History of sandy habitats and their insects

A short review

Sand habitats have a long history of **intense disturbance**

and

huge areas with bare sand
(as a side-effect)

Sand drift increased a lot during the period **1500 – 1800**

Protection actions which stopped large scale sand drift **1800 - 1930**

Overprotection actions **1960 – 2000**

New management techniques to restore sandy habitats **2004 - 2018**

Tångkörare vid halländska kusten/Collecting sea alga to the fields for fertilization

Oil painting by Nils Kreuger 1898

The fortress in Varberg (built ca 1600-1618)

Litter removal was very intense for example to build large embattlements (farmers ordered to deliver manu loads), to the roof on farm houses, for fuel ..

Historical management

- Extensive grazing (over large areas)
- Repeated burning to improve grazing
- Extensive cultivation with rye and buckweat (råg, bovete), no fertilizers and the fields mowing around
- Large scale litter removal (for embattlement, fuel, house roof ……..)
- Cutting trees and bushes (for many uses) - and limited regeneration because of winter grazing
- Logistic disturbance very large (no hard roads)

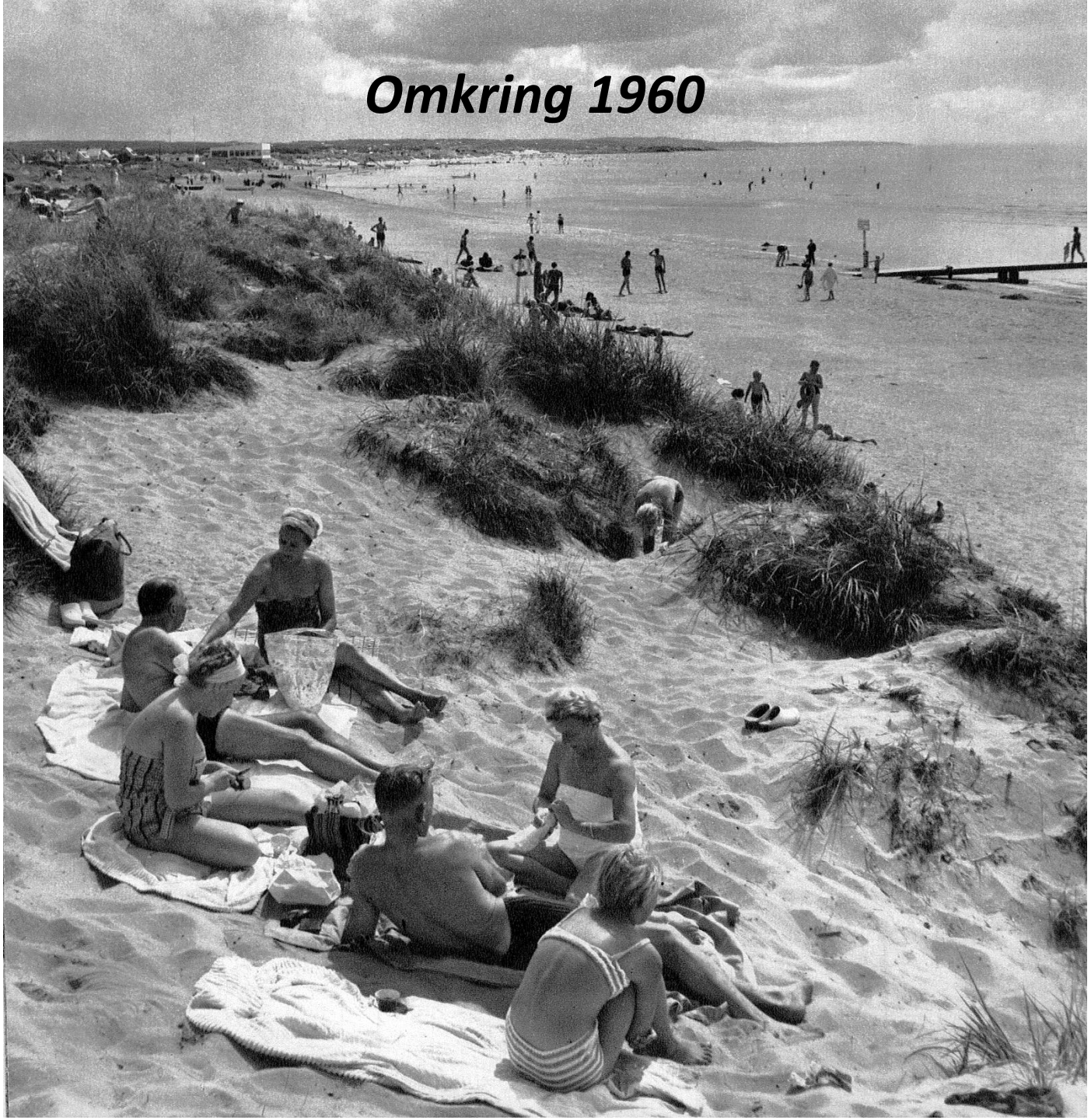
Protection actions 1800 - 1930

- **Prohibititions** to burn, grace, remove litter, collect sea alga, cut trees and bushes
- **Injunctions** to build sand fences
- **Tree plantations**
- **Rural and industriell revolution** (sandy areas lost there importance for agriculture and there was a natural regrowth of trees and bushes in many areas)

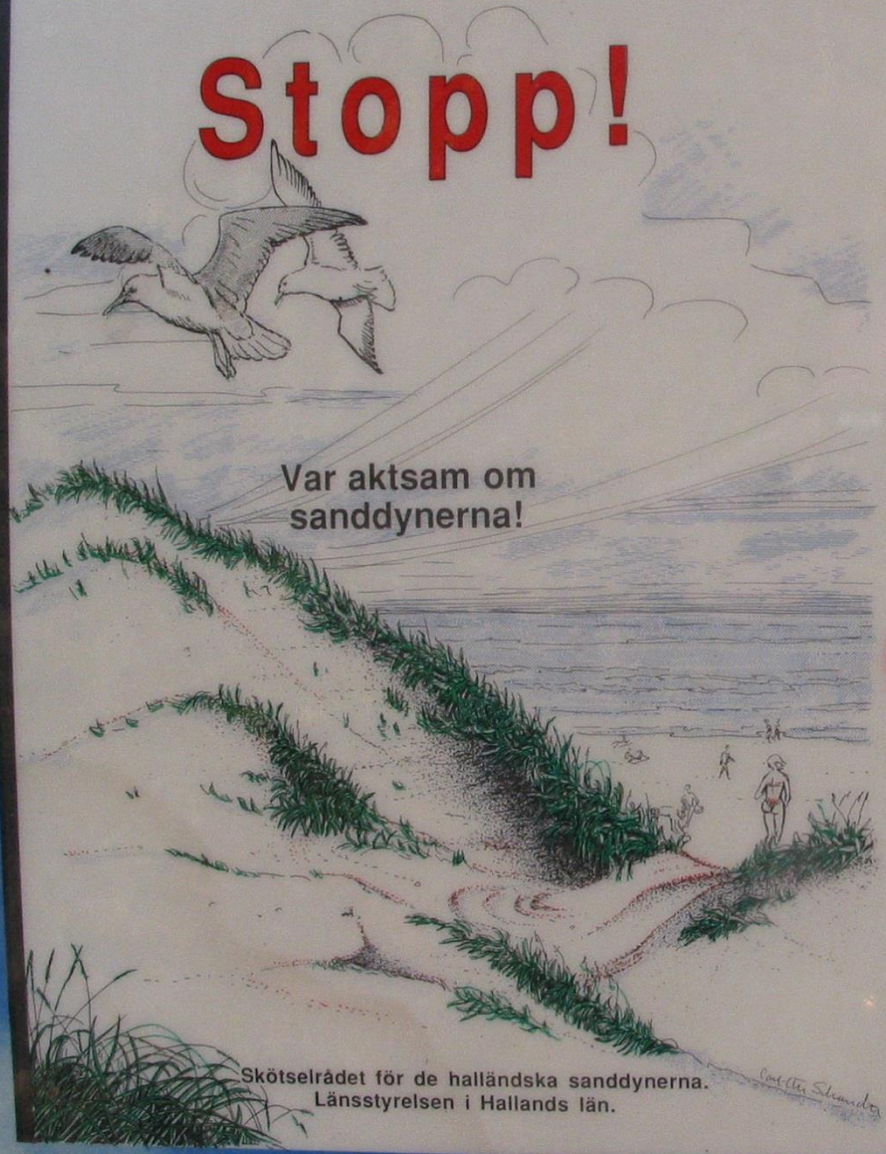
Overprotection actions (1960-2000)

