

HUMANS, TICKS & INSECTS IN MULTISPECIES NETWORKS

Abstracts

Epidemic encounters: Mingling with mosquitoes in Réunion and Mauritius

Karine Aasgaard Jansen, PhD Senior Researcher, Chr. Michelsen Institute, Bergen, Norway

While the small island developing states (SIDS) of Réunion and Mauritius in the Indian Ocean have small populations, they are nevertheless some of the world's most densely populated. This is particularly the case in impoverished areas where residents not only share a close-knit environment with each other, but also with the *Aedes* mosquito. The *Aedes* is a carrier of diseases such as dengue and chikungunya, and between 2005 and 2007 about 30 per cent of the islands' total populations were infected with chikungunya during an epidemic outbreak.

The *Aedes* thrives in artificial reservoirs created by urban spaces such as gardens, backyards, or wastelands, which in turn facilitate the spread of the disease. As a result, public health policies advocate for the destruction of mosquito breeding grounds despite residents' various uses of such spaces. This paper, based on longitudinal ethnographic fieldwork, draws on multispecies ethnography to discuss how the entangling of human lives with those of mosquitoes affects the diffusion and understanding of vectorborne diseases such as chikungunya in Réunion and Mauritius. Challenged by public health policies, residents in the islands often question the biomedical aetiology of chikungunya because it threatens to negatively impact their familiar surroundings and interactions with their environment. While public health discourse conceives of risk of arboviral diseases in terms of proximity and exposure, I argue that risk also comes in form of the body's mingling with mosquitoes. So-called epidemic encounters reflect as such a set of ongoing relations among species, objects and spaces that entail more than just efforts to get rid of mosquitoes.

Pointing towards a coming research project application on the entanglements between epidemic and environmental emergence in SIDS, the objective is to explore and discuss what kind of new knowledge about epidemics a focus on multispecies networks rather than disease exposure allows for.

Economic Entomology and the Anthropomorphization of Insects, c. 1865-1930

Sophie J. FitzMaurice, PhD candidate, Department of History, University of California, Berkeley

My paper addresses the relationship between the science of economic entomology and anthropomorphic ideas about the moral worth of insects and birds in the nineteenth and early twentieth centuries. While my paper focuses on the United States, economic entomology was practiced throughout Western Europe, and was supported by a transnational network of scientific journals and correspondence.

From the mid-nineteenth to early-twentieth century United States, the sciences of economic entomology and economic ornithology developed in concert, as state governments, agricultural experts, biologists, and farmers sought to eliminate “injurious” insects (those that ate crops) and to increase the population of “beneficial” birds (those that ate “injurious” insects). This was institutionalized in the United States Department of Agriculture’s Division of Economic Ornithology and Mammalogy. The method of assessing which bird species were beneficial and which were injurious was the stomach examination: birds were killed, their stomachs removed, and the contents examined under a microscope to determine the insect content of their diets. While economic entomology and ornithology were ostensibly objective sciences, they were in fact imbued with moral language about species’ inherent worth – a language which often reflected the theological origins of ideas about the “balance of nature.”

Determinations about the economic and moral value of species were used to make recommendations to farmers and horticulturalists about poisoning, species eradication, and other forms of bio-management. It informed efforts at multispecies ecosystem management. Insectivorous birds were a unique category of protection under the Migratory Bird Treaty Act of 1918 (even when they were non-migratory). But these determinations also inflected the wider discourse about insects, creating assumptions about the “morality” of species that persisted beyond the particular economic context in which these judgements were originally made. As a consequence, our language and culture have become saturated with prejudicial notions about particular insect and bird species based on an outdated, bunk science.

Reconfiguring aggression: Living with awkward wasps

*Minna Santaoja, HT, Dr, Tulevaisuuden tutkimuskeskus (Tampere) / Finland futures research centre
Turun yliopisto, kauppakorkeakoulu / University of Turku, School of economics*

Wasps have a long history of being thought of as mean creatures who sting out of sheer evilness. This image is still circulated, for instance, in social media memes where 'aggressive' and 'useless' wasps are compared to fluffy bees. The dislike of wasps has been reflected in low (ecological) research interest in them compared to other insects. Nevertheless, research has shown the ecological importance of wasps, e.g., in keeping 'pests' at check and in pollination. Recent results show that climate change affects wasp populations in ways that are likely to increase human-wasp interactions. The situation calls for strategies for multispecies cohabitation.

