

Cucujus cinnaberinus in Norway

Arne Laugsand¹, Stefan Olberg¹ & Dr. Anne Sverdrup-Thygeson²

¹ BioFokus, Gaustadalléen 21, NO-0349 Oslo, Norway
² Norwegian Institute for Nature Research, Gaustadalléen 21, NO-0349 Oslo, Norway



Figure 1. *Cucujus cinnaberinus*. Photo: K. Abel.

Background

Cucujus cinnaberinus (Scopoli, 1763) (Cucujidae) is considered to be near threatened (NT) on the IUCN Red List¹ and listed in the Bern Convention (Figures 1, 4 & 5). Although the species is expanding in certain areas of Central Europe¹, *C. cinnaberinus* is considered to be a declining species in Northern Europe. In Norway, the main threat to *C. cinnaberinus* is logging, but land-use changes, planting of spruce as well as a large moose population are other potential decimating factors. In Norway it is enlisted as vulnerable (VU)².

Until 2009, very little was known about the status of *C. cinnaberinus* in Norway. Then an Action Plan for *C. cinnaberinus* presented goals and measures for the management of the species³. The present project is the first step in fulfilling this plan⁴. The investigated areas are situated in the transition zone

between boreal and temperate forest. Modern forestry with clear-cutting has been limited by a rather inaccessible terrain, and patches of more natural forest with aspen are widespread.

Results

We surveyed 49 potential localities in the two municipalities Drangedal and Froland in Southern Norway (Figure 2). *C. cinnaberinus* were encountered

