

Spruce bark beetle (*Ips typographus*). Photo: Göran Liljeberg

Risk of more bark beetles in a warmer climate

A warmer climate will affect the development, reproduction and dispersal of insects. In an SNS-supported project, Anna Maria Jönsson and her colleagues investigated potential mechanisms behind inhibition of summer swarming, an important step towards modelling the risk of increased outbreaks of the spruce bark beetle (*Ips typographus*), a feared pest of Norway spruce.

The spruce bark beetle commonly produces one generation per year in Sweden and Norway, whilst the production of two generations in a year is common in Denmark.

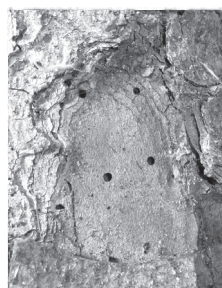
If temperatures are raised, swarming will occur earlier and the length of time from egg to mature bark beetle will be reduced. Modelling studies have demonstrated that a warmer climate could create opportunities for an additional

generation per year in Scandinavian countries.

Diapause

Reproductive diapause is an adaptive response aimed at avoiding reproduction at a time when a new generation would be unlikely to reach maturity before winter. The onset of reproductive diapause is triggered by day length, but also by temperature.

The goal of this pilot project was to improve modelling concepts by examining the effect of temperature and photoperiod on diapause behaviour of the bark beetle.



Signs of swarming
Photo: Mats Hannerz

The study parametrised an impact model with locally adapted thresholds for the day length requirement and temperature conditions that promote adaptive reproductive diapause. The modelling parameters were based on pheromone trap monitoring data from Denmark, Norway and Sweden.

Simulating reproductive diapause in a temperature driven model of bark beetle phenology enabled the assessment of the length of the late summer swarming period, which is an important determinant of the risk of forest damage in a warmer climate.

The results suggest that reproductive diapause will not restrict the occurrence of an additional generation per year, and global warming may, therefore, result in increased frequency of late summer swarming events across large parts of Scandinavia.

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The internet is foremost in the new SLU communication policy

The Swedish University of Agricultural Sciences has developed a new communication policy. The increased role of the web and the need for dialogue instead of one-way information transfer are two key elements. We asked Tina Zethraeus, head of information at SLU, to tell us more.

Why did you need a new communication strategy?

SLU has a long and effective tradition of research communication and contacts outside the university. However, we still needed a readily accessible platform from which to interact with the outside world. In addition, a recent evaluation has highlighted the need to market ourselves better.



Tina Zethraeus
Photo: Åsa Eriksson

What is the most important feature of the policy?

The most important and pleasing result was the consensus about the need for two-way communication. Dialogue is preferable to unidirectional communication.

The policy highlights the web. Why?

The role of the web is, perhaps, most pronounced in our communication with potential students. The internet helps us to communicate across a wide area, both nationally and internationally. We have a lively Facebook page and research blog, as well as postings on Twitter. The web is also the priority channel for communication among researchers.

The web offers opportunities to encourage broad public participation in research projects; for example posting species and phenological records. In addition to the web, we also offer stakeholders direct participation in research, as in the programs Future Forest and Future Agriculture

We are now changing the web tools we use, and are on track to benefit fully from the opportunities associated with features such as being able to post comments.

Who are the most important target groups for information from SLU?

Employees and students are prioritised – internal information takes precedence over external information! Potential students, research agencies and the agriculture and forestry sectors are other important target groups.

How should the scientists deliver their results to those who can make use of them?

We have recently established an Assistant Vice-Chancellor responsible for cooperation. About 20 researchers will be appointed to posts in which half their time will be spent in cooperation activities, involving the public and industry.

Has SLU succeeded in making itself visible within the communication flood?

The research findings are often used as a base for political decisions. Research has been widely reported in the media. Recently, a lot of articles about wolf and lynx have referred to our research. Topics such as organic farming, climate change and GMOs have appeared in the news over a longer period of time. One of our ambitions is to increase our presence in foreign media.



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The number of generations per year is greatly influenced by temperature conditions, but it is the brood tree availability that determines the reproductive success and, thus, the population size and risk of attacks on living trees.

Contact: Anna Maria Jönsson
(projectleader):

Anna_Maria.Jonsson@nateko.lu.se

Project: "The potential impact of climate change on spruce bark beetle populations in Scandinavian countries". It is a co-operation between Lund University (Sweden); University of Copenhagen (Denmark); Norwegian Forest and Landscape Institute; Forest & Landscape Denmark; SLU (Sweden)

Read more:

Jönsson, A.M., Harding, S., Barring, L., & Ravn, H.P. (2007) Impact of the climate change on the population dynamics of *Ips typographus* in southern Sweden. *Agricultural and Forest Meteorology*, 146, 70-81.

Apply now for SNS grants

June 30th 2010 is the last date for applications to SNS funds for network activities and research projects for 2011. SNS gives priority to applications where the Nordic synergy is clear and co-operation involves at least three Nordic countries, and, if possible, partners from adjacent areas.

The call for applications is announced on www.nordicforestresearch.org



Photo: Mats Hannerz

WHO IS PERNILLE KARLOG?

Born: 1956 in Copenhagen

Education: MSc in forestry

Experience: Teaching forest- and landscape engineers at the Danish Forestry College.

She was employed by the Danish Forest and Nature Agency for more than 20 years, mainly in the central administration in Copenhagen.