In the media, the central narrative regarding wasps has been how they are pestering people peacefully enjoying summer. However, media has also provided information on why wasps are attracted to human tables, i.e., on the ecology of wasps. Simultaneously, the 'insect apocalypse' narrative has increased concern over insects in general. Increased understanding of the ecological roles of insects may extend the concern to wasps as well. The concern, however, is anthropocentric, as it builds on the 'ecosystem services' provided by wasps. Yet, another narrative can be found in the media: the existential crisis of worker wasps idle in the late summer as there are no more larvae to care for. The narrative of wasps in an existential crisis allows a different understanding of 'aggressivity.' It facilitates empathizing with wasps, seeing the (anthropomorphic) similarity despite differences.

Human strategies for living with wasps can be categorized into three: killing (e.g., use of pesticides), inviting to relocate (providing food for wasps away from the dinner table), and giving space through territorial negotiations (adjusting human behavior, repelling wasps). The different strategies configure aggression differently. Curious territorial negotiations may provide opportunities for disarming aggression as a necessary move in a multispecies world.

Literary Evocations of Insect Soundscapes: Temporal or Timeless?

Tekla Babyak, PhD, Musicology, Cornell University (2014), Independent Scholar, Davis, CA, Disability Activist with Multiple Sclerosis

How do literary works depict the affects and temporalities of the sonic worlds of insects? This paper offers a comparative reading of literary texts that portray insect soundscapes in terms of ritual, cyclic, and seasonal temporalities.

Johann Wolfgang von Goethe's play *Faust* (1808) contains a carnivalesque interlude, "Walpurgis Night," in which an insect orchestra performs for fairies and spirits. This orchestra--which includes flies, mosquitoes, and crickets--is an ephemeral ensemble that only exists on the Walpurgis Night. The conductor expresses irritation about their limitations as performers: "Snout of fly, mosquito nose, damnable amateurs!"

In contrast to this depiction of insect music as fleeting and amateurish, we encounter an eternal soundscape of insect harmonies in John Keats's poem "On the Grasshopper and Cricket" (1816). For Keats, "the poetry of earth is never dead," for the grasshopper sings all summer and the cricket takes up the same song in the winter. Keats seems to be imagining a form of collaboration between the two species in which they work together to produce an unbroken song.

To a greater extent than either Keats or Goethe, the writings of Marcel Proust offer a seasonal conception of insect song. Thus, in Proust's novel *Swann's Way* (1912), the "flies who performed for my benefit" create what he calls "the chamber music of summer" which is "bound to the season." Proust thus draws an implicit opposition between the year-round time of human beings and the seasonal time of the flies. However, as Steven Connor (2006) has eloquently observed, Proust also implies that flies have the "power to preserve and restore the essence of the past" (Connor, *Fly*, p. 177).

Having read insect soundscapes across the three texts cited above, I will conclude that insect music is often figured as entangled with seasonal cycles and ritual events.

Apifilia and bees in visual arts – from symbolic representations to interspecies cooperation

Kaisa Illukka, Master of Arts (MA), Degree programme of Art Education, Aalto University, School of Art, Design and Architecture

Images of bees have been found already in ancient rock paintings: honey producers have been important enough to be portrayed. In old art the bee has usually had symbolic functions. In contemporary art, the bee, like other animal species, no longer appears only as a symbol or a “visually interesting” representation. The development of science and technology has made it possible to new forms of bee art for example in bioart. Posthumanist artistic thinking is interested in various interspecies interactions with the bee.

My art project *Apifilia* started in 2016 and continues every summer during the pollination season. In April–September, I follow the Anthophila in their work, I photograph and embroider the insect and plant of this event. I also explore the area from a pollinator perspective. I fill a large canvas with flower–bee portraits.

Slow craft in nature is a durational meditation performance. Slowness, precision, and working with the needle are equated with natural time, with the stinging animals and the precise ability of bees to create. My objective has been to embroider 5–20 pairs of bees and flowers in each location, depending on the time available.