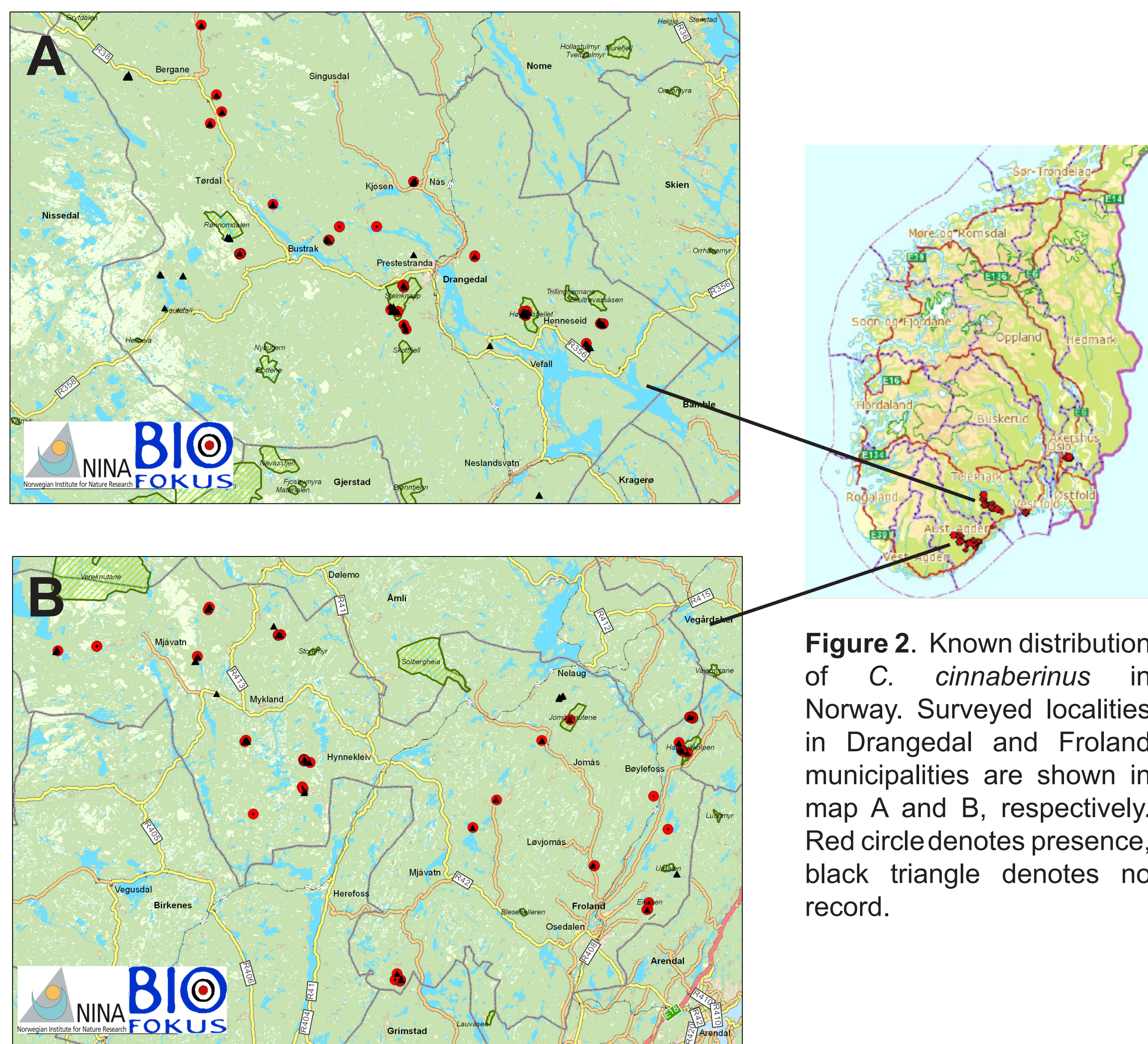


Figure 2. Known distribution of *C. cinnaberinus* in Norway. Surveyed localities in Drangedal and Froland municipalities are shown in map A and B, respectively. Red circle denotes presence, black triangle denotes no record.

in 35 of these localities. A selection of 270 logs and snags that were found to be suitable were further investigated, and *C. cinnaberinus* were encountered in 87 of these (77 aspens, 9 oaks and 1 spruce) (Figure 3). *C. cinnaberinus*



Figure 3. Typical aspen logs with *C. cinnaberinus*. Photo: A. Laugsand.



Figure 4. *Cucujus cinnaberinus*. Photo: K. Abel.



Figure 5. Last larval segments of *Cucujus cinnaberinus*. Photo: S. Olberg.

were found to be more common on downed than on standing aspen (Figure 6). In total only four imagines were found. Most of the logs with larvae were >20 cm diam., although *Cucujus* larvae were found in logs as small as 10 cm diam. In the investigated areas, *C. cinnaberinus* appeared to be widespread, and low numbers of larvae were found also in small suboptimal localities.

Conclusions

- There are large populations of *C. cinnaberinus* in the surveyed areas.
- The habitat /substrate choice seems to be less specific than expected.
- It is not possible to evaluate population trends based on this survey.