Sand drift was not longer a large problem in reality, but it was still an actual problem in the peoples mind – also in general for conservationists and biologists.

Large overprotection actions was made also in nature reserves with sandy habitats.


Omkring 1960

Stopp!



Skötselrådet för de halländska sanddynerna.
Länsstyrelsen i Hallands län.

Sanddynsskydd

Halland, med sanddynskantade badstränder, har blivit ett av landets mest besökta semestermål. Detta har medfört att förslitningen av dynerna och den därav orsakade sandflykten har blivit ett av de allvarligaste naturvårdsproblemen i länet. Omfattande åtgärder har vidtagits för att skydda och bygga upp nedslitna sanddyner bl a genom plantering av sandrör, uppsättande av staket och utläggning av spänger.

Du får därför,

- *inte* beträda avspärrade områden .
- *inte* skada nyplanterade dynpartier.
- *inte* göra åverkan på uppsatta stängsel
- *inte* gå eller gräva i dynerna så att sanden rasar ner och sanddynsplantorna skadas.
- gå på redan upptrampade stigar. Använd spänger och trappor där sådana finns!

Vi vädjar till alla som vistas på de halländska sandstränderna att hjälpa till, för egen och andras trivsel, att skydda sanddynerna genom att iakttaga ovanstående förhållningsregler.

The protection of the sand-dunes

The sand-dune bordered beaches of Halland attract many visitors each year. As a consequence, the sand-dunes are worn, causing the sand to drift. This is a major impidement to the preservation of natural amenities in the county. Considerable measures have now been taken to protect and restore the sand-dunes: the planting of sand-wort, the erection of sand.fences and the positioning of walking-planks.

The public is therefore requested,

- *not to* trespass upon areas that have been fenced off.
- *not to* damage the newly planted parts of the dunes
- *not to* damage the fences
- *not to* walk on the dunes or dig into them causing the sand to drift and thereby damaging plants.
- *to* keep to dicernible paths made by previous walkers. Use foot-bridges and steps where available.

We appeal to all visitors to the beaches of Halland to help us protect the sand-dunes by observing the directions above.

Haverdal ca 1968

(reservatet bildades 1942)