She has worked on dissemination, forest policy, law administration, monitoring, nature conservation and international cooperation.

Since 1999 she has been a member of the Committee of Senior Officials for Forestry, serving the Nordic Council of Ministers.

Pernille Karlog: SNS strengthens Nordic cooperation

Since January this year, Pernille Karlog has chaired the SNS board. She looks forward to stronger cooperation with partners such as EFINORD, but also to a strengthened collaboration with neighbouring countries both in the east and in the west. News and Views asked Pernille Karlog about her expectations for the coming four-year term.

What is the main role of SNS?

SNS has an important mission to promote Nordic research cooperation in sustainable and multifunctional forestry. The mission includes an obligation to support research synergy within the forestry sector. The many small and specialized research groups should be encouraged to cooperate in a wider context. Several tasks need a critical mass of researchers, and this critical mass may sometimes be difficult to achieve at a national level.

SNS has a stated ambition to create Nordic synergy within forest research, to promote the development of new research fields and to strengthen the role of the Nordic countries within

the European research community. Cooperation with EFI's new regional office EFINORD will play an important role in this.

Meanwhile, SNS has a key role to play in the dissemination of research and advising the Committee of Senior Officials for Forestry (EK-FJLS) and the Nordic Council of Ministers on questions concerning forests and forest research.

There are many multilateral organizations dealing with research, what is the role that justifies the existence of SNS?

In my eyes it is unique to have a cooperative body like SNS, which, over many years (since 1972), has managed to draw together and develop Nordic forest research. Regional cooperation leads to international activities; this is important for all participating countries and research institutions. Meanwhile, well-developed sector collaboration has become essential for participating in intersectoral activities.

Can we expect any changes during the next few years?

The organisation will adapt to new

conditions, both administratively and strategically. Focus will be on the newly established cooperation with EFINORD. Collaboration will also involve many other important partners, such as NordGen (the Nordic Genetic Resource Center), NKJ (The Nordic Joint Committee for Agricultural Research) and NEF (Nordic Energy Research). We also look forward to strengthening our links with neighbouring countries in the east (via the Baltic Sea Strategy) and west.

Will Danish hosting make any impression on the role of SNS?

SNS has already identified its priorities for the coming year, and will focus on research pertaining to forest and climate, increased biomass production, wood material science, protection of biological diversity, forest health and finally the social significance of forests and forestry. In addition, being hosted by Denmark will place emphasis on strengthened cooperation both at the European level and with western neighbours. With respect to the latter, Iceland, Greenland and the Faroe Islands will be important players.

EFINORD office established

"We are established but not yet well established", says Mika Mustonen after his first few weeks as the head of the new secretariat of EFINORD. "We will expand the staff and initiate new projects later this year."

The new regional office of the European Forest Institute will be formally inaugurated in November 2010. Before that, EFINORD will work hard to establish partnerships with regional and European organisations. Meanwhile, new projects will be initiated.

The office is located on the premises of Forest & Landscape Denmark, and shares some administrative facilities with the SNS office.

Both organisations support network collaboration, but EFINORD has a wider target area including countries outside the Nordic region. SNS is

more tied to the true Nordic research grouping and has its own budget for research projects. EFINORD, on the other hand, relies on research networks, in which research is funded by participating organizations.

"Concerted actions will be the most important tool initially", says Mika Mustonen. Concerted actions are research networks that get funding from the EU to pay for travelling and meetings. EFINORD will play a role in initiating such activities in important fields.

"The collaboration between EFINORD and SNS is beneficial for both organisations," says Mika Mustonen. "EFINORD provides a path for EFI to establish contacts within the Nordic research community. For SNS, cooperation will make it easier to gain access to EU funding."

ABOUT EFI REGIONAL OFFICES

EFI (the European Forest Institute) established its first regional office in Barcelona in 2007 (EFIMED). Since then, it has established offices in Bordeaux (EFIATLANTIC) and Freiburg/Nancy (EFICENT). In 2010, new offices were opened in Vienna (EFICEEC), Varazdin, Croatia (EFISEE) and Copenhagen (EFINORD).

The regional offices addresses forest research and networking at a regional level, according to the EFI strategy.

Mika Mustonen, head of EFINORD.
Photo: Mats Hannerz



New rector raises student recruitment

The University of Life Sciences (UMB) in Ås, Norway, has elected its new rector. Hans Fredrik Hoen is Professor of forest economics and planning, and, since 2003, has been the head of the Department of Ecology and Natural Resource Management. Professor Hoen is also member of the SNS board.

The new rector considers student recruitment to be the most important challenge for UMB.

- We must raise interest in our education programmes at UMB. This can be achieved by making UMB more visible within society in the areas where we have competence and credibility, says Hans Fredrik Hoen in a message on the UMB web site.

The rector of UMB is elected via an open competition, in which employees and students vote.

More information, including the campaign blogs, can be found on the university's web page: www.umb.no



Contact News & Views

Write to the scientific editor:
Mats Hannerz,
Silvinformation AB
mats.hannerz@silvinformation.se

More info about SNS:

www.nordicforestresearch.org

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- short
- relevant to the Journal
- interesting for the readers.

Examples: comments on papers published in the Journal, views on ongoing research, trends in research policy, opinions about forestry practice etc.

News & Views is edited by
Mats Hannerz, Silvinformation AB
mats.hannerz@silvinformation.se
and produced by
Carl Henrik Palmér. chp@areca.se