Apifilia is a site-specific project, meaning that the selected sites have their own cultural-ecological significance. With a stage designer background, I am interested in the habitats of other organisms as my performance spaces. At the same time, flowers and bees are my co-workers, whom I hope viewers will notice alongside the human performer. Insects can also be thought of as my viewers because the colours of the flowers I embroider seem to appeal to some of them. Underlying, the project is concern about bee loss and the loss of a previously rich cultural bee connection.

Multi-species Hospitality and Non-human Writing: Dance of Agency in Zhu Yingchun's *The Language of Bugs*

Olli Pyyhtinen Associate Professor, New Social Research Programme, Faculty of Social Sciences, Tampere University

Jirka Vierimaa, PhD candidate New Social Research Programme, Faculty of Social Sciences, Tampere University

In the presentation, we propose a non-human take on writing, exploring where and when does writing begin. We engage with the book *The Language of Bugs* (2018) by Chinese book designer and artist Zhu Yingchun to problematise the conventional anthropocentric understanding of writing and also to counter the privileged position given to speech, language, and meanings over the materiality of writing. Not a single line in *The Language of Bugs* is written by humans. The entire book – even the catalogue, the preface, the annotation, and the page numbers – is made by bugs. We examine bug writing as a special case of 'asemic' writing, that is, writing which conveys no meaning. In the presentation, drawing inspiration from philosopher Jacques Derrida and anthropologist Tim Ingold, we attend to the non-phonemic, material, and performative aspects of writing by considering writing in terms of *traces and lines*. The lines of bug writing do not speak. They communicate nothing but their own nature as writing. Ultimately, investigating into how the bug writing displayed by *The Language of Bugs* came to be in the first place opens a perspective onto *multi-species hospitality*. While keeping bugs at bay or killing them tends to be an integral part of gardening, Zhu Yingchun deliberately made his garden welcoming for bugs to arrive and generate writing by crawling through 'ink ponds' of vegetable juices. The hospitable act of welcoming the insect other created a space for non-human writing which ultimately had the book as its result. We suggest that the writing bugs appear as 'untidy guests', the thinking of which may help disrupt some of the ontological presumptions of the prevailing understanding of hospitality and imagine alternative arrangements of hospitalities.

Fly Eyes and Insect Vision in the Turn of the 20th Century: From Scientific Curiosity to Compound Menace

Concepción Cortés Zulueta, Universidad de Málaga, Spain

In the last decades, insect populations have been in constant decline around the globe. The causes are varied: climate change, habitat loss, pesticides, pollution... Other reasons are rooted in misconceptions about the potential menace of these creatures towards human beings. Misconceptions that, in the early decades of the 20th century, were promoted through certain sensory and sensational representations of the compound eyes of insects, in the form of photographic and filmic mosaics of several rows of hexagonal tesserae. These intended to portray how insects supposedly saw the world, coinciding with “kill the fly!” campaigns that had transformed flies from a harmless domestic companion into nasty emissaries of death and sickness that had to be exterminated.

In the process, scientific and enlarged images of the compound eyes of insects became a curiosity, and were later invested with negative emotions like fear, or anger. First, those scientific and microscopic images were taken on by lanternists and magic lantern’s slides, capturing the audience’s imagination. Then came the early cinema and the documentary shorts with an educational aim, which also attempted to portray flies’ eyes and vision, encountering an unexpected and massive success as global heralds of the anti-fly campaigns. Finally, the narratives and conventions of these educational films — including the erroneous image of the multiplying hexagonal mosaic as an illustration of fly and insect compound vision— were inherited by horror or sci-films. And, at some point, those images became embodied and widespread knowledge about how flies supposedly see, and about how we, humans, supposedly did to.

Consequently, through cinema, both the misleading and mistaken convention of mosaic insect vision together with the cliché of insects as monstrous others became globally widespread. Thus, considering the current plight of insects, it is crucial to expose these misconceptions on insect vision and menace, as well as their implications.

For the love of bees: pollinator education & placemaking in Australia's urban environment

Tyler King, Alfred Deakin Institute for Citizenship and Globalisation, Melbourne

Bees are vital for the reproduction of flowering plants, and many of us are familiar with the European honeybee *Apis mellifera* producing honey and pollinating agricultural crops. However, many of our wild or native bees are often overlooked by the general public, with European honeybees dominating media narratives around species loss and decline. Although parasites and disease do negatively affect honeybee populations, they are globally increasing in numbers worldwide as an agricultural species.

