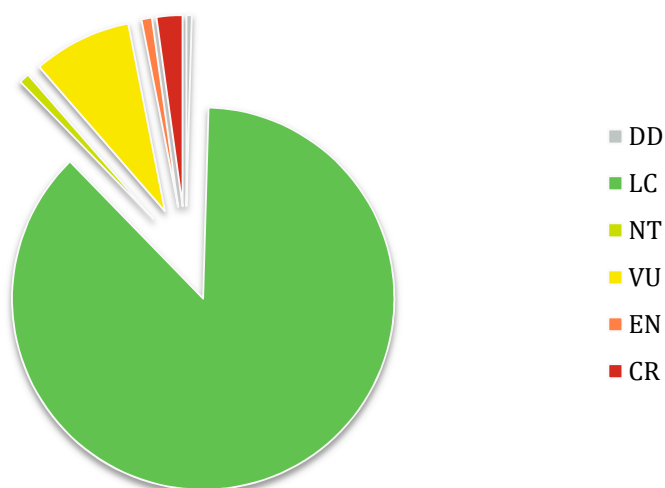
However, it must be emphasised that many carnivorous plant species in Australia are well-protected, or occur in remote areas, so the probability that they would face serious threats is lower than for many other parts of the world. Almost 90%



**CPSG RLA Focal Point Dr Charles Clarke & Patron Sir David Attenborough, in discussion at the workshop venue**

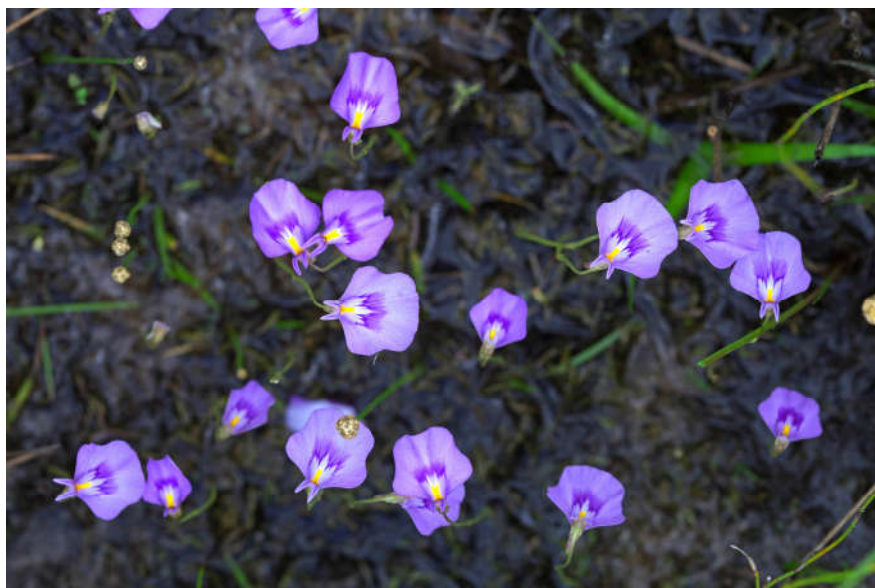
of Australian carnivorous plants are considered to be Least Concern (LC), indicating that as a whole, this group of plants is faring reasonably well, despite widespread disturbances to their habitats over the last century (Figure 2). The experts at the workshop felt that to some degree, this result masks looming threats to some taxa, particularly in south-west Western Australia, and that there is a need for regular review and updating of these assessments. Accordingly, Adam Cross, Charles Clarke and Greg Bourke have agreed to try to maintain and update these assessments every few years (resources permitting), in the form of a regional checklist.

**Figure 2.** Distribution of Australasian carnivorous plant species among the IUCN Red List threat categories.



All assessments drafted at the workshop have been reviewed, edited and are ready for submission to the Red List Unit for line editing and upload onto the IUCN website ([www.iucnredlist.org](http://www.iucnredlist.org)). To date, 576 carnivorous plant species have been assessed for the IUCN Red List. In addition to the 252 species assessed at this workshop, a further 100 species of *Utricularia* have been assessed in a separate CPSG project (all reviewed and ready for submission to the Red List Unit), 160 *Nepenthes* species have been assessed since 2012 and are either under review or have already been reviewed uploaded to the IUCN

Red List website. An additional 62 carnivorous plant species have been assessed elsewhere and are already on the IUCN Red List website, resulting in the grand total of 576 assessed species. Assuming an overall total of 750 species for the global



*Utricularia hamiltonii* Howard Springs (LC) © Greg Bourke

carnivorous plant flora, this represents more than 75% completion of the CPSG's initial goal of assessing all carnivorous plant species for the Red List.

