Creating and Managing Breeding Groups

SNHBS Workshop

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Gavin Ramsay, Jon Getty and John Durkacz

Tonight:

- Informal, lots of discussion
- Prompted by a member asking how to go about setting one up
- Aware that there are several models of doing so
- Aware that some have failed to get going (yet) despite initial enthusiasm, or faded over time
- Aware also that NIHBS are a year into an ambitious, centrally organised and funded model

John’s Article:

http://www.snhbs.scot/queen-rearing-and-bee-breeding-groups/

Think carefully about what might be available in your association area. Does anyone remember older beekeepers who are perhaps rarely seen now that there are so many ‘new faces’ at association meetings? Were they known for having good manageable colonies, probably even dark bees? Did they rarely have swarming problems or have a reputation for never buying bees in from outside the area? Ask acquaintances about stray swarms they have seen recently. Let association members know what it is you are looking for in these bees and direct them to the SNHBS website for guidance in identifying native honey bees.

Which model?

- One central person or a group with equal say?
- ‘Ownership’
- Informal or formal with responsibilities and roles clear?
- How to ensure continuity and adherence to values of the group?
- Self-funded, aspiring to be self-financed, or profit making?
- Thoughts on the sustainability of each, risks, rewards
- Why do such groups often fail to get established or collapse later?

A Comment on Genetics

- Most areas in Scotland already have mixed bees
- To establish a ‘Closed population’ you need isolation (5-10 km) from other beekeepers (a few in the area may be persuaded to take your queens, if they are of good stock)
- Closed populations need ~50-60 colonies to have long term viability
- Unrealistic? OK, swap queens with other groups. Collaboration reqd.
- When a good queen is sourced, keep her for years and make more daughters than from others. She carries a lot of new genetic variation in her spermatheca.
- Don’t select too strongly, keep a broad genetic base
- All daughters of good queens make good drones even if outcrossed

Technical Aspects

- Location, degree of isolation, climate and season
- Ensuring the skills necessary for success
- Threats to purity and sufficiency of drone supply, closed or open population
- Degree of purity of queen mother stock
- How to ensure a sufficient diversity in the breeding stock
- Biosecurity: risks from Varroa, foulbrood, CBPV
- How to ensure a ready supply of high quality advice and interactions between groups

Other possible ambitions and projects for Scottish Native Honey Bee Society

- Trying the NIHBS approach.
- A SNHBS-run mating station supplying drones for people bringing mating nuclei.
- One large project with funding to establish a long term project in one area.
- Support for instrumental insemination.

Inspecting colonies for use as breeders and drone rearers. We shared critical inspection of our colonies for inclusion in the breeding programme.





Assessing colonies for native characteristics.

Decisions need to be made at an early stage about the group aims. What kind of bee. Pure native or near-native? What degree of hybridity is acceptable?