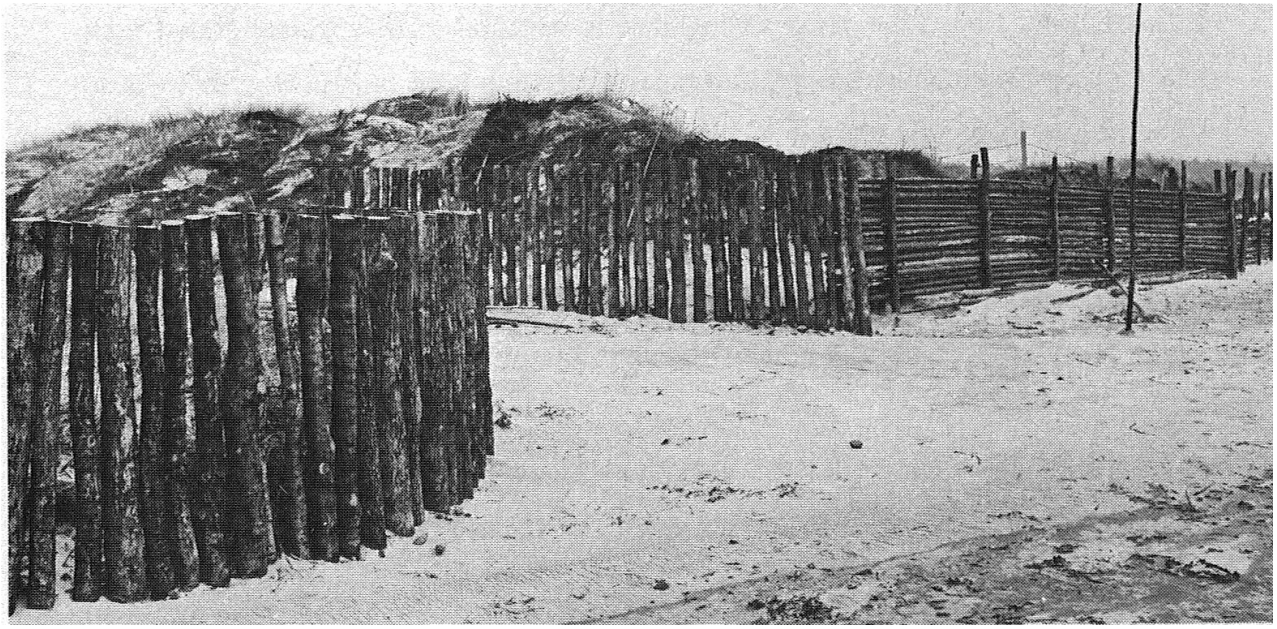


Foto 73 Marktäckning med tång.

Ground covering with seaweed.

