

Queen Ant Small-scale Wildlife Trade Operation Proposal

1.1 & 1.2 Scientific and Common Names

This proposal outlines the harvest of live queen ant species included in Attachment A.

The list includes an annual quota that will not be exceeded.

1.3 Location of harvest

The location of harvest will be as follows:

- 20 acres near Pantton Hill 3759, Victoria;
- 20 acres near Macs Cove 3723, Victoria.

1.4 Description of what is being harvested

The harvest is of newly mated live adult queen ants of differing species outlined in Attachment A.

The applicant will seek further approval for the collection of any ant species not listed within Attachment A if the need arises. We will also maintain an ant collection catalogue for identification purposes of all queen ants collected and that are to be exported. The identification of all queen ant specimens will be primarily done by the applicant.

The applicant has also been identifying ants from within our collection areas for several years and by using online tools such as antweb.org and other published keys, such as K.Ogata & R.W.Taylor's keys to Myrmecia, A.McArthur's keys to Camponotus, and A.Lucky & P.S.Ward's keys to Leptomyrmex as an example, has become exceptional at identifying the ants from our region.

1.5 Is the species protected under State or Federal legislation?

Victoria does not protect non-listed invertebrates and therefore these species are unprotected under Victorian legislation. Under Federal legislation the only protection to these species relates to the export of native wildlife.

The applicant will therefore not harvest any species listed under the EPBC Act as threatened (excluding the conservation dependent category) or listed as endangered or vulnerable or least concern under Victorian legislation.

2. Statement of general goal/aims

For the past 8 years the applicant has been trading native live queen ants.

Since the launch of their website exhibiting queen ants, the applicant has continued to receive strong interest from overseas markets.

The applicant was previously issued a WTO and export licence in 2016 and 2020 to export live queen ants internationally. The aim of the current application is to seek reapproval for a valid WTO to continue the export of native live queen ants internationally.

3. Harvest Details

3.1 Details of the area where harvesting is to take place

The areas where harvesting will take place are as follows:

- 20 acres of dry sclerophyll forest near Pantan Hill, Victoria. (Refer to photograph in Attachment B)
- 20 acres of dense pine plantation near Macs Cove, Victoria. (Refer to photograph in Attachment C).

3.2 Details of land ownership

The applicant privately owns the properties.

3.3 Quantity intended on harvesting

The amount harvested will vary based on demand. However, annual quotas have been set for each species (Refer to Attachment A).

3.4 Method of harvesting and equipment used

The method of harvesting including equipment used is as follows:

- Lights are used to attract ant queens, not to trap. A light is suspended in front of a white sheet, which the ant queens land on. All unharvested ant queens and undesired insects fly away when the light is either switched off or daylight appears.
- The search and collection method involves simply walking through the forest looking for ant queens after and around nuptial flights.

3.5 Timing and duration of harvesting period:

Typically, but not limited to, the warmer months of the year ranging from September to April.

4. Impact of Harvest on the Taxa and the Relevant Ecosystem

- The harvest sites are located on relatively large private properties and the harvesting by the applicant will only affect a very small area of the property. The harvest sites are accessed on foot with little to no impact on the surroundings.

- The method of harvesting is via light attraction, rather than trapping, where by all specimens are caught live and only required species are kept. This eliminates the capture of undesired taxa as they are released back into the wild alive.
- It is estimated that for each species' nuptial flight, there are many thousands of queen ants that successfully mate and attempt to establish new colonies per sq/km. Queen ants from nests outside of the collection area will also fly into the boundaries of the properties of the applicant, and establish colonies. The applicant will survey these numbers by observing new founding queens and colonies within the properties each year. In the event that the applicant observes a reduction in numbers of founding queens or new colonies, we will consider reducing the harvest of that particular species.
- Due to environmental factors, including weather conditions, queen ant numbers found in a specific area will vary and is not a reflection of declining conservation status. Where harvest results show a decline in numbers the applicant will consider reducing harvest of that particular species.

5. Monitoring and Assessment

5.1 Has there been a resource assessment of distribution and abundance for the harvest area.

There has not been an official assessment of the population of ants in the harvest area. However, over the last few years of collection the applicant has seen no decrease in distribution and abundance across the sites, taking seasonal variation into account.

