

The 12th Nordic Conference on Reindeer Research in Kiruna, 11-13 March 2002

Report by Birgitta Åhman

The 12th Nordic Conference on Reindeer Research gathered scientists, reindeer herders and others with interest in reindeer husbandry. The main topic was “Reindeer Grazing and Range Utilisation and Management”. Different aspects of this theme were discussed in lectures and poster presentations. In addition, several other topics related to reindeer and reindeer husbandry were presented and discussed in the poster sessions.

The conference was arranged by Nordic Council for Reindeer Research (NOR) in cooperation with SSR/Samiid Riikkasearvi, the Swedish University of Agricultural Sciences (SLU) and Svensk renforskarförening (the Swedish Association of Reindeer Scientists). Economical support was obtained from SSR, Svensk renforskarförening and Kiruna municipality. The Organisation and Scientific Program Committee consisted of Öje Danell (SLU), Birgitta Åhman (SLU), Rolf Egil Haugerud (NOR), Helene Larsson (SSR) and Ulrika Hannu (SSR). Assistants at the conference were students (PhD etc.) from SLU in Uppsala; Sabine Sampels, Anna Skarin, Henrik Lundkvist, Lars Rönnegård and Johanna Wallsten.

Totally 200 persons attended the conference, which is the highest number so far at a NOR conference. The majority of the participants were senior scientists and PhD students but administration and industry was also represented. It was pleasing that more than 50 reindeer herders, from 22 out of the 52 reindeer herding districts in Sweden, had responded to an invitation from SSR/Samiid Riikkasearvi by attending the conference.

Different aspects of the main theme “Reindeer Grazing and Range Utilisation and Management”, including management, land rights, grazing behaviour, biodiversity and climate variations, were presented in seven invited and three short lectures. Totally 45 posters were presented within the themes “Physiology and veterinary medicine”, “Pasture use and lichen conditions”, “Climate, weather and biological diversity and other themes” and “Productivity and management”. Six local projects were also displayed through posters, video-films and demonstrations. A panel discussion concluded the conference. A program and abstract book was published before the meeting, including abstracts in English (Rangifer

Report No. 6, 2002). Web pages from the conference are www.rangifer.no/eng/abstracts-2002-o.html and www.rangifer.no/eng/abstracts-2002-p.html (in Scandinavian www.rangifer.no/norge/abstracts-2002-o.html).

The conference was opened by the chairman of NOR, Öje Danell, and Per-Gustav Idivuoma, chairman of SSR.

Lectures 12 March:

Session leader *Birgitta Åhman*, SLU

Bror Saitton, Professional Adviser, Sami Parliament, Sweden (invited) - “Betessituationen i Sapmi - historisk utveckling och kunskapsbehov” / Reindeer grazing in Sapmi, historical development and needs for knowledge.

Martin Vavra, Range Scientist, Professor at Oregon State University, USA (invited) - “Contemporary issues in range livestock management”.

Session leader *Roger Pedersen*, Norwegian Reindeer Husbandry Administration

Jan-Åge Riseb, Senior Researcher, NORUT Social Science Ltd., Tromsø, Norway (invited) - “Beitetilstand - resultat av økologi eller menneskelig handling?” / Condition of pastures - an effect of ecology or human acting?

Session leader *Mauri Nieminen*, Finnish Game and Fisheries Research Institute (RKTL)

Eldar Gaare, Senior Researcher, Norwegian Institute of Nature Research, Trondheim - “Hvem sier reinen eter lav?” / Who say the reindeer eats lichens?

Jarno Mikkola, Researcher, University of Oulu, Finland - “Eri maankäyttömuotojen vaikutus porolaidunten määrään laatuun ja saavutettavuuteen Suomen Lapissa” / Effect of various land use on quantity, quality and accessibility of reindeer pastures in northern Finland.

Peter Aastrup, Senior Adviser, National Environmental Research Institute, Denmark - “Kortlægning af vegetation i Vestgrønlandske rensdyrområder” / Vegetation mapping of Westgreenland caribou ranges.

Session leader *Rolf Egil Haugerud*, NOR

Marie Hagsgård, Associate Appeal-court Judge, Court of Appeal for Western Sweden (invited) - “Rätten att nyttja betet” / The right to grazing land.

Lectures 13 March:

Session leader *Lena Ruuth Jonsson*, SSR

Roger Bergström, Associate Professor, Swedish Uni-

versity of Agricultural Sciences (SLU), Uppsala (invited) - "Renens betesmönster på olika skalor"/ Reindeer grazing patterns on various scales.

