

## Do you want to help collect data on butterfly survival?

Kia ora, ko Greer tōku ingoa. I am researching the kahukura butterfly (NZ red admiral), Rēkohu kahukura subspecies (Chatham Island red admiral), and kahukōwhai (Yellow admiral) for my PhD at Otago University.

I've been gathering parasitisation data in Ōtepoti (Dunedin) and the results so far are concerning, with a 94.4% (68/72) wasp parasitisation rate of chrysalises.

I am asking for your help with gathering parasitisation data across the country. The aim is that your help through this citizen science project will create a map of parasitisation rates across the country and across different nettle species. This data is important for conservation and funding for research in the future to focus on developing ways to get rid of these introduced wasps that attack our beautiful native butterflies.

So, please consider taking part in this citizen science project to help me and the butterflies. It's also a fun activity to see what is happening in your area, and don't worry the wasps can't hurt you.

### **Equipment:**

- Gloves - gloves with rubber or plastic (like dishwashing gloves), ongaonga/stinging nettle will still sting through thin gloves
- Scissors
- Small clear containers (no smaller than a 380g vegemite container, there needs to be enough height for the butterfly to spread out its wings)
- Breathable fine mesh fabric (like chiffon, old stockings/tights, or muslin cloth) and rubber band. Mesh should be as small as possible, as parasitic wasps can be one millimetre in size. Rubber band helps to keep the mesh on the container.
- Paper towels for inside container.
- Pen and paper – for labelling and or writing notes about the chrysalises.
- Twigs – something the butterfly could use to climb up the container, so they can hang upside down from the lid, if needed.
- Safe space to house the butterfly chrysalises/pupa
- Freezer space

### **Instructions:**

1. **Find and identify nettle plant.** Find a nettle plant where you are allowed to collect chrysalises (your own property, or with permission). Identify which type of nettle plant it is. You can upload photos of the nettle to iNaturalist NZ (<https://inaturalist.nz/>) to find out. **Please take photos of the nettle plant and send them to me** so I can confirm the species of nettle ([sangr426@student.otago.ac.nz](mailto:sangr426@student.otago.ac.nz)). Below are some examples of different nettle species, and how to take good pictures so I can identify/confirm which species you are collecting from.



Please take an establishing picture of the nettle plant, then a close up of the tips of the leaves, and then a picture of the stem and flowers/seeds if they are present. The black circle shows the flower/seeds of the ongaonga/native tree nettle.



*Urtica aspera*.  
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*Urtica australis*.  
Peter de Lange, [no rights reserved \(CC0\)](#)



*Urtica incisa*. (Introduced)  
Peter de Lange, [no rights reserved \(CC0\)](#)



*Urtica dioica*. (Introduced)  
By Kathy Daniel – [no rights reserved \(CC0\)](#)



*Urtica sykesii*.  
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*Urtica perconfusa*.  
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*Urtica urens*. (Introduced)  
By [walruswatermelon](#) – [no rights reserved \(CC0\)](#)



*Urtica ferox*.  
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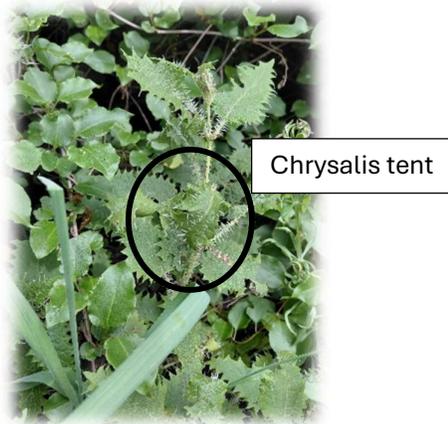
Here are some photos from iNaturalistNZ showing all the native and introduced nettle species in NZ.

2. **Search for chrysalises.** Using thick gloves, search for chrysalises by gently turning leaves, especially curled ones that look like little leaf tents. The chrysalises can vary in colour from light brown to almost black, and occasionally grey. They often look like dried leaves (image on right) and can hide in leaf tents, or in the case of this image in seed tents.

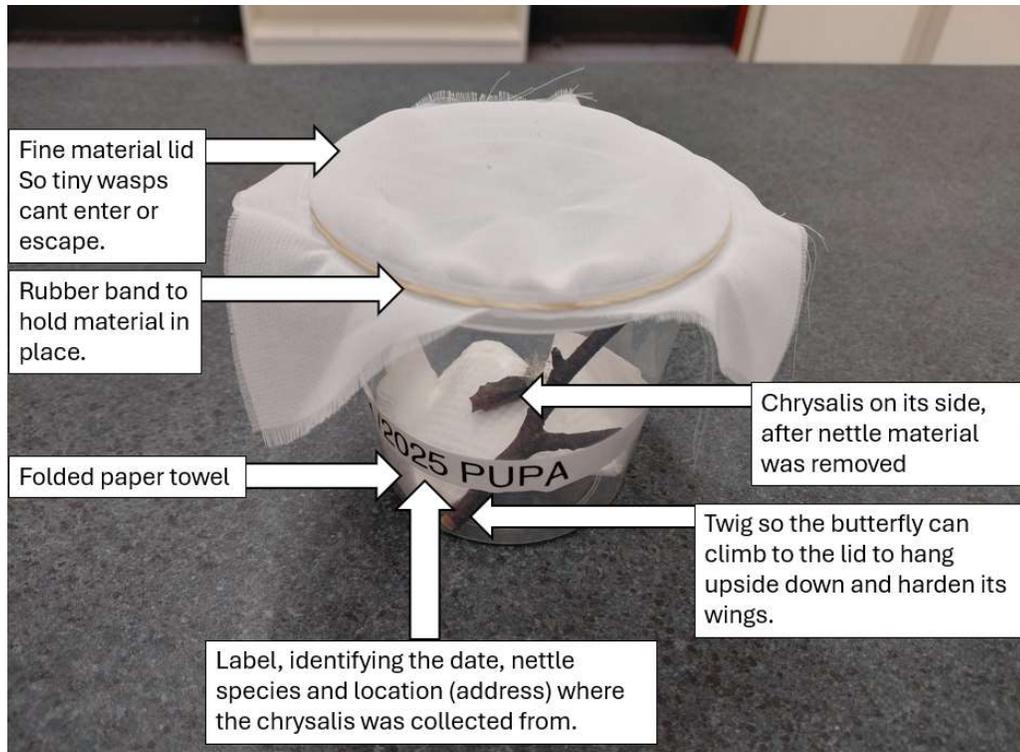
You may search a nettle plant and only see small caterpillars, if so, wait a few weeks and check again. If you see many big caterpillars, there are likely chrysalises hiding in there, or there will be soon in the following week.