Moderate hybridity



Uniform native appearance

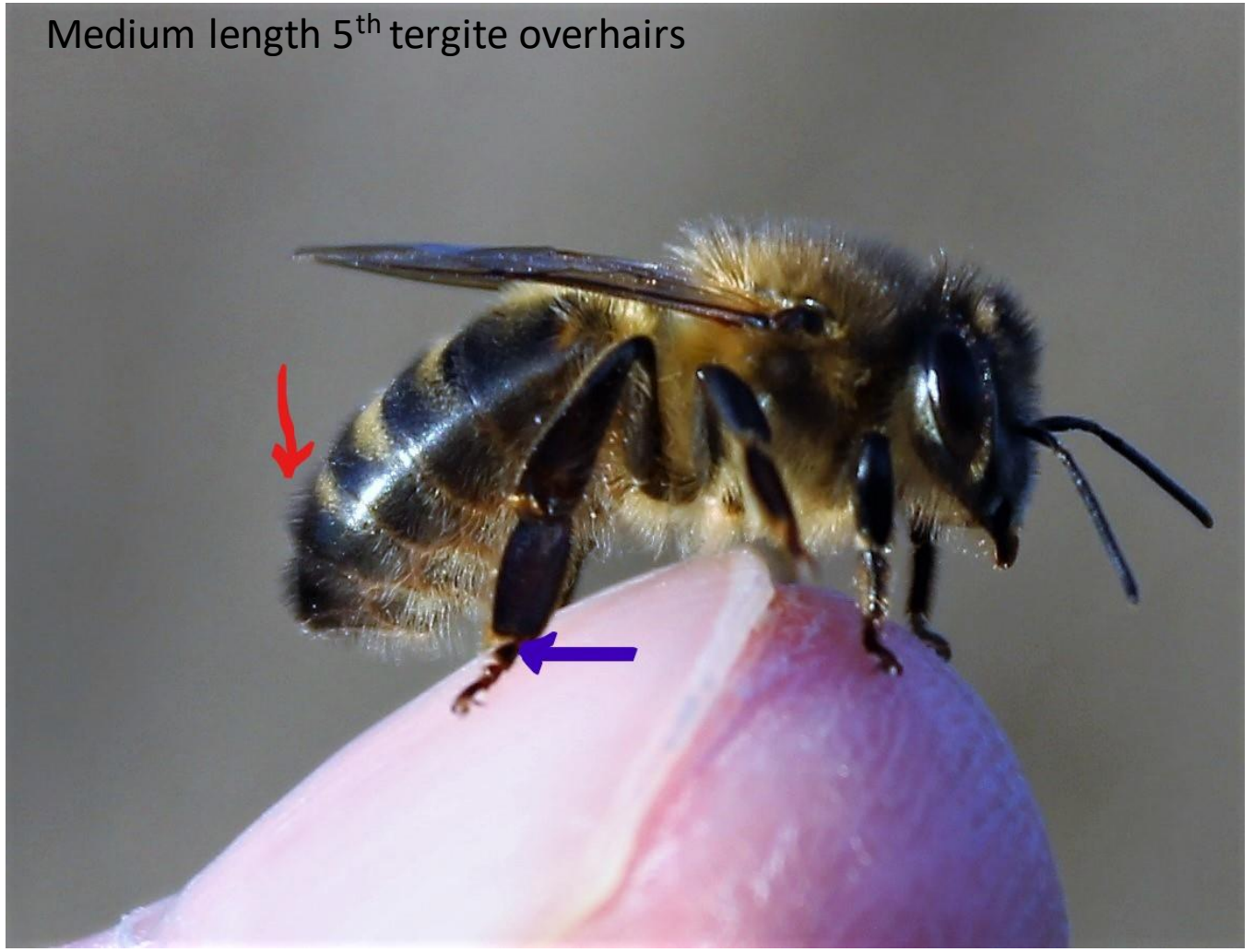
Our ‘gold standards’ will require closer inspection but we need to be able to make field assessments a well.





Native honey bee features

- Dark body integument
- Narrow tomental bands
- Medium to long hairs over 5th tergite
- Mid-thoracic hairs dark coloured
- ‘chunky’ looking bee