Figure 3 presents a pie chart showing the distribution of all 576 assessed carnivorous plant species across the IUCN threat categories. It is immediately apparent that the proportion of threatened species (c. 19%) is greater than for Australia alone, and is more or less equivalent to the global estimate for all plants by RBG Kew (2016). In large part, this reflects relatively high levels of threats to *Nepenthes* pitcher plants (c. 38% have been assessed as VU, EN or CR), which mostly occur in developing countries in Southeast Asia. In addition to

the usual threats faced by species in this region (i.e. land clearing, habitat disturbance and degradation), pitcher plants are prized in horticulture, so many species have suffered and continue to suffer, from the effects of poaching (see section 4 of this report). By contrast, the majority of carnivorous plants from Australia have low profiles in horticulture and are not traded in substantial numbers, either within Australia or internationally. Rather, the primary threats appear to be poor habitat management, such as altered fire regimes or hydrology, or introduced species (especially grasses in tropical habitats).

**Figure 3.** Distribution of all carnivorous plant species ( $N = 576$ ) assessed by the CPSG as of January 2017.



An additional outcome of the workshop was our successful engagement with experts on the carnivorous plant floras of Africa and South America. These two regions contain the vast majority of unassessed species, and we hope to be able to call upon these experts to help us to complete assessments of all species from these regions in the next 12-24 months. We have also recruited an additional facilitator to assist with assessments of carnivorous plant taxa from North America. Although this region is not particularly rich in terms of species numbers, several of the most iconic carnivorous plant species occur there.



Furthermore, the conservation status of a number of these species is highly controversial, and we expect assessments of these species to be labour intensive and time consuming.

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## THREAT SUMMARY & RECOMMENDED CONSERVATION MEASURES

Urgent conservation measures are required for all taxa determined to be critically endangered (CR), most of which occur as a single population of only a handful of individuals. In particular, one taxa is comprised of only six known plants, and all face imminent threats.

The most common first degree threatening process to Australian carnivorous plants was determined to be habitat loss, faced by 64% of all threatened taxa. The second most common process was altered hydrology, faced by 35% of all threatened taxa. Additional threats included altered fire regimes, which although rarely posing a first degree threat, affected 55% of all taxa, invasive species (26%), road reserve management (13%), human intrusion and disturbance (6.5%) and eutrophication (6.5%).

Conservation measures identified as required for threatened taxa most frequently included site protection (74% of all taxa) and site management (90%), as well as research into population size and distribution (52%), species recovery (22.5%), invasive species control (22.5%), and ex situ conservation (13%).



*Cephalotus follicularis* (VU) © C Clarke

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## FUTURE DIRECTIONS

With less than 200 carnivorous plant species remaining to be assessed, the CPSG is now directing the focus of its red listing efforts towards the two other regions that contain large numbers of species: Africa and South America. Experts in the carnivorous plant floras of these regions have recently joined the CPSG and we look forward to making use of their expertise in the near future. There is an additional need to revise red list assessments for carnivorous plants from North America. Once again, through this workshop, we have established contact with experts in the USA who are willing to assist us in this task. However, the conservation status of much of the carnivorous plant flora of North America is controversial, and we expect that this task will require sustained effort in order to succeed.

If funding can be obtained towards additional field work and on-site collaborations with the relevant experts, we are optimistic that an additional 100-150 carnivorous plant species could be assessed for the Red List in the next 1-2 years. However, the cost and effort needed for each assessment is now greater than before, as the species that remain to be assessed are typically found in remote areas that are not easily surveyed. Accordingly, the CPSG will be seeking funding for these activities in 2017 in order to continue its work.

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## CONCLUSIONS

We feel that this workshop was highly successful and the outcomes exceeded the original expectations. The carnivorous plant flora of Australia is the richest in the world in terms of species, and to be able to complete assessments of all species from this region in four days is nothing short of remarkable. This was due in large part to the dedication, diligence and collegial approach to the work undertaken by the experts and facilitators. Their preparedness to donate their time and expertise for free has led to the development of a remarkable data base on the conservation status of Australian carnivorous plants, which will serve an important role in conservation and land management in the country for decades to come.

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## REFERENCE:

- RBG Kew (2016). State of the World's Plants Report – 2016. Royal Botanic Gardens, Kew.



*Utricularia capilliflora* (LC) © Greg Bourke

## 3) ONLINE PRESENCE

Contributed by:

Marcel van den Broek (President, International Carnivorous Plant Society)

In 2016, initiatives to attract new members were somewhat limited. Most energy and available hours of the volunteers were taken up with preparations for the Red List workshop at the Royal Botanic Gardens, Kew. Nevertheless, our digital presence performed well.

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## WEBSITE

In 2016 our general website [www.iucn-cpsg.org](http://www.iucn-cpsg.org) continued to attract new members. By the end of 2016 we counted 164 registered members from 38 countries which is up 38% from end 2015.