5.2 Will there be independent supervision of the harvesting?

The applicant will monitor the number of queen ants found in each harvesting area. If a significant reduction in harvest numbers is observed, collection of that particular species will be considered for revision and reduction, with the potential to cease collection.

5.3 Outline the methods to be employed to monitor the harvesting of the specimens to identify whether the species or other species in the ecosystem are affected by the harvesting.

The applicant will record the number of queen ants collected per species per property and compare this to previous years' harvest. Should a significant decline in numbers be observed in any species of both desired or undesired taxa, the applicant will consider revising collection numbers as outlined in item 5.2.

5.4 Describe any other biological and environmental monitoring proposed for the harvesting area.

There is a large population of the species of ants outlined in Attachment A on both properties and in our direct vicinity. We would estimate the number to be higher than the average based on our observations inside our collection areas and of other regions outside of our collection areas. Some large nests in the harvest area have been identified and protected to ensure a strong population of queen ants to sustain ongoing collection. These nests are surrounded with protective netting to prevent predators from directly accessing and destroying the nests. Queens are not directly sourced from these nests, as winged alates fly and leave the nest area, sometimes travelling large distances. Rather, these protective measures are put in place to offset the queens that are collected within our collection area that not only originate from our properties but have flown in from nests in the direct vicinity of the collection area.

6. Management Strategies

Specimens are harvested only as required. Harvest numbers will be revised upon observation of a decline in any given species of queen ants compared to previous years. The applicant will collect only every second ant queen they find to preserve ant numbers. Over the last few years of harvest for local trading, queen numbers have not shown any reduction.

7. Compliance

Through several years of experience and research of keeping ants the applicant has acquired extensive knowledge in relation to ant species identification of ants from our region. If a taxonomic classification of any specimen is unknown, the applicant will

contact either of the following for discussion and research.

- The Museum of Victoria
- The CSIRO
- Experts in the relevant field

In the event that a species of ant cannot be identified the applicant will not proceed with exportation.

Should the applicant successfully obtain a permit, we will ensure that only ants that have been collected under the authority of the permit are exported.

8. Reports

The applicant will report as required to the Australian Government Department of the Climate Change, Energy, the Environment and Water. The report will include harvest details for each species by month for each harvest site. The applicant will provide additional reports to the Department of Climate Change, Energy, the Environment and Water on particular taxa if required.

9. Background Information

Ants are the ultimate survivors. Able to tolerate temperatures above 50 degrees Celsius and below freezing. With over 14,000 ant species on earth and over 1,300 of those native to Australia, ants come in all shapes and sizes. Native Australian ants are generally found in large numbers across the country due to their unique ability to survive and find a home in almost any environment. Their “more is more” approach, or their choice to send hundreds, and sometimes thousands, of reproductives into the air at the same time to increase their odds of survival, almost guarantees their continuance.

Most ant species will breed during a brief nuptial flight, which takes place over a period

of 1-4 weeks each year. Each species will wait for a unique set of environmental conditions before setting off on their flight. Most species will fly in the warmer months, whereas a minority of other species will fly during the cooler temperatures of late Autumn.

The breeding process starts much earlier in the year. Months before a species prepares for its nuptial flight, they have been busy producing alate queens and drones. Hundreds, and sometimes thousands, of these alates continue to develop in the nest waiting for their environmental cue to begin the nuptial flight. When the conditions are perfect, ants of a particular species will begin to swarm outside the nest, in unison across a vast area.

Hundreds of alates from each nest will usually climb to the highest point in their immediate surroundings to begin their nuptial flight. It is here, high in the air, that they will mate. Because of this requirement, it is thought that most species of ants will not mate unless it's at a certain altitude in the sky. This is why ants cannot be bred in captivity.

The queens will then fall back down to the ground where they begin their search for a suitable place to start a new colony. The drones will die immediately after mating. It is these huge breeding numbers each year that ensures the species' survival.

At this point, we (the applicant) begin our search for the newly mated queens. If they fly during the evenings or at night, the use of a UV light for attraction works well. If they fly during the morning or during the day, the simple method of search and collect is used.

We estimate that only a very small percentage of what is available is actually harvested.

For any particular species, many queens will found their new nest underground long before we (the applicant) have had a chance to harvest them. Furthermore, we will typically only collect 50% of the queens found in a particular area on a particular day.

We believe that these harvest numbers will ensure the health and survival of a species in

any given area.