Cell raising process

Technical issues

- Pollen vital for
- queen rearing

- Consider saving good frames
- supplements

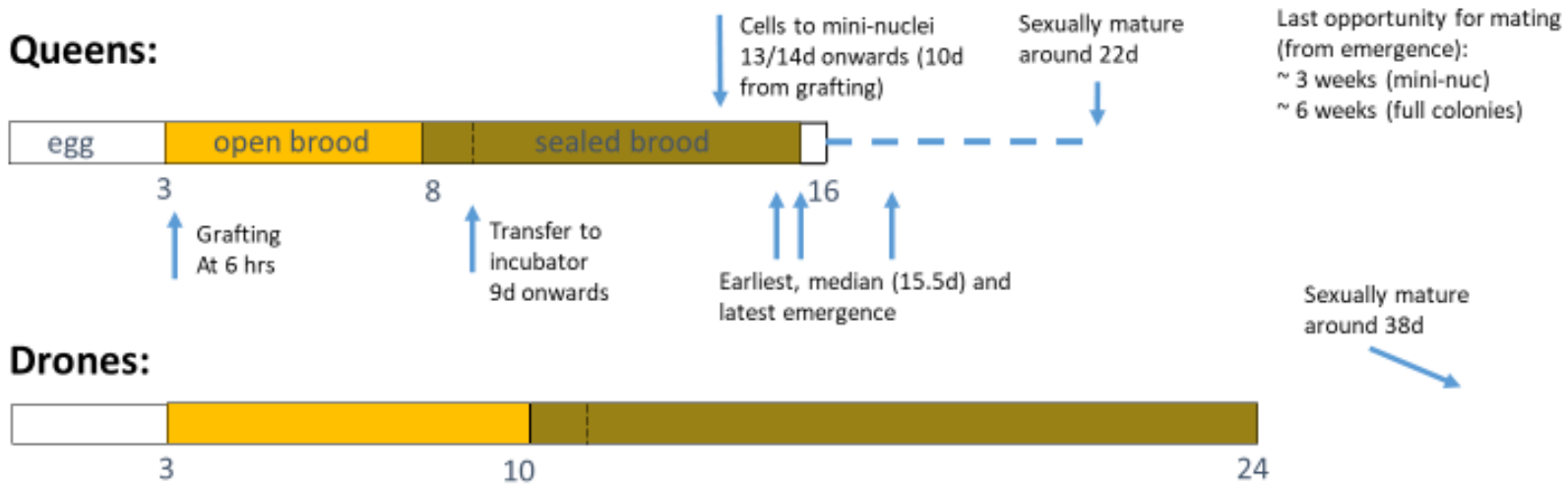




- Cell rearing skills are necessary when larger numbers are required
- They are not as difficult as they look
- However simple use of splits and producing cells by Demaree method are excellent


Knowledge of biology of queen development is necessary

Timing



Gavin Ramsay

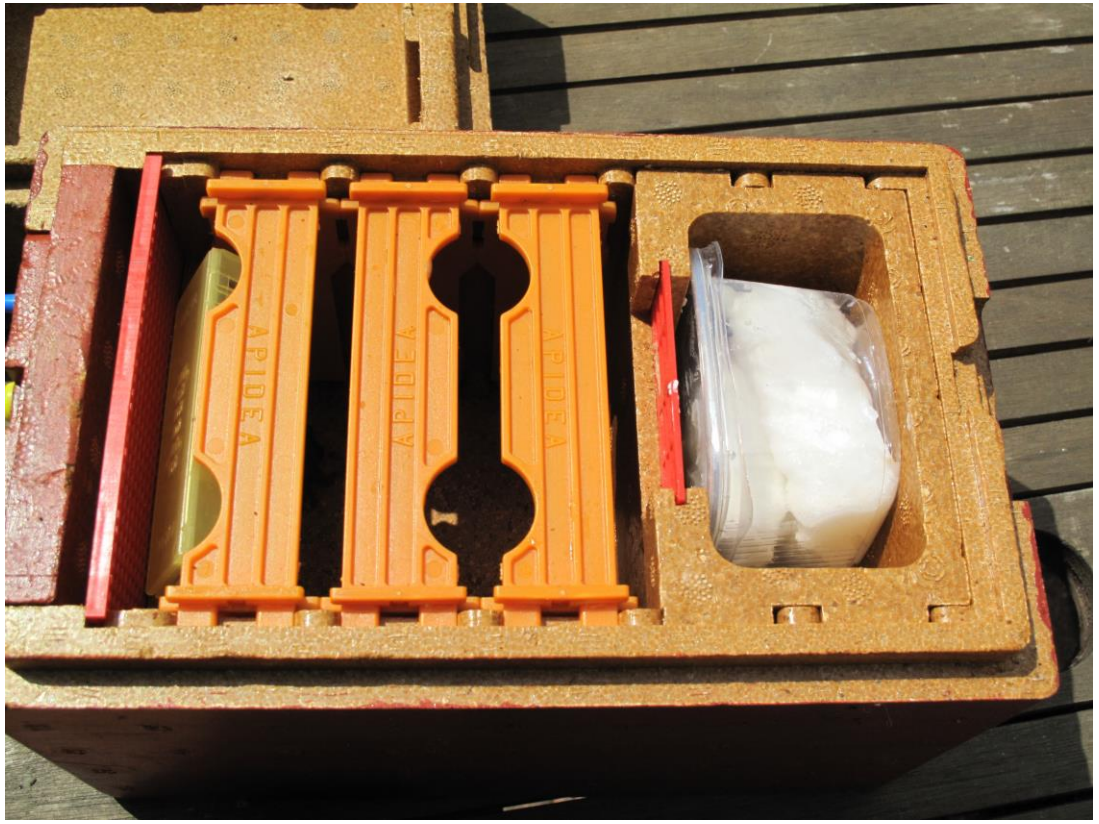


- Caging of queen cells soon after sealing
- Prevents escape of early hatching virgin queens
- Or these cells can be moved to an incubator