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## SOCIAL MEDIA

To expand our reach, in August 2015 two new Facebook pages were created and launched. The objective being to reach out to the international community and offer an interactive, popular and flexible way of communicating with those interested.

The first page, the [IUCN-Carnivorous-Plant-Specialist-Group](https://www.facebook.com/IUCN-Carnivorous-Plant-Specialist-Group), was set up as a company page. It posts information from the CPSG and allows people to reply to our posts. However, it does not allow people to initiate their own posts. The idea behind this page is to provide information to people efficiently, in a manner that enables them to easily find the desired information, without having to necessarily search through other posts by visitors. By the end of 2016, this page had 646 followers, which is up 100% from end 2015.



The second page, the [IUCN Carnivorous Plant Specialist Group Discussion Page](#), was set up as a group and acts primarily as a forum. Posts are made by the CPSG, but visitors can join, ask their questions and initiate posts. It is also possible for visitors to react to each other's posts. For this reason, this page is moderated by our Communications Officer, Marcel van den Broek and his team: Andrew Broome and Michael Schöner. The number of people who actually join the group is the relevant metric to monitor, as they represent the people who are actively interested in the activities of the CPSG and the information we share. This page closed the year at a total of 660 members, a 67% increase from 2015.

The basic content of both pages consists of pictures and information on endangered carnivorous plants, news on our activities and shared general IUCN information, as relevant to our members. In the case of the Discussion Page, interaction based on questions posed by members is added to this content. Member posts range from general questions, such as the workings and differences between various National parks and other protected areas, to more specific questions, such as those pertaining to threats faced by individual species. Both pages were very successfully used in spreading information about the successful Red Listing workshop held in in August 2016.

In general, the content of our pages was well shared and appeared on leading pages in the carnivorous plant field, such as the forum page of the International Carnivorous Plant Society, the Carnivorous Plant Conservation and Research page and pages maintained by the major national carnivorous plant societies.

#### 4) POACHING IN S.E. ASIA

Specialist Members of the CPSG have identified and are monitoring several possibly related, poaching and smuggling operation in S.E. Asia, whereby some of the most endangered species of montane *Nepenthes* pitcher plants are being



***Nepenthes rajah* (EN) increasingly endangered by poaching - © C. Clark**

removed from habitat, often from supposedly protected areas, such as National Parks. The plants are then openly sold on online forums such as E-bay and elsewhere. It is probable that many of the individuals purchasing these plants online and who are mostly private growers, may not be aware of the illegality of the source. Plants are being shipped without documentation and in contravention of local laws, as well as the laws of the importing country and the provisions of the internationally adopted Convention in Trade in Endangered Species (CITES).

The rate of poaching in recent years has accelerated in step with the rise in popularity of online marketing and the resultant abrupt population decline of already threatened species due to this relatively new activity is of extreme concern. It is estimated that if urgent and stringent action is not taken very soon, then extinction events will probably occur for some highly iconic species within a very few years.

For operational reasons, we are unable to give full details in this document about the precise nature of the measures recommended by the CPSG. At the time of writing, the CPSG is actively engaging with CITES, the World Wildlife Fund (WWF) Flora and Fauna International (FFI) as well as TRAFFIC, to consider and implement the most appropriate processes to combat this illegal trade. A high-level intervention is being considered by the IUCN and our Patron, Sir David Attenborough has also pledged his support and is already actively engaged.



The targeted species are notably amongst those few not yet available in legal trade though sustainable artificially propagated sources and hence have a relatively high market value. Artificial propagation of such plants takes years to implement, using techniques such as *in-vitro* multiplication or tissue culture. Whilst there seems little doubt that in the long-term, making such plants affordably available in legitimate trade may alleviate the problem, this cannot be implemented in time to arrest the current situation. Therefore, urgent action is necessary in order to ensure that *in-situ* populations remain viable.

We hope that during 2017 the CPSG can ally itself with others and obtain the necessary funding and other required support in order to be able to initiate the stringent action that is required.

## GOALS FOR 2017 & BEYOND

1. Continue to compile Red List Assessments for those species of carnivorous plants which are not yet assessed. These as yet unassessed species are mostly endemic to Africa and the Americas.
2. Ascertain nature of the threats faced by those species already assessed and found to be vulnerable to further population decline. Once the primary threats are identified, they will be examined to determine the most appropriate measures to be undertaken, both *in-situ* and where appropriate, *ex-situ*.
3. Further to goal 2, instigate urgent action to alleviate the pressures facing the particular S.E. Asian species which are currently being targeted by poachers, as outlined in section 4 of this report.
4. Build on the results of the results of the successful Red Listing workshop discussed in section 2 of this report to produce a comprehensive document entitled 'Australian Red List of Carnivorous Plants' which will contain detailed summaries and recommendations for future conservation initiatives.
5. Continue efforts to raise funds in order to further the activities of the CPSG.