Jon Moen, Associate Professor, University of Umeå, Sweden (invited) - "Renbete och biologisk mångfald" / Reindeer grazing and biodiversity.

Session leader *Ulrika Hannu*, SSR

Timo Helle, Associate Professor, Finnish Forest Research Institute, Rovaniemi (invited) - "Klimatvariationer och renbete" / Climate variations and reindeer grazing.

Panel discussion:

Finland, Sweden and Norway were represented with two persons each in the panel, one researcher and one person representing reindeer husbandry or administration.

Chairman *Anders Esselin*, SLU, Sweden

Panel: *Jouko Kumpula* (Finland), *Matti Särkelä* (Finland), *Öje Danell* (Sweden), *Bror Saitton* (Sweden), *Roger Pedersen* (Norway), *Øystein Holand* (Norway).

List of posters:

Physiology and veterinary medicine (11 posters)

Hallvard Gjøsstein, *Øystein Holand*, *Tore Bolstad* & *Knut Hove*. Lactation curves and milk storage capacity in reindeer udder.

Roger Kimo Jørgensen & *Morten Tryland*. Paratuberculosis in farmed red deer.

Nicole Kemper, *Ansgar Aschfalk*, *Mauri Nieminen* & *Christiane Höller*. Examination for occurrence of important enteropathogenic bacteria and parasites (*Cryptosporidium*) in faeces from healthy reindeer calves.

Stéphanie C. Lefrère, *Jouko Kumpula* & *Mauri Nieminen*. Hierarchy evolution and diurnal activities of female Reindeer (*Rangifer tarandus tarandus* L.) in winter time.

Antti Oksanen. Cervid echinococcosis in Fennoscandia.

Jani Rytönen, *Kaija Valkonen*, *Tapani Alatossava* & *Mauri Nieminen*. Characterization of betalactoglobulin from reindeer milk.

Sabine Sampels, *Jana Pickova* & *Eva Wiklund*. Fatty acid composition and levels of vitamins E and A in fresh and smoked reindeer meat.

Morten Tryland, *Øivind Ødegaard*, *Terje Josefsen*, *Karen Sørensen*, *Torill Mørk*, *Rolf Sarre*, *Herdís Gaup Aamot* & *Kathrine Ryeng*. Virus infections among semi-domesticated reindeer in Finnmark, Norway.

Seija Vabtiala, *Hannele Säkkinen*, *Eija Eloranta*, & *Erik Ropstad*. Ultrasonography in pregnancy diagnosis and measurements of fetal growth of reindeer.

Eva Wiklund, *Ingemar Hansson* & *Birgitta Åbman*. Sen-

sory quality of meat from reindeer bulls, cows and calves.

Erik Ågren, *Birgitta Essén-Gustavsson* & *Kristina Karlström*. Prevalence of *Sarcocystis* in reindeer calves.

Pasture use and lichen conditions (14 posters)

Elisabeth J. Cooper. Climate change effects on forage lichen growth.

Elisabeth J. Cooper. Reindeer presence and lichen growth on Svalbard.

Trine M. Heggberget, *Eldar Gaare* & *Per Jordbøy*. Reindeer foraging in snow.

Berit Inga. Traditional knowledge on the use of landscape by the reindeer among Sami in northern Sweden.

Lotta Jaakkola, *Timo Helle* & *Eero Mattila*. Beard lichen resources in the planning of multiple objective forestry.

Bernt Johansen & *Stein Rune Karlsen*. Finnmarksvidda – changes in lichen cover 1987-2000.

Heidi Kitti & *Timo Kumpula*. Classification of reindeer pastures: Mapping based on Traditional Ecological Knowledge (TEK) and remote sensing based pasture mapping.

Jouko Kumpula, *Stéphanie C. Lefrère* & *Mauri Nieminen*. Digging work of reindeer in woodland lichen pasture during winter.

Timo Kumpula, *Angela Manderscheid* & *Alfred Colpaert*. Evidence of different pasture use from satellite images: Cases from Lapland and the Tibetan plateau.

Roger Malm, *Jon Moen* & *Öje Danell*. Non-destructive measurements of lichen biomass.

Mauri Nieminen, *Jouko Kumpula* & *Alfred Colpaert*. Winter pasture resources of wild forest reindeer (*Rangifer tarandus fennicus*) in Salamajärvi area in central Finland.

Ingunn Vistnes, *Christian Nellemann*, *Per Jordbøy* & *Olav Strand*. Infrastructure as barriers to wild reindeer migration.