Playing an important role within the natural world, there are over 20,000 species of native bees on Earth, many of which have important evolutionary relationships with endemic plants and local ecosystems. Numerous bee species have also been forced to find refuge within urban environments due to land clearing and monocultural crops reducing diversity in food sources and natural habitats.

My focus in this workshop will address how local residents in urban environments create spaces to be more native bee friendly. Specifically, I will explore how education around native bees influences practices such as plant selection and habitat creation. My contribution moves beyond the dominate focus of honeybees as the species that should be 'saved' and argues for a more inclusive approach towards native bees and other wild pollinators.

In conclusion, this paper, by closely examining gardening practices, sheds light on the multispecies relationships that can be cultivated within urban environments.

Mosquitoes as a matter of care and concern. The ontological politics of a global health intervention

Marianne Mäkelin, Doctoral Researcher, University of Helsinki

Using genetic modification to alter existing insect populations to combat vector-borne diseases such as malaria or Zika is a strategy that has attracted rising interest in disease vector control during recent years. The paper examines one such intervention in development, of *Anopheles* mosquitoes equipped with so called gene drives as a tool for malaria control in sub-Saharan Africa.

Drawing from interviews and observations with researchers developing gene drive mosquitoes as well as from theoretical approaches in science and technology studies and multispecies studies, the paper places the gene drive mosquito as a technology amid histories of knowing and caring about insects in global health. The role of disease vector species in tropical ecosystems has been a significant interest shaping entomology, while insects as model species have been constitutive to the development of genetics as a field. The paper traces how gene drive mosquitoes emerge from this background as an object of knowledge and as a matter of care and concern. It explores how the mosquitoes are made to model and carry with them particular ways of enacting, thinking about and regulating both global health policies and environmental interventions.

Making urban insects visible

*Ferne Edwards, Postdoctoral Fellow - Socially and Environmentally Just Transitions
Department of Design, NTNU*

In recent years calls to 'make visible' often hidden nonhuman natures in cities are becoming more pronounced. One such animal actor whose presence has been largely ignored is the urban insect, representing a plethora of 'creepy crawlies' that include bugs, spiders, bees, moths and more. From this broad selection that numbers more than 900 thousand species across the world, only two have become widely popular and celebrated: the European honey bee for their pollination (and its crisis of), and the Monarch butterfly for their migratory flight and beauty. But what of the others? How are largely absent urban insect knowledges and agencies being noted, framed and communicated by their human hosts? Concerns for insect invisibility is further escalated by claims of an 'insect Armageddon' hitting headlines in 2018 (McKie 2018), where they run risk of departing from more than merely the public imagination.

This paper examines the invisibility of urban insects and a range of attempts to 'see' them. Examples include an examination of the growing literature from Raffles 'Insectopedia' (2010) to Gandy's fascination with moths (2016), to citizen science events such as 'bioblitzes', public awareness raising festivals such as 'Pestival', and the cultivation of insect friendly urban landscapes such as pollinator pathways. This chapter highlights how by 'making visible' urban nonhumans – both large and small – we are encouraged to see beyond cities as human-centric, and beyond insects as 'unpleasant', to reconsider human/nonhuman relationships while opening up experiences and interpretations in our own houses and backyards to new worlds of voluminous detail and enchantment.

Using the Fantastic to Rethink Humanity's Relationship To Insects In Johanna Sinisalo's *The Blood Of Angels* and Kathleen Ann Goonan's Nanotech Quartet

Jonathan Thornton, PhD student in English at the University of Liverpool

One of the most powerful things Fantasy and the Fantastic can do is show us the familiar world around us through a fresh and different perspective. Insects frequently evoke fear and disgust in humans. In *Insect Poetics* (2016) Charlotte Sleight casts insects as "zoology's Other, the definitive organisms of différance." However, given the devastating loss of insect diversity and its projected effects on the Earth's ecosystems, plus the destruction already witnessed in Australia over the past few years due to climate change, changing our perspective towards insects and our other nonhuman kin who make us uncomfortable seems more important than ever. In 'Tentacular Thinking' (2016), Haraway argues that in order to survive human-led destruction of our environment, we need to reject anthropocentric viewpoints and embrace our nonhuman kin. I am interested in the role that Fantasy fiction and the fantastic can play in this process of reorientation. In Johanna Sinisalo's *The Blood Of Angels* (2011, translated by Lola M Rogers 2014), bees act as portals between our world and a pristine world unsullied by anthropogenic environmental destruction. In Kathleen Ann Goonan's *Nanotech Quartet* (1994-2002), the cyborg-insect hybrid Bees literally embody human thought, physically transporting pheromone-encoded messages between the posthuman inhabitants of the Flower Cities. Whilst Sinisalo's novel draws on European folklore and mythology surrounding bees, and Goonan's series draws on biological and cybernetic speculation, both works show how the Fantastic can be used to reimagine and reconceptualise anthropocentric paradigms in human/nonhuman relations.