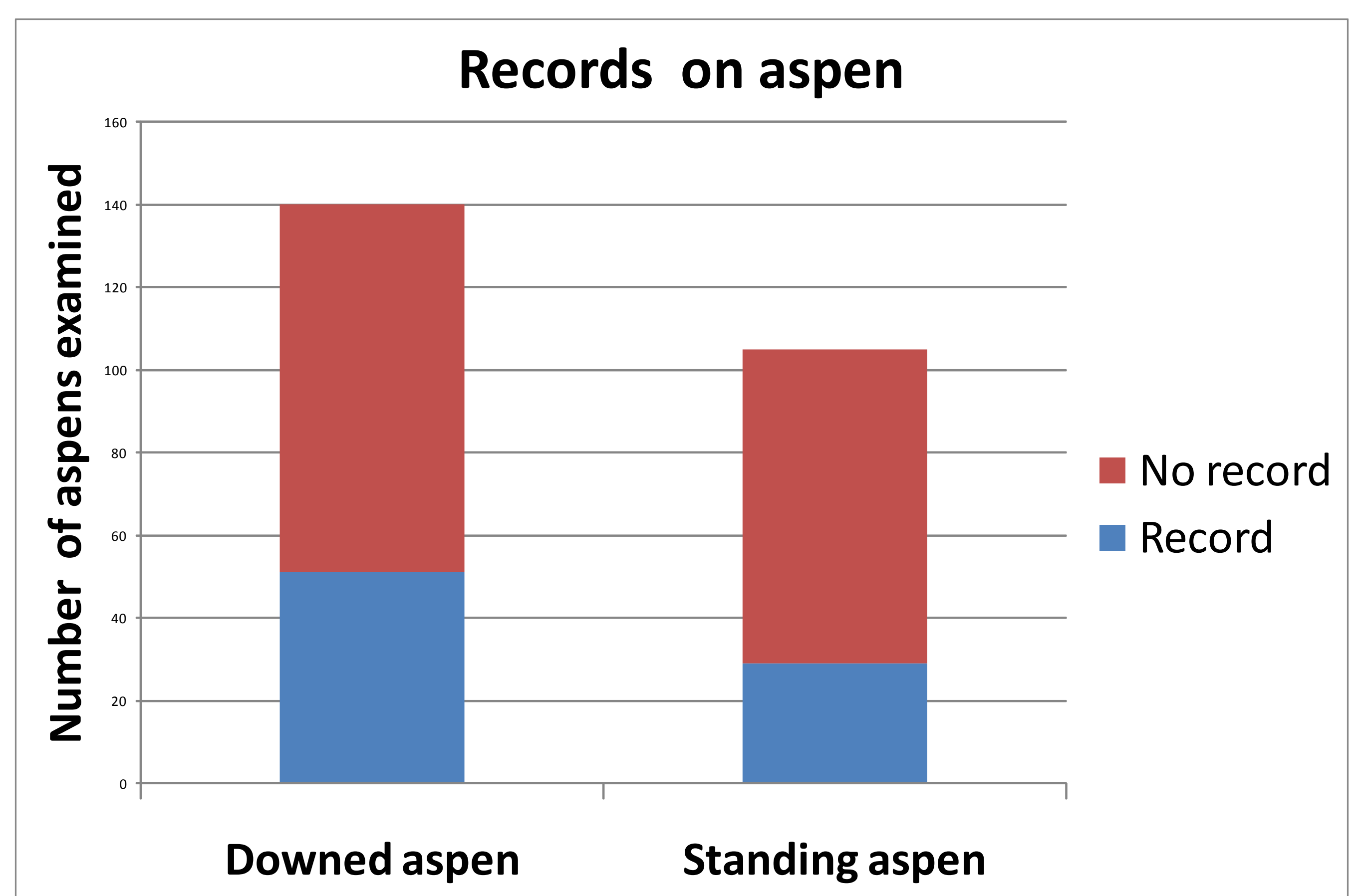


Figure 6. Distribution of recorded *C. cinnaberinus* on downed and standing aspens.

Further questions

- How to investigate fragmentation/isolation effects?
- What does the low number of imagines tell?
- Do population source-sink dynamics mask extinction debt?
- How to monitor population trends when habitat/substrate changes over time?
- How should localities/records be counted?
- To what degree are the measures described in the Action Plan for *C. cinnaberinus* sufficient to safeguard the other species associated with dead aspen wood (e.g. *Hololepta plana*, Figure 7)?



Figure 7. *Hololepta plana* (Sulzer, 1776), an example of the large number of other threatened species in dead aspen. Photo: K. Abel.

References

- (1) IUCN 2010. IUCN Red List of Threatened Species. Version 2010.1.
- (2) Kålås, J. A., Viken, Å. & Bakken, T. 2006. Norsk Rødliste 2006. - 2006 Norwegian Red List. 416 pp. Artsdatabanken.
- (3) Direktoratet for naturforvaltning. 2009. Handlingsplan for sinoberbille *Cucujus cinnaberinus* [Action Plan for *Cucujus cinnaberinus*]. Rapport 2009-4.
- (4) Sverdrup-Thygeson, A., Laugsand, A., Olberg, S. 2009. Follow-up of the Action Plan for *Cucujus cinnaberinus* 2009. Inventories in Froland and Drangedal municipalities. - NINA Report 529. 22 pp.



Fylkesmannen i Telemark

