

#### Linnaeus – collect, categorize & store





## Atlas data by Nordström 1955



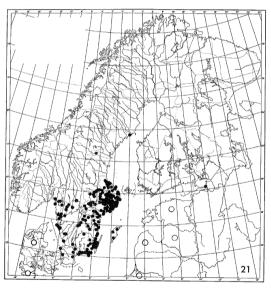
Scarce Heath Coenonympha hero



Pearly Heath C. arcania



18. Hyponephele lycaon Rott. — 19. Coenonympha hero L.



21. Coenonympha arcania L.



#### What was known in 1952?



Särtryck ur »Opascula Ent-Hur noggrant känna vi utbredningen av Sveriges Macrolepidoptera? FRITHIOF NORDSTRÖM lande göra, om dit m t sin nonny ire lätt tillgängliga turistorte an komma och där näringss öda och tidsspillan kan kor. l, de följa kända turistväj mella n de -111



## Catalogus – province records compiled

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Hibner, 1822	1981 BK BL HA SE OL GO GS OF Vg/bifaciata (Haworth, 1809)	2001 Sk Bl Ha Sm
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Curtis, 1025 Hobmer, 1813;	2010 Sk B1 Ha Se 01 Ge Og vg Bo De NA Se Up Ve Vr Dr Ge Ha Re Hr Ja An Vo No 2.026	
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(Gooze, 1701) zius, 1703	JUES SK BI NA 3N OI GS DE OG VE BO DE NA SE UP VE VI DE GE HE HE HE JE AN VE NE AB LY LU TO DEPS	
ljakonov, 1926 sta Zetterstedt, 1839	2016 SH BI HA SH OI GO GS OG VO BO DS MA SA Up VS Vr Dr GA He He Hr Ja An VD ND Am Ly Lu To DHPS	
(D45, 1775) La Stephene, 1931	2017 Sk Bi Ma Sa Ô) GoÔg Vg Bo Ds Mà Sõ Up Vs Vr Dr Gà Hs HeÂn	
(Hibner, 1913) (Hibner, 1813)	2017a . H 2019 8k 81 Ma 5m 01 0o Vg	
(Hübner, 1790)	2020 SK BI HA SE OL GO	
<ul> <li>Bibpers, 1813)</li> <li>(Nabner, 1813)</li> <li>(Nabner, 1813)</li> <li>(Nabner, 1813)</li> <li>(Nabner, 1813)</li> <li>(Nabner, 1813)</li> <li>(Nabner, 199)</li> <li>Stan Enmber, 1949</li> </ul>	2022 Sk Bl Na Sm Ol Go Vg De MA So Up Va Vr Dr Da Na Kr Ja An Vh Nh As To DNVS * 2023	
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LUND UNIVERSITY

### Catalogus – new edition 2016

Jacobardon Jacoba



KATALOG ÖVER SVENSKA FJÄRILAR

Catalogue of the Lepidoptera of Sweden

B. Å Bengtsson, B. Gustafsson & G. Palmqvist 2016

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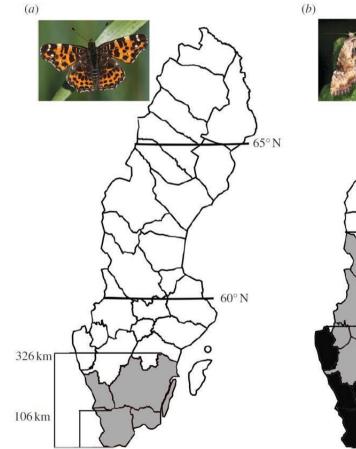
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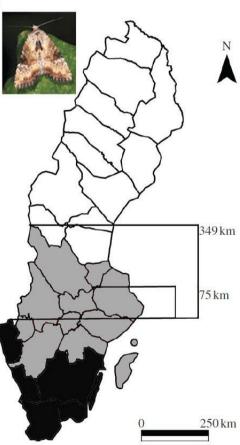
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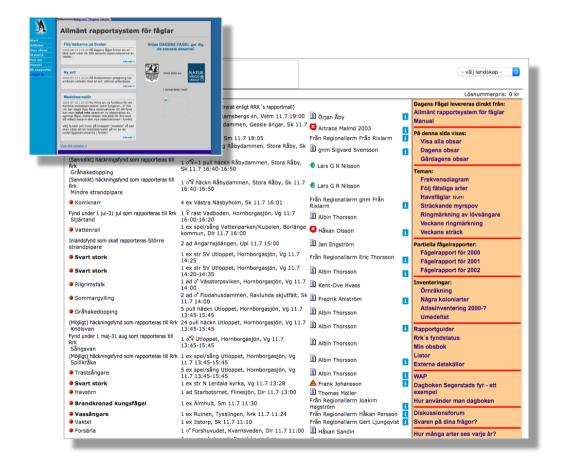
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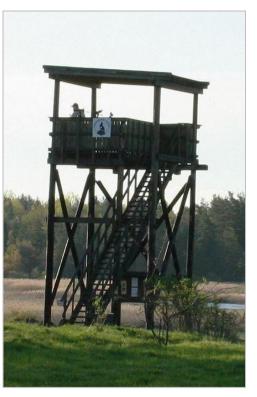