3. **Collect the chrysalis.** When you find a chrysalis, identify where it is attached to the plant, and cut that section (leaf, small stem) from the plant (image on right).



4. **Prepare the container.** Prepare a small clear container for **each** chrysalis you find as seen in image below. You don't need to remove all nettle material as in the image, but enough that it won't dry and curl around the chrysalis. **Label each container with location, date of collection, and nettle species if known** (I will help identify the species when you send pictures of the plant). Each chrysalis will end up with its own line of data (see data table at the bottom of this document).



5. **Place the container in a safe place** inside with natural light, but no direct sunlight so the temperature won't get to cold or hot. Some airflow is also ideal during the day.
6. **Check** at least every other day for anything emerging.

**ONCE SOMETHING EMEGES FROM THE CHRYSALIS, IT'S TIME TO COLLECT DATA!**



Kahukura (Red Admiral)



Kahukōwhai (Yellow Admiral)

7. **Identify butterfly, take pictures.** If a butterfly emerges, identify if it is a kahukura (red admiral) or kahukōwhai (yellow admiral) when it eventually opens its wings. **Take a**

**picture of the butterfly with its wings open to send to me. Write down the date it emerged.**

8. **Release the butterflies.** The butterfly will want to hang upside down on the lid for a while to stretch out and harden its wings. After this it will try to fly around and escape when disturbed. At this point you can **release the butterfly back into the wild**, ideally at the original location you collected the chrysalis from. You may see a dark red liquid, this is meconium (the butterfly's first poop).
9. **Take pictures of wasps.** If something else emerged from the chrysalis (not a butterfly) it will most likely be one of two parasitic wasps shown in pictures below (*Echthromorpha intricatoria* and *Pteromalus puparum*). Again, note the date of emergence, but **do not release any wasps to the wild**, these are introduced wasps that are bad for the environment.



White butterfly pupal parasitoid wasp. *Pteromalus puparum*.

Photo by Siobhan Leachman.



Chrysalis and *Cream Spotted ichneumonid*. *Echthromorpha intricatoria*.

10. **Freeze the wasps.** Place the container with the wasp in a freezer for at least three days to ensure it dies. This is the most humane way to kill the wasps; they go into hibernation and never wake up. Then please **take a picture of the dead wasp(s)** and send it to me so I can confirm/identify it.
11. **Dispose dead wasp.** I will then reply letting you know whether to dispose of the wasp once it is dead (if I can identify what it is from the picture you send) or provide further information on how to send it to me for identification (I will cover costs if this occurs).
12. **Please send your data and pictures** of the nettle, and butterfly or wasp(s) that emerged from each chrysalis (see table below for what data needs to be included for each

chrysalis). You can send the data after each emergence or you can wait and send it in groups or all at the end of summer, whichever is easiest for you. (email: [sangr426@student.otago.ac.nz](mailto:sangr426@student.otago.ac.nz), 340 Great King Street, Dunedin North, Dunedin 9016)

**Data table with examples:** If you write down your data like this with a corresponding number, you can label the containers with the numbers instead of putting all the information onto each container.

Chrysalis ID	Date of collection	Species of nettle	Location of collection	Date of emergence	Species that emerged	Date of release
1	19/11/2025	Dwarf nettle	1 Albert Road Osborne, Dunedin	31/03/2025	Kahukōwhai	1/04/2025
2	18/04/2025	Unsure see image	20 Shirley Ln, Sawyers Bay, Dunedin	6/05/2024	Cream Spotted ichneumonid	NA (because wasps are put in freezer to die)
3	24/11/2024	Ongaonga (tree nettle)	Long beach, Dunedin	14/12/2024	Kahukura	14/12/2024
4	17/03/2025	Ongaonga	The OPERA, 45 Pakihau Road, Portobello, Harington Point 9077	21/03/2025	Wasp (unsure)	NA
5	8/03/2025	Dwarf nettle	1 Albert Road Osborne, Dunedin	19/04/2025	White butterfly pupal parasitoid wasp	NA

**Thank you so much for participating in this citizen science project for the pūrerehua.** Your efforts will help us develop a parasitisation record across the country which can then be used to show why research, and conservation needs to be funded to remove these introduced parasitic wasps. I will also send the results to everyone that participates and sends me their data.

**Ngā mihi nui.**