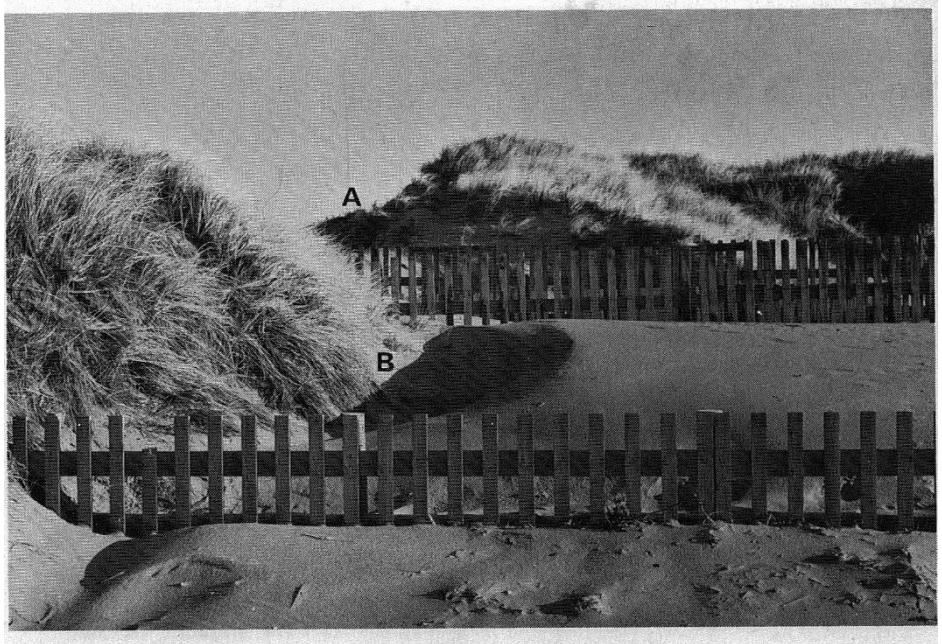
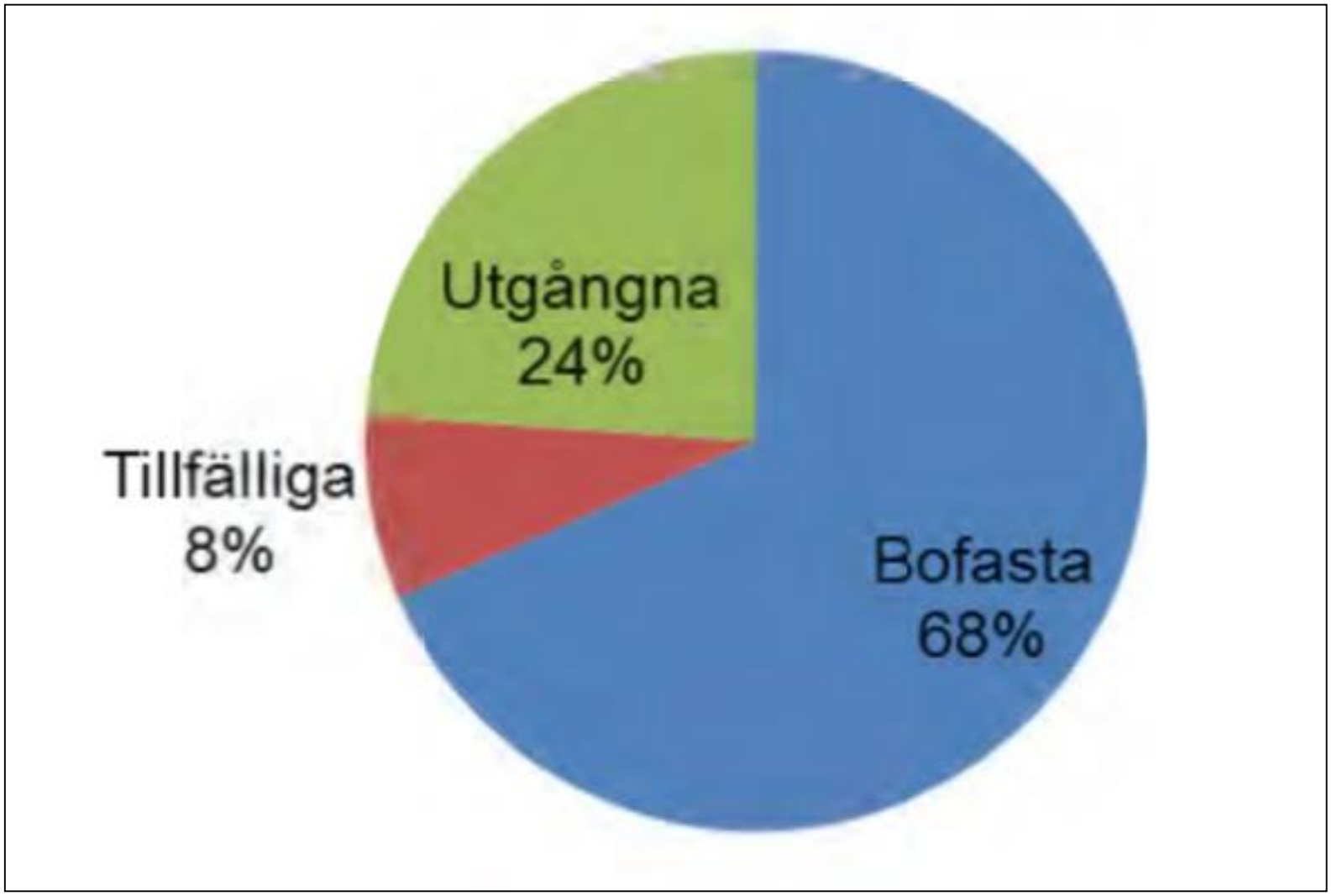


Foto 74 Erosion vid basen av erosionsrest. Tylösand.

