

## DONATING REARED PARASITIDS

I continue to be most grateful to all those who donate reared parasitoids to me (for eventual inclusion in the NMS collection if retained), and I will continue to try to tell people what they have sent. I am very sorry that usually I cannot afford to reimburse postage (there are just so many packages...), but if more convenient to donors I do try to attend the BENHS Annual Exhibition in November and the Verrall Supper in March each year (both in London), and can be handed stuff there. Otherwise, the Museum address (Dr Mark R. Shaw, Department of Natural Sciences, National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF, U.K.) is best for anything larger than my home letterbox (4.5 x 20 cm), but my home address (48 St Albans Road, Edinburgh, EH9 2LU, U.K.) can be used for sufficiently small items – I am retired now, and work mostly at home. **If the item will need signing for please use the Museum address.** I can be emailed in advance (but it is not necessary, except preferable to make sure I am there if **living** material is to be sent): [markshaw1945@gmail.com](mailto:markshaw1945@gmail.com) or Telephone +44 (0) 131 667 0577 (i.e. 0131 667 0577 within the UK).

The following notes should help to avoid disappointments.

To send parasitoids through the post. PLEASE MAKE SURE YOU PUT ENOUGH STAMPS ON, and IF THEY ARE COMING FROM OVERSEAS, INCLUDE A CUSTOMS DECLARATION (“Dead unrestricted insects for Scientific Research”, and start with the word “Dried”, if they are).

1. **General.** (i) Adults should always be isolated from cocoons and host remains – but all these things should also be sent. (ii) Living cocoons should always be **isolated** from host remains/plant material if they are still moist (i.e. put into a separate container, but if gregarious keep each brood intact and separate) (iii) **Shock, crush and especially rattle damage affect all categories.** Adequate external packaging to prevent the first two, and light but secure wedging of material within small containers to prevent the last, are essential in all cases (but material in alcohol usually doesn't need wedging). **As a general rule, nothing should be free to roll around or rattle in its container**, unless it is in alcohol. (iv) **Fermentation and mould is ruinous**, and both easily occur in airtight containers.
2. **Dead, unmounted, adult specimens.** These should either be in alcohol (preferably at least 70% ethanol, or industrial methylated spirit) or be allowed to dry out fully in a roomy container that is **not completely air-tight** before they are sent (to prevent the development of mould). In the latter case smallish tubes, film containers, etc can be used for postal transit (suitably wrapped to protect against crushing – small tins in padded envelopes are excellent for protecting glass tubes), and the **fully dry** adult specimens should be between securely wedged or fluffed cotton wool, e.g. in a small cavity (a very little space is OK as the specimen will tend to snag itself securely on loose strands of cotton wool), but take care not to crush it between plugs. Any cotton wool used must not be free to move: mobile balls are very destructive. Nothing else should be in the same cavity as the dry dead adult – cocoons, host remains, data slips etc should all be included, but separated from the dry adult or else there will inevitably be rattle-damage to it.

These associated bits must also be fully dry before being sent (to avoid mould in transit). If tubes are being used please use corks rather than plastic stoppers (unless pierced for ventilation) if possible, and **never tape them airtight**.

3. **Living cocoons or other material that will produce adult parasitoids.** Living parasitoid cocoons, parasitised host pupae etc will usually travel OK provided absolutely **no damp host remains or plant material** accompanies them in the same container. However, they are extremely sensitive to fermentation products and oxygen starvation due to the anaerobic fermentation or moulding of any dead organic material that is enclosed with them for even a short time, and will almost always be killed if sent in small containers together with still-moist bits of plant or host remains. There is also the risk that adult parasitoids will emerge in transit (so 1<sup>st</sup> class post is preferable if there is a choice) and, while rattle-damage still needs to be strenuously avoided, a little looseness round the cocoon or pupa will help to prevent any emerging adult from becoming hopelessly cramped (Hymenoptera emerge from cocoons with wings fully expanded so they need very little space; Diptera on the other hand expand them after eclosion).
4. **Dead mounted specimens.** If the insect is big enough to get a decent pin through it, please use a 38mm (“continental”) pin **with a head** (thickness 1 is ideal for most; don’t use narrower or the pin tends to get bent), and get the insect about 2/3 of the way up the shaft (i.e. nearer pin head than point). Keep the wings and antennae away from the pin head, and don’t let the legs hang too far down the pin shaft – but otherwise there is no need to “set” the specimen. Pins should be stuck into high-density plastazote, **not low density polystyrene**, and try to use light but strong (e.g. thick cardboard) inner boxes (not heavy things like wood, because that just adds momentum and increases the shock-hazard). Whatever inner container is used, it needs to be very well protected by something shock absorbing (e.g. a larger outer box with polystyrene chips, or copious bubble-wrap). However, I never mind having specimens unmounted, as I can then mount them in exactly the way that I want – and specimens too small for a size 1 continental pin are best sent unmounted.
5. **Data requirements.** Please always include as much as possible of the following: Place, name of host (at whatever level you can confidently give it – note that e.g. “Geometridae” is better than just “Lepidoptera”), situation (e.g. plant), date/stage collected, date parasitoid cocoon appeared (if applicable), date adult parasitoid emerged [even month dates are better than none, and if you can only give one of these dates **make it clear** which one it is by using “coll.” or “em.” etc!], the name of the collector – if the person who identified the host is yet another person then this needs to be clear too, and also please **express any doubt about host identity very clearly** (e.g. if you rear something from a substrate that prevents you from actually recovering and seeing the host remains or parasitoid cocoon, there is some doubt that has to be expressed – e.g. “from birch stump with *Synanthedon culiciformis*” would be a good way to say it, though of course if you can be sure then giving the host name emphatically is important and best).

Very many thanks – I greatly appreciate your help in making the collection in NMS the richest source of reared Western Palaearctic material in the world!

Mark R. Shaw