Insects and affective aesthetics in wildlife documentary moving image

Heidi Mikkola, Tohtorikoulutettava, Mediatutkimus, Turun yliopisto

We are drawn to the (moving) images of animals, whether narrative story lines of wildlife films or short and cute cat videos on YouTube. However, most of these images represent furry mammals or mega fauna like elephants and whales. The viewers are attached to the images of animals through affects like empathy and wonder. However, we do not consider insects to be cute or easily to be identified with, rather they can evoke affects like repulsion and fear. Insects are often represented without much subjectivity or simply as food for other animals. Still, this lack of empathy and difficulty of making affective narratives about insects, gives potential to rethink our relations with nonhuman others. Moving images have world-making capabilities producing the imaginaries of nonhuman worlds, like different scales of insects' lives. These affective images bring forth openings beyond human perception with the help of technology. The viewer is taken to the grass root, where small becomes big and human centered time and scales change. In the paper, I will explore wildlife films with insects and the aesthetic and technological potentialities of the moving image to relate with nonhuman others. While visualising and narrativising insects' life, the anthropocentric scale is not enough and perceptions beyond human are needed. Are there potentialities to rethink subjectivity beyond anthropocentrism in the images of insects?

In fear of ticks: Austrian vaccination campaigns against tick-borne encephalitis in the 1970s-1980s

Anna Mazanik, Ph.D. Institute for the Ethics and History of Medicine Medical University of Vienna

Nowadays vaccination is considered the best protection against tick-borne encephalitis (TBE). Current recommendations and position documents by the WHO, ECDC or national regulators often reference the Austrian experience. In Austria, nationwide TBE immunization campaigns have been going on for four decades and by the early 2000s more than 85% of its population has been vaccinated against TBE. No other country in the world has shown comparable rates of mobilization.

In today's public and medical narrative in Austria, this success of TBE vaccination is interpreted as the "correct" and "logical" choice. However, historically, this success appears much more contingent. In the 1970s and 1980s TBE was a rare disease, and its reported morbidity in Central Europe started to rise sharply only in the 1990s. The vaccine was very new, controversial and poorly studied even by contemporary standards. Furthermore, it was expensive and not covered by insurance.

My paper focuses on the first decades of TBE vaccination in Austria. By studying the internal documentation of the Ministry of Public Health and Environment, the expert discussions as well as letters from lay citizens to the Ministry demanding free vaccination, I explore the various factors that contributed to the fear of TBE and the interest in the vaccine: scientific authority and national pride, the changing human interactions with the environment, the rise of tourism and leisure sports, the aversion to blood-sucking animals and its successful mobilization and amplification in the marketing campaigns by pharmacological industry. This paper is a part of my larger ongoing research project on the history of tick-borne encephalitis in the Soviet Union and Austria.

“Bees moved to a farmstead are less useful than one would wish”: the governmental policy on forest beekeeping in the Russian Empire in the eighteenth and nineteenth centuries

*Anastasia Fedotova**, *Marina Loskutova***, **St Petersburg Branch of the Institute for the History of Science and Technology, Russian Academy of Science, St Petersburg*, ***National Research University Higher School of Economics, St. Petersburg*