Spring preparations
Heavy work and needs a group effort

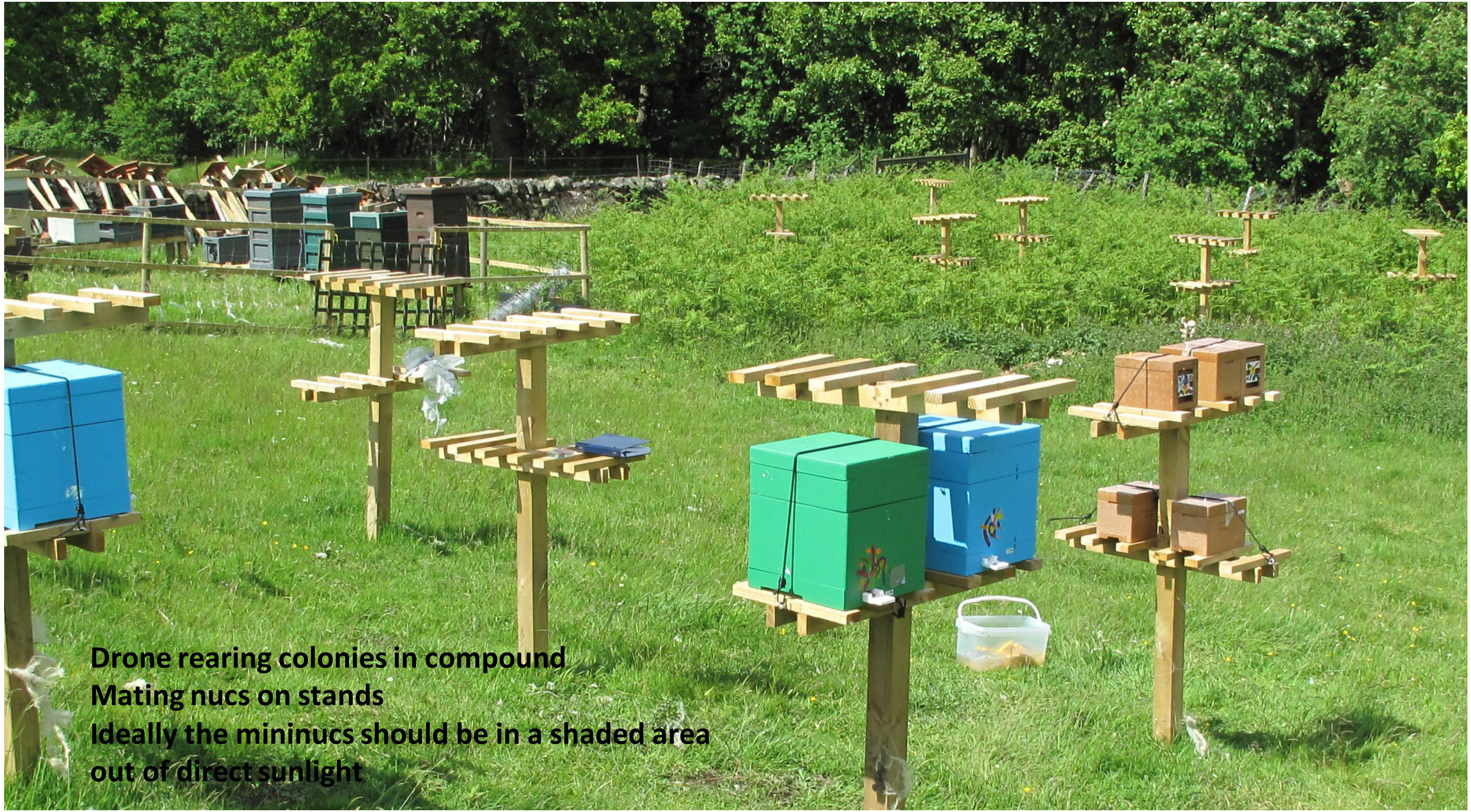
Mating nucs

The functional design of the Apidea allows it to be used in several ways.






Miniplus mating nuc as used at Ochils mating apiary site. Uses more bees than an Apidea but easier to maintain.