### Databases – Svalan – 1999





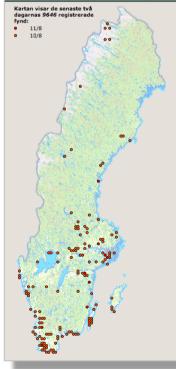


## Svalan expanding 2005

#### Småkryp

Bli rapportör Visa fynd Landskapskataloger Statistik Logga in

Start Dagens Småkryp Veckans fjäril 🖃 Bildarkiv 🗐 Dagens bilder 📋 Dagens dagbok



#### Rapportsystemet för småkryp Portal för land- och sötvattenslevande småkryp

Detta rapportsystem omfattar alla terrestra och limniska evertebrater, eller "småkryp" om man så vill. Artlistor saknas fortfarande för en del grupper, se mer information längre ned på denna sida.

#### Ingen manual

Det finns ännu inte någon manual. En manual kommer så småningom men under tiden kan du hitta mycket matnyttig information i Manual för Rapporteringssystemet för fåglar där många funktioner påminner mycket om småkrypsportalens.

#### Kontakt och support

Nu finns också en supportgrupp som svarar på alla frågor om hur man rapporterar m.m. Supportgruppen består av Lennart Carlsson (Öland), Bertil Johansson (Stockholm) och Stefan Cherrug (Skåne). För att komma i kontakt med supportgruppen så skickar du ett mali till: Support.

#### 7/5 2010: Faunaväkteri!

Under 2010 kommer Art/Databanken att vidareutveckla den omfattande floraväkteriverksamheten med att även starta upp ett faunaväkteri. I år har vi i samarbete med Sveriges Entomologiska förening bestämt att koncentrera oss på rödlistade insekter och spindlar. Detta första är ser vi som ett testår då inventeringsmetoder och arturval kommer att vara i fökus. Vi jobbar också kontinuerligt med att ta fram informationsblad om alla väktararter. Läs mer »

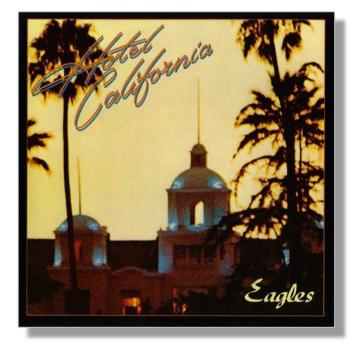
#### 9/6 2009: Fler landskapskataloger!

Nu finns sju landskapskataloger som förenar informationen i katalogen med fynden i artportalen. Läs mer om landskapskataloger » Du hittar landskapskataloger under menyn 'Artlistor'. Landskapskatalog för trollsländor Landskapskatalog för trollsländor Landskapskatalog för förlänlar Landskapskatalog för för bionflugor Landskapskatalog för töler bionflugor Sedan tidigare finns: Landskapskatalog. för skalpapoar.

- Insects in general
- Butterflies
- Adding province catalogues
- Quite similar to Svalan



### Early storage dilemmas



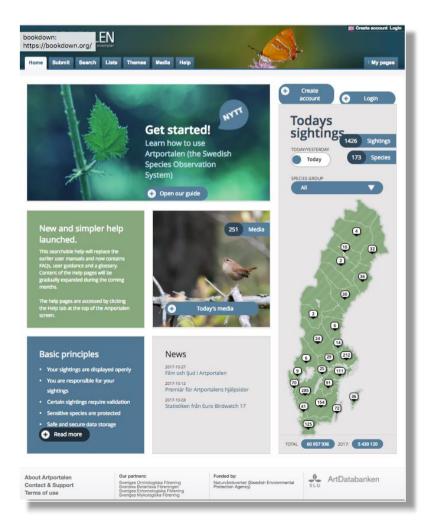
"We are programmed to receive. You can check out any time you like, But you can never leave!"