Based on published and archival sources, we consider the transformations in Russian legislation and administrative policies on forest beekeeping (harvesting honey from owned or tended nests in forests) in the eighteenth and nineteenth centuries. It demonstrates how in the course of the eighteenth century, the ownership of bee nests started violating the concept of absolute private property over forests, which was increasingly incompatible with the rights of other individuals to exploit natural resources on the same territory. From the early decades of the nineteenth century, borders were gradually demarcated between forested areas belonging to the state and private owners, and between the state forests and those designated for the use of state peasants. This process made possible to exercise the concept of absolute private property over forests in practice. These changes in legislation and the forest cadastre were closely linked to the making of ‘forestry science’ that developed in the late eighteenth century under the influence of a growing demand for timber needed for the navies and merchant fleets of all European states. The precepts of ‘forestry science’ were dictated by its objective to maximise profits by focusing on the production of commercially valuable sorts of timber. By the early nineteenth century, this logic prompted the forest administration of the Russian empire to start contemplating measures that would obstruct any alternative forms of forest exploitation, such as harvesting honey from tended trees. The paper considers in details the tightening of administrative regulations in this area, as imposed by the Ministry of State Domains that reached its peak in the Great Reforms era, and analyses the mechanisms that translated these general causes at work into specific policies.

Aphids, from agricultural pests to instruments in early twentieth-century plant virus research

João Joaquim, PhD candidate in History and Philosophy of Science at the University of Cambridge (UK)

As Kenneth M. Smith, an entomologist turned early plant virus researcher, put it: “[Aphids] are sluggish, slow-moving creatures, but are exceedingly prolific and constitute some of the worst insect pests of plants.” In fact, by the 1920s these minute sap-sucking insects had been identified as one of the most notorious vectors of plant viruses, compounding their already significant impact on crop health and agricultural productivity.

The realisation that the unassuming but omnipresent aphids were vectors of plant pathogens led to an increasing interest in their study. Hardy, prolific and unfussy eaters, aphids proved ideally adapted to the laboratories and glasshouses of virus researchers. At a time when the knowledge about viruses was fundamentally based upon the observation of their hosts’ disease symptoms and the study of their means of transmission, aphids became more than mere pests to be controlled, they were an essential instrument used in the study of plant viruses. This presentation focuses on the research developed by Kenneth M. Smith at the glasshouses of the Cambridge-based Potato Virus Research Station throughout the 1920s and 1930s, where the complex multi-species biological interactions between aphids, plants and viruses were deployed in the development of a trailblazing method of virus isolation.

“If rats have a hand in the matter, we may as well capitulate at once”: The Bombay Plague Epidemic in Multispecies Perspective, 1896-1920

Emily Webster, PhD, MSc Research Associat, School of History, University College Dublin

The Bombay plague epidemic is estimated to have killed over 180,000 people in the city from its arrival in 1896 to its eventual disappearance in the 1930s. While historians focus overwhelmingly on these deaths in their analysis, sources indicate that there were other residents of the city who suffered; that there was not one epidemic, but many nested epidemics. Scientific reports produced through the imperial government in Bombay showed millions of deaths, colony collapse, and significant behavioral changes among both *Rattus norvegicus* and *Rattus rattus* as they became infected with *Yersinia pestis*. Their epidemic was the result of another among *Xenopsylla cheopis*, or rat fleas, as the bacteria filled their stomachs with a biofilm and slowly starved them to death.

The highly visible human epidemic of plague resulted from the unique multispecies assemblage of insects, nonhumans, and humans that emerged during the Bombay plague epidemic. In this talk, I argue that the unique trajectory of the plague in Bombay – as an introduced epidemic that became endemic to the city, re-emerging annually for decades – can only be understood through examination of human and nonhuman ecologies in the city. Drawing on both historical and biological methods, it will assert that the Bombay plague epidemic was the result of the unique intersection of the *Yersinia pestis* bacteria, the rat flea (*Xenopsylla cheopis*), the black rat (*Rattus rattus*), and the Norway rat (*Rattus norvegicus*). Examining ecological change at the level of the empire, the city, and the neighborhood, I argue that the unique composition of the rat populations in Bombay, their relationship with rat fleas, the infrastructural developments (and lack thereof) imposed by imperial and municipal governments, climate, and the interplay of economic and social inequalities with these factors fostered a persistent ecological niche for plague. Through analysis of disease maps, imperial statistics, primary-source accounts, and ecological literature, I demonstrate how the integration of historical and biological methods can reveal new facets of historical events – and raise new questions about them.