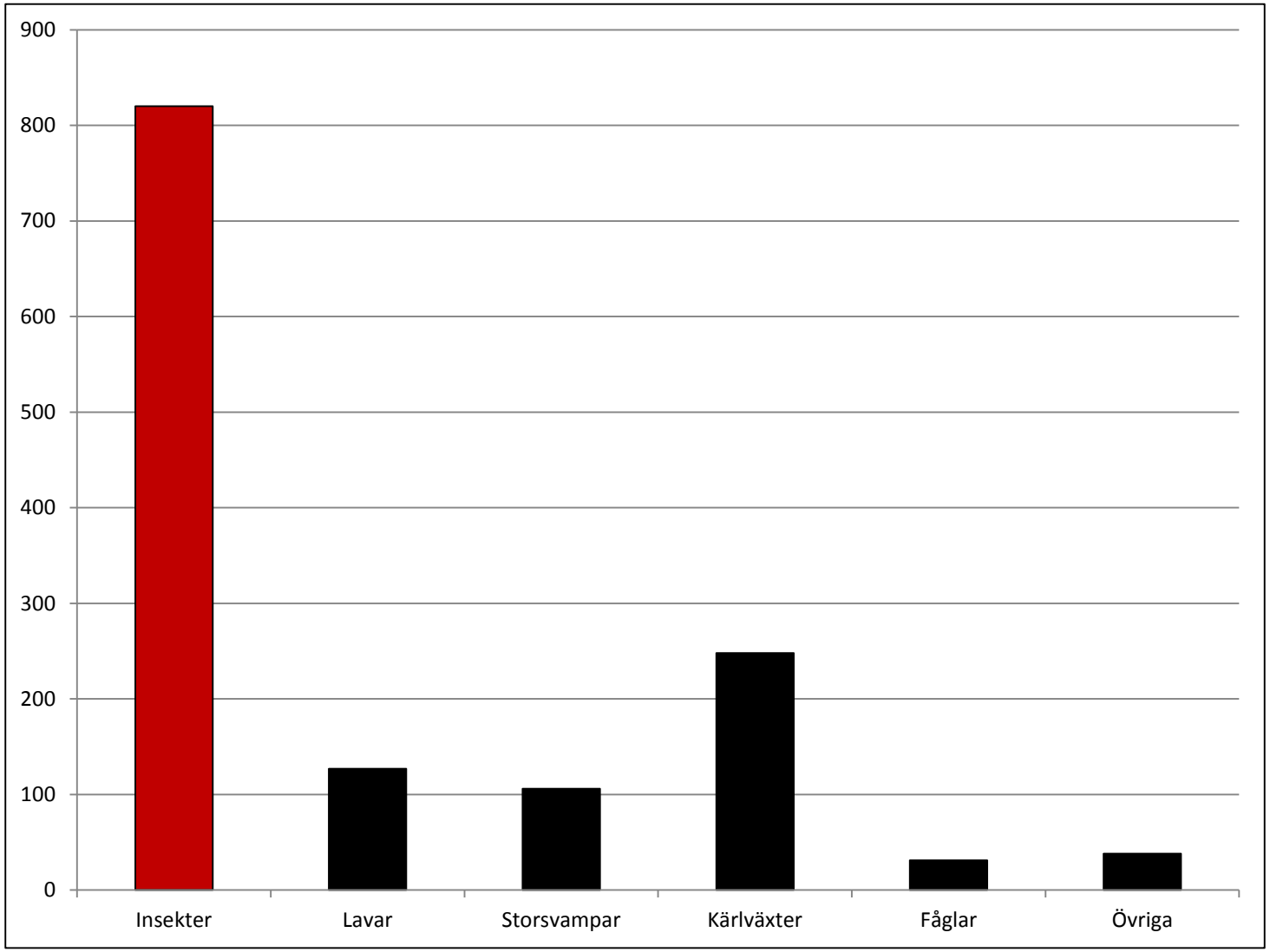
Erosion at the base of an erosional remnant. Tylösand.

Skummeslöv 2005

Haverdal 2005



During the last 250 years 393 red-listed species are known from sandy habitats in Halland. 24 procent (95 species) do not have any actual observations in the county (probably extinct).



Many reasons to focus on insects – for example many red-listed species in open (and sandy) landscapes. The figure shows red-listed species in agricultural landscape in Sweden 2015.