***Nepenthes aristolochioides* (CR) – critically endangered by poaching**

## FUNDING

Despite the fact that many of the world's top specialists in carnivorous plants willingly and generously give their time and expertise to help further the aims of the CSPG, the goals listed above all require various degrees of funding if the current momentum is to be maintained.

In 2016 the CPSG managed to achieve a huge amount of work, much of it we believe to be vital to species conservation. We hope that our Red Listing work alone will provide an invaluable tool for decades to come, for scientists working in various conservation-related disciplines. But the overlying aim is not the assessments themselves; we cannot simply stop working once the last one is complete and sign off. If there is one thing that shines out from our work over the past few years, it's that

the situation for many species of carnivorous plants is highly fluid, the pressures on them unrelenting and in most cases increasing. There is still hope for many imperiled species, provided that vigilance and swift action on the ground is undertaken and maintained. This means continually monitoring the status of vulnerable species, as well as completing assessments of those species as yet unassessed. As Charles Clarke noted in Section 1 of this report: “the task of assessing the remainder is becoming increasingly challenging, due to difficulties in obtaining reliable data upon which assessments can be based”. This means ongoing fieldwork is essential and even with volunteer expertise, funding is of course required to cover the expenses. The same applies to species already assessed and found to be in a vulnerable category. In nearly every case where a species is CR (critically endangered) some form of action is feasible that may halt or even reverse the current *in-situ* population decline. The poaching situation outlined in section 4 of this report represents a good example of a requirement for immediate action and for which funds absolutely must be found, otherwise extinctions will certainly result in the near future.

In the final section of this report, we thank some of the very many people and groups who assisted us throughout 2016 by donating their expertise and also financial and logistical support. In 2017 we hope for more of the same, in order that the CPSG can continue to help to make a definitive difference in the challenging world of species conservation.

## ACKNOWLEDGEMENTS

2016 saw an unprecedented wave of support from many sectors of the conservation community, as well as a number of other organisations and concerned individuals. There are too many to thank individually here, so we'll mention but a few, with office-bearers not included. Others not named are not forgotten. You know who you are and your contribution, whether large or small has really made a difference. A special very big “thank you” to the following:

- The many people who have and continue to provide their expertise as specialists for the CPSG and without whose dedication we could not even have dreamed of submitting such high quality assessments for nearly half of all carnivorous plants in the space of just one year. Some of you are mentioned in Charles Clarke's report on the Red Listing workshop (section 2) but there are many others. Although not specifically named here, your work and talents are very much appreciated.
- Dr. Martin Cheek of the Royal Botanic Gardens, Kew, for providing the venue and support to host the Red Listing workshop in August 2016 and also the team of highly capable Kew trained facilitators, without whose help we could not possibly have achieved assessments of over 250 species of carnivorous plants in just 4 days.
- Mr. Richard Lansdown, Chair of the IUCN SSC Freshwater Plants Specialists Group for providing wonderful guidance as Lead Facilitator during the course of the workshop. Richard's extensive experience of Red Listing and calm focus on the task in hand provided a model to help enable everyone to work to their maximum potential during the extremely limited time available for the workshop.
- The staff of the IUCN Species Survival Commission for their guidance and encouragement, especially in regards to setting up a workshop and also for designing and hosting the excellent fund-raising website that made the Red Listing workshop possible.
- Mr. Martin Harris for his exceptionally generous donation towards the funding required for the Red Listing Workshop.
- Mr. Bill Bailey, the conservation minded UK musician/comedian for kindly promoting our fund-raising efforts on social media.
- The software engineers and others for setting up, hosting and continuously maintaining our social media and website platforms.
- To the staff of CITES, FFI, WWF and TRAFFIC, who are all currently working to provide the CPSG with expertise and support to enable action to be taken with regards to the current S. E. Asian poaching crisis (section 4).

- Our peerless Patron, Sir David Attenborough, for his continued inspiration and support.
- The individuals, whose donations both large and small made it possible to host the Red Listing Workshop. You are far too numerous to mention here, but we are grateful to you all.
- The several institutions who donated funds to help enable the Red Listing Workshop and conducting of prior fieldwork required for compiling accurate Red Listing assessments. Particularly generous were the International Carnivorous Plant Society, the German Carnivorous Plant Society and others such as Google Inc., who wholly sponsored the expenses of volunteer fieldwork organised by Mr. Marc 'Drew' Martinez.

## ENVIRONMENT AGENCY – ABU DHABI

We express our most sincere gratitude to the Environment Agency - Abu Dhabi (EAD), without whose support – once again – the CPSG would not be able exist as a functioning body. Through the Species Survival Commission of the IUCN, generous support from the EAD underpins the entire scope of work of the CPSG. We hope that the activities and achievements described herein demonstrate the creativity and commitment of the CPSG on behalf of species conservation.