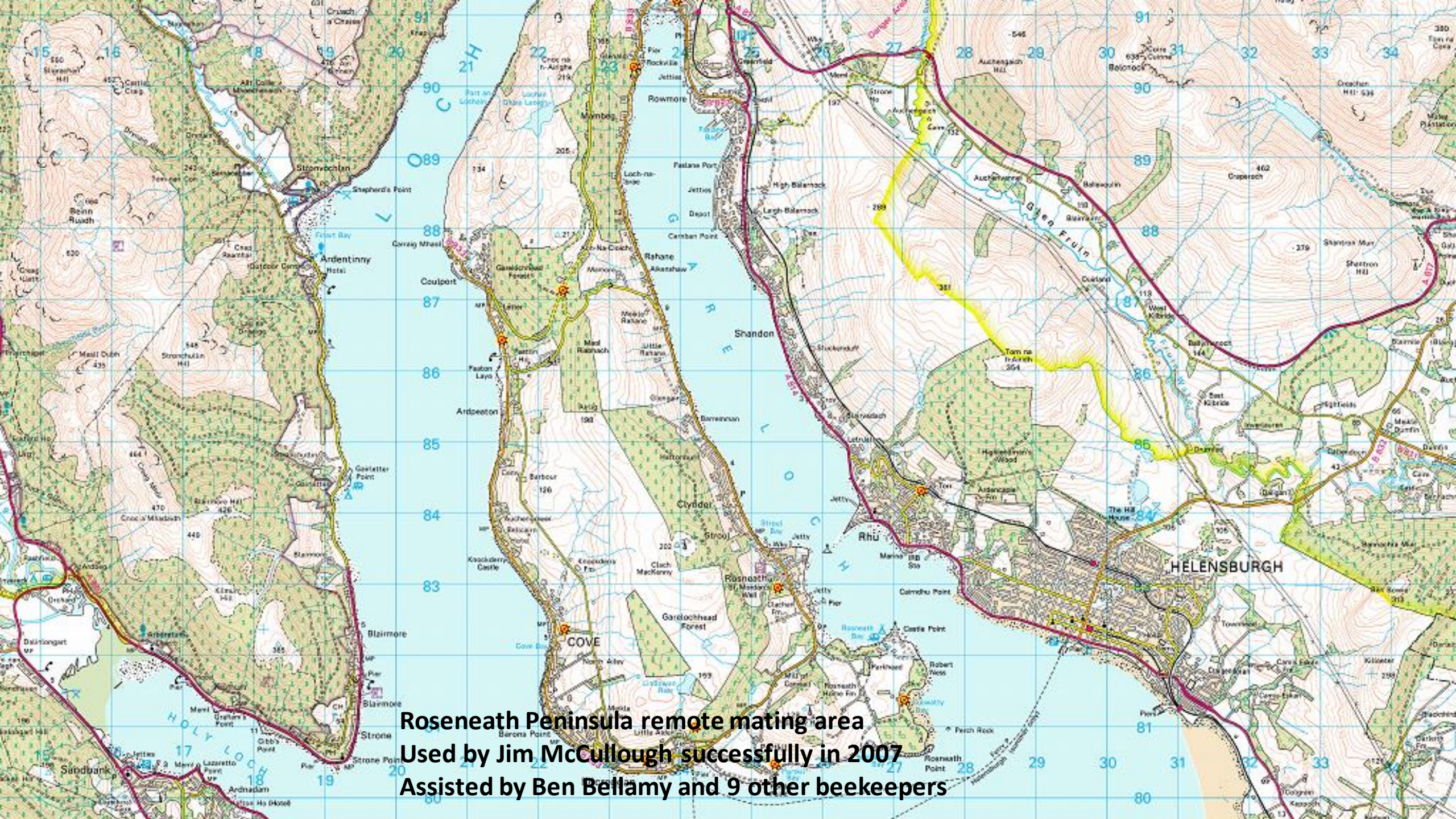

Drone rearing colonies in compound
Mating nucs on stands
Ideally the mininucs should be in a shaded area
out of direct sunlight