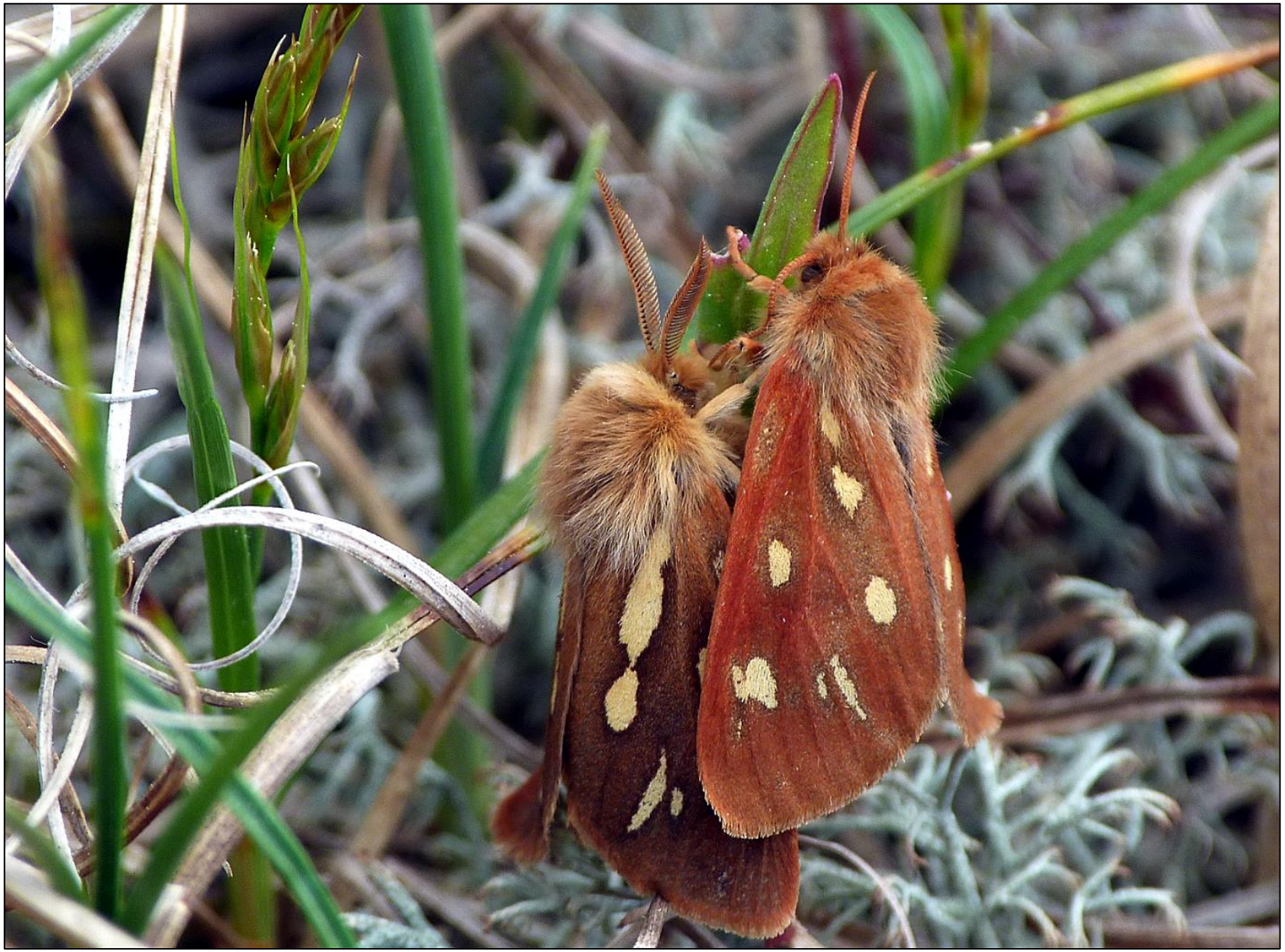
Skummeslöv 2005

Havsmurarbi ***Osmia maritima*** **Endangered (EN*)***

Haverdal 2005

Havstapetserarbi *Megachile leachella* NT

Foto: Mikael Larsson



Gulfläckig igelkottspinnare ***Hyphoraia aulica*** **Endangered (EN*)***

Krokhorndyvel *Onthophagus fracticornis* *NT* *Foto: Krister Hall*

Getingrovfluga Asilus crabroniformis *Vulnarable (VU)* *Foto: Krister Hall*

Läppstekel *Bembix rostrata* NT

Läppstekel *Bembix rostrata* NT

Climate change and rising sea level

A challenge to combine management for a rich biodiversity with protection/removal of buildings situated too close to the shore line.

Foto 14 Huset har underminerats av vågerosion. Skrea Strand.

HITACHI