Eagles: Hotel California 1976

Various early stage databases 1995-



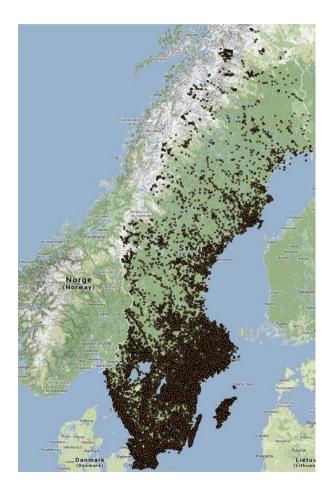
#### Svalan becomes Artportalen



- Coherent design
- Interface change
- Direct export limitations
- Delivers to GBIF
- Microsoft ASP.NET



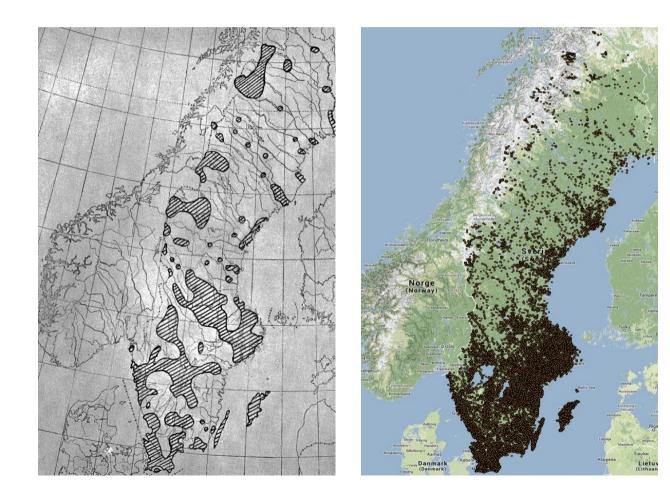
#### GBIF to the rescue



- All public sites from
   Artportalen
- All confidential sites from Artportalen
- All Butterfly monitoring sites
- Private moth traps
- > 39 000 unique sites

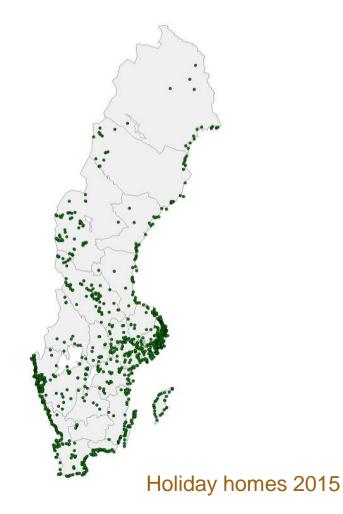


## Funny side-track: 1952 vs 2014





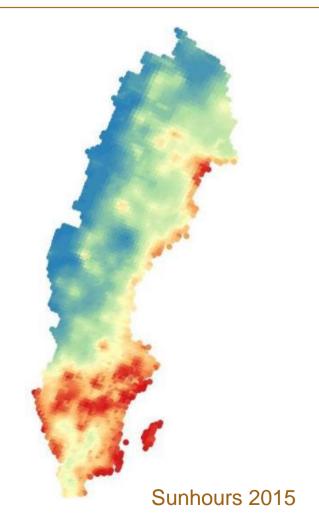
### More open data: make it all open!



• Statistics Sweden (SCB)



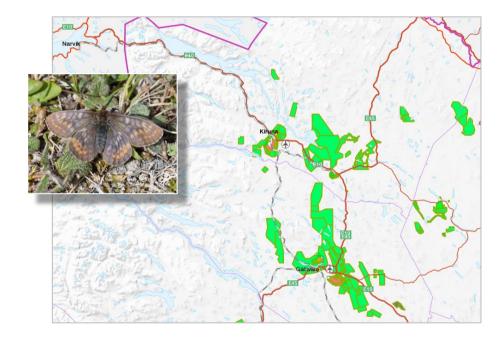
#### More open data: make it all open!



- Statistics Sweden (SCB)
- The Meteorological and Hydrological Institute (SMHI)



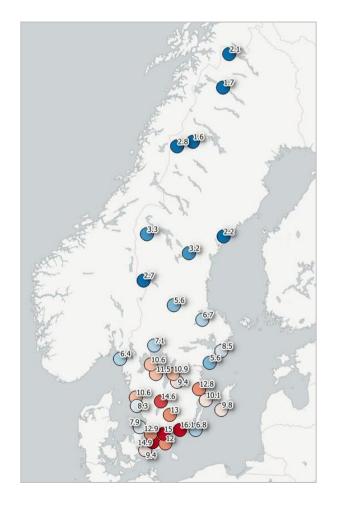
### More open data: make it all open!