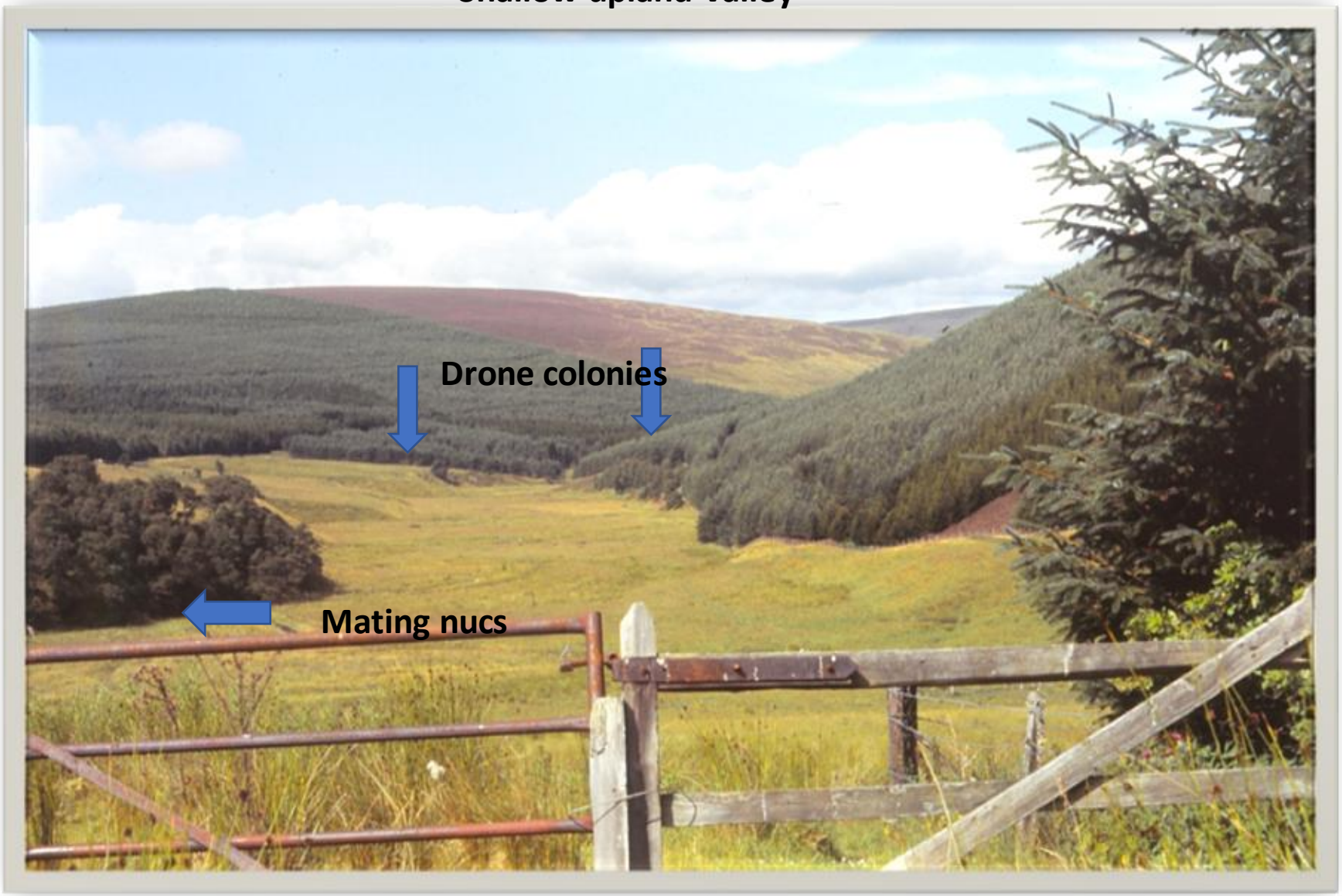
A better arrangement with nucs in a shaded area.
Drone rearing colonies are kept well away and in strategic positions further down the valley.

Siting the mating apiary

Looking at topography


Roseneath Peninsula remote mating area
Used by Jim McCullough successfully in 2007
Assisted by Ben Bellamy and 9 other beekeepers

Shallow upland valley





Middle reaches River Valley

Bibliography

- Queen rearing and bee breeding groups (snhbs.scot)
- Queen rearing: five stages to manage (snhbs.scot)
- Products – The Native Irish Honey Bee Society (nihbs.org)
- F.W.L. Sladen; ‘Queen Rearing in England’ is an excellent book out of print but can be downloaded from the internet. Everything you will need.
- There are numerous other texts available on the subject of queen rearing.



- **‘Mating biology of honey bees’** is excellent.
- Helps you to understand and plan your remote mating apiaries.