Johanna Wallsten, *Birgitta Åbman* & *Öje Danell*. Time integrated digestibility of grass silage and lichens in reindeer rumen fluid.

Erik Wilhelmsson, *Miriam Nordb* & *Öje Danell*. Reindeer grazing adapted to coming clearcuts.

Climate, weather and biological diversity and other themes (8 posters)

Halgrim Breie, *Øystein Holand* & *Robert B. Weladji*. Effects of the North Atlantic Oscillation on reindeer (*Rangifer tarandus*) body weights in three Sami herding districts in southern Norway.

Anu Brunila-Kovanen. The effects of changes in lichen coverage and of microclimatic features of soil on growth of pine in the reindeer husbandry area in the Finnish Lapland.

Jon Moen, Lars Edenius & Karin Aune. Potential effects of climate change on tree-line position in the Swedish mountains.

Anna Skarin, Öje Danell, Roger Bergström & Jon Moen. The influence of weather on reindeer habitat choice on the landscape level.

Päivi Soppela, Minna Turunen, Ulla Heiskari, Bruce Forbes, Pekka Aikio, Hannu Magga, Marja-Liisa Sutinen, Birgitta Åbman, Timo Helle, Mauri Nieminen, Esko Kyrö, Kaisa Lakkala, Satu Huttunen & Christian Ublig. Reindeer summer pastures and ultraviolet (UV) radiation: A research proposal.

Christian Ublig, Tore E. Sveistrup & Ivar Schjelderup. Impacts of reindeer grazing on soil properties on Finnmarksvidda, northern Norway.

Ragnbild Walde & Kari Anne Bråtben. Plant biomass and flowering in relation to weather in reindeer summer pastures.

Robert B. Weladji, Øystein Holand & Ansgar Kosmo. Phenotypic variation among reindeer calf cohorts is affected by density and weather.

Productivity and management (12 posters)

Benjamin Burkhard & Felix Müller. Development of a general indicator concept for reindeer management.

Ann-Marie Karlsson. Decision making in reindeer herding.

Jorma Kemppainen, Jubani Kettunen & Mauri Nieminen. Economic utilization of reindeer.

Veikko Maijala, Harri Norberg, Jouko Kumpula & Mauri Nieminen. Study on calf production in the Finnish reindeer herding area.

Veikko Maijala et al. Reindeer husbandry and Rovaniemi Polytechnic School.

Jarno Mikkola, Virve Väisänen, Alfred Colpaert, Jouko Kumpula, Marja Anttonen, Mauri Nieminen & Olavi Heikkinen. Modelling spatial interaction and conflicts between reindeer husbandry and other use of natural resources.

Erling Moxnes, Öje Danell, Eldar Gaare & Jouko Kumpula. Reindeer husbandry: A practical decision-tool for adaptation of herds to rangelands.

Lars Rönnegård, Pär Forslund & Öje Danell. Life-time patterns in adult female weight, reproduction and offspring weight in semi-domesticated reindeer.

Per Sandström, Leif Hemberg & Tina Granqvist Pablén. Project "Renbruksplan" in the county of Västerbotten.

Virve Väisänen, Jarno Mikkola, Alfred Colpaert, Jouko Kumpula, Mauri Nieminen & Olavi Heikkinen. Spatial interactions between reindeer husbandry and other forms of land use.

Robert B. Weladji, Øystein Holand, Geir Steinheim & Helge Hansen. Effect of "owners" selection strategies on autumn calf weight in reindeer (*Rangifer tarandus*).

Tomas Willebrand, Öje Danell & Anders Esselin. The Swedish Mountain-MISTRA programme – interdisciplinary research around resource use conflicts.

List of other presented projects

Samiskt utvecklingscentrum (Sami Development Centre) - SSR, Anders Stoor.

Skolprojekt "Renen" (School project "The Reindeer") - Raketskolan i Kiruna, Jan Unga.

Rennäringens markanvändning (database for reindeer husbandry land-use) / Länsstyrelsen Norrbottens län, Sara Nilsson.

Renmärkesregistret (Reindeer ear-mark database) - Länsstyrelsen Norrbottens län (County administration in Norrbotten), Gunilla Nyberg.

SameNet - Samernas Utbildningscentrum, Per-Jonas Parffa.

Finska rennäringens rådgivningssidor på data (The Finnish Reindeer Husbandry Webpage) - Paliskuntain yhdistys, Matti Särkälä.