- Statistics Sweden (SCB)
- The Meteorological and Hydrological Institute (SMHI)
- The Mining Inspectorate (Bergstaten, SGU)



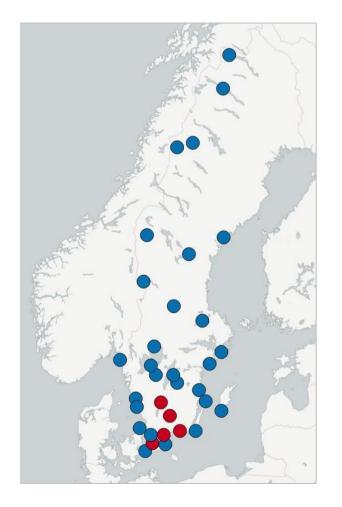
#### What you can do – butterfly weather forecast



- The Meteorological and Hydrological Institute (SMHI) open data
- BMS weather requirements
  - Sun
  - Warm enough
  - Calm enough
  - No rain
- Some R
- Some QGIS



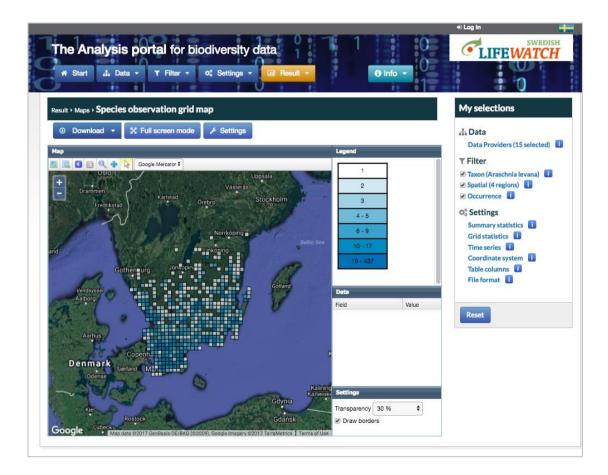
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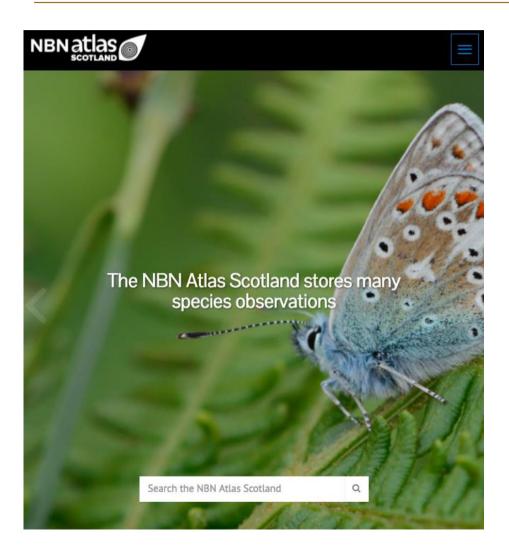
## Next step data delivery: Analysportalen



- Response to need
   for openness
- Analyses & data downloads
- Allows distributed databases



# Now: Joining the Atlas of Living Australia (ALA) ecosystem



- Scalable & modular
- Analysportalen migrating
- Open data
- Open source software
- Accessible via API
- GBIF integration
- Rapidly increasing



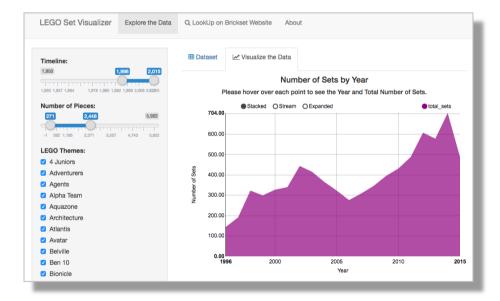
## The Swedish BMS



- Started with a local database
- Reporting via the website
- Migrates to open database
- Accessible via API
- Merging with parallel schemes
- Synchronising with eBMS and Bioatlas Sweden (ALA)



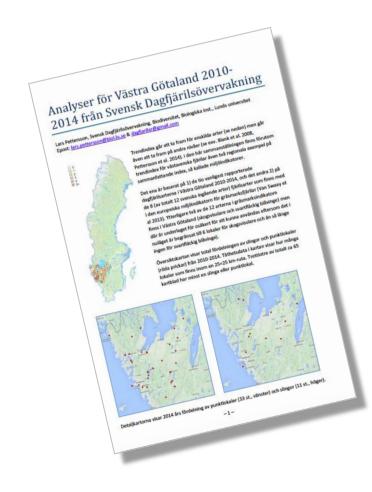
### What next?



- Novel approaches
- Web applications using Shiny & other tools
- Visualizations



### What next?



- Novel approaches
- Web applications using Shiny & other tools
- Visualizations
- Semi-automated
   reports