Over the past few years, we have studied the practice of ant keeping and ants in general with a small group of enthusiasts. What started as a hobby soon turned into a full-time business. The applicant would spend numerous hours walking through private native bushland observing the different species of ants. Both harvest properties have access to native bushland within their boundaries. It is in this native flora that native ants thrive. The first property near Pantom Hill, Victoria was home to numerous species. So many in fact that new species, previously not known to live in on the property, are still being found years on. As queen ants were found, the applicant would collect them to start a private colony of ants at home, and as the hobby became more popular, the applicant would trade queen ants with friends in the local area. With growing interest, we began to sell the queens to other hobbyists. Initially, in a typical year, the applicant would sell no more than 50 queens of any particular species, in line with the demand at the time. In 2016 and 2020 the applicant was granted a WTO and export licence. Over the following three years the applicant has seen a healthy increase in demand and supply.

The sustainability of any ant species that is collected in the harvest area is of top priority to the applicant. We have spent time liaising with [REDACTED] [REDACTED] who has extensive knowledge of biodiversity conservation, to ensure that our collection practices are sustainable. Some large colonies at the harvest sites are identified and then protected from predators to ensure that they continue to produce healthy numbers of queens to offset the harvest. These nests are surrounded with protective netting to prevent predators from directly accessing and destroying the nests. Since this protection method was implemented several years ago,

encouragingly the applicant has witnessed neither an increase nor decrease in queen numbers.

Ant keeping as a hobby continues to grow. Australia, home to many unique native ants, has become a hot spot for collectors and demand from international collectors has dramatically increased over the last few years. Many native ants that can only be found in Australia are being sold illegally on international on-line stores for exorbitant prices. More alarmingly, this had given rise to an ant trade black market with the arrest and prosecution of a German man caught trying to export over 3,000 ants from Western Australia.

Since the original WTO's were approved in 2016 and 2020 the black market for Australian native live ant queens has greatly reduced due to the reduction in profitability for smugglers.

The applicant feels strongly that should a WTO be re-approved and export licence be granted, it would continue to stall the illegal ant trade and help to sustain ant populations.

References:

AAP, 'German man fined for Aussie smuggling ants from Perth', *WA Today*, 11 November 2011, <http://www.watoday.com.au/wa-news/german-fined-for-aussiesmuggling-ants-from-perth-20111111-1nbj9.html>, (accessed 3 June 2016).

Shattuck, S (1999). *Australian Ants*. Melbourne: CSIRO Publishing. 221.

Hölldobler, B & Wilson, E (1990). *The Ants*. USA: Belknap Press. 732.

Attachment A

Taxa covered by the proposal.

Relevant to properties at Panton Hill and Macs Cove

Note: The proponent can harvest any species included in the taxa listed except for species listed under the EPBC Act as threatened (excluding the conservation dependent category) or listed as endangered, or vulnerable.

TAXA COVERED ANNUAL QUOTA PER PROPERTY

FAMILY Formicidae

GENUS Amblyopone 100

SPECIES australis

clarki

GENUS Aphaenogaster 200

SPECIES longiceps

GENUS Camponotus 200

SPECIES consobrinus

nigriceps

aeneopilosus

intrepidus

innexus

claripes

GENUS Dolichoderus 100

SPECIES doriae

GENUS Iridomyrmex 300

SPECIES bicknelli

purpureus

GENUS Leptomyrmex 100

SPECIES erythrocephalus

GENUS Melophorus 100

SPECIES turneri

GENUS Meranoplus 100

SPECIES curvispina

GENUS Monomorium 100

SPECIES rubriceps

kiliani

GENUS Myrmecia 200

SPECIES pyriformis

forficata

fulvipes

pilosula

simillima

piliventris

brevinoda

nigriscapa

GENUS Orectognathus 100

SPECIES clarki

TAXA COVERED ANNUAL QUOTA PER PROPERTY

FAMILY Formicidae

GENUS Pheidole 200

SPECIES vigilans

bos

tasmaniensis

GENUS Podomyrma 100

SPECIES gratiosa

GENUS Polyrhachis 100

SPECIES ammon

femorata

GENUS Rhytidoponera 200

SPECIES aspera

metallica

tasmaniensis

victoriae

Attachment B

Panton Hill property

Attachment C

Macs Cove property