Mythopoesis, speculation, divination, vibration: artistic methods for human-spider communication

Ally Bisshop, Ph.D. UNSW Art & Design, Sydney

This paper explores some affective, mythopoetic and speculative possibilities for interspecies communication with invertebrate animals via artistic mediations of encounters with web-building spiders. Specifically, it examines speculative forays into human-spider communication extending from artist Tomás Saraceno's interdisciplinary *Arachnophilia* research: the spider jam sessions or human-spider concerts, and the arachnomancy or spider divination project. Spiders are abject figures of nonhuman otherness that index a relation to alterity; their queer behaviours, morphologies and sensorium underscore a seemingly impassable species and ontological divide – challenging the possibility of human-spider relation, let alone communication. This paper traces how sensory and affective attunements across thresholds of difference offer alternative frameworks for imagining 'communication' with creatures like spiders (and other invertebrates) with whom we do not share language, scales, temporalities, sensory capacities.

To think with, communicate with, invertebrate animals is a necessarily speculative endeavour. In investigating Saraceno's speculative human-spider mediations, this paper traces their mythopoetic dimensions—how these experiments enrol worlding praxes that move between art, science and fabulation to offer propositions for thinking interspecies communication. Analysis of Saraceno's artworks offers two alluring and overlapping propositions for affectively and radically mediating species and relational thresholds: *vibration* and *divination*; both of which are read as 'techniques' for producing shared knowledge at the blurred boundaries between reality and fiction, between seemingly non-communicating perceptual worlds. In turn, these techniques work to 'radically mediate' encounters with invertebrate others, opening up a relational threshold that does not simply link pre-existing bodies, but which produces and transforms human and nonhuman subjects in the generative event of their meeting. Saraceno's interspecies encounters are theorised as mythopoetic interventions that aim at drawing forth the nonhuman within the human, and locating possibilities for attunement, resonance and 'collective enunciation' within.

The Changed Perceptions of Ticks in the Finnish Public Discussion

Dr. Otto Latva, School of History, Culture and Art Studies, University of Turku, Finland

During recent decades, ticks have been perceived as a growing problem in Finland. Especially after different actors, including the media and pharmaceutical industry, have spread information about the diseases carried by these animals, hysteria, and dread have begun to define the relationship between humans and ticks. Today, these little arachnids are considered to be one of the most dangerous animals in Finland.

However, fear and anxiety have not always defined our relationship with ticks. Historical sources, such as newspaper and magazine articles, indicate that people living in the Finnish region have had a special relationship with ticks already in the nineteenth century, but they were not perceived as life-threatening creatures. Overall, the relationship between human and ticks in the Finnish region has changed a lot during the previous almost 150 years. If this kind of long-term relationship between people and ticks in Finland is examined, several different changes can be traced, which are also linked to many changes that have taken place in science, society, and culture.

In this presentation, I will go through some of the biggest turning points in the relationship between humans and ticks in Finland from the 19th century to the last decades. For my research material, I have used the Finnish newspapers and magazines digitized by the National Library of Finland. This digital archive contains a vast amount of data, from which I have collected a data corpus of more than 2000 newspapers and magazine articles dealing with ticks.

Humans, Ticks and the Conflict over the Cervids

Tuomas Räsänen, University of Eastern Finland

Since the 1980s, ticks have become a pressing environmental problem in Finland, and ticks have become one of the most hated and feared animals in the Finnish nature. Ticks, and the diseases they spread, the Lyme borreliosis and TBE, have altered the perceptions of humans to nature and outdoor activities. According to surveys, many are cautious if not afraid of wandering in the forest and fields. Body checks, and sometimes the removal of ticks, have become a standard procedure after spending time in vegetated terrains. Moreover, the proliferation of ticks has been correlated with and accelerated by the explosion of population of the cervids, who act as host species for ticks. This has soured the attitudes among many Finns towards the cervids and caused conflicts between humans regarding the different ways of using and enjoying nature.

In this presentation, I will examine the entangled relationship between humans, ticks and the cervids. The white-tailed deer, which together with the elk is the most abundant of the cervids in the southern part of the country, originates from the North America, from where it was introduced to Finland in the 1930s. For decades, as the deer population remained small, it was widely cherished for enriching the Finnish nature. Due to the danger ticks pose to human health, this appreciation has all but gone. While hunters advocate a strong deer population, there has been a growing petition among the wider public to cut it down. Interestingly, this conflict does not extend to the elk, even though they are also important hosts to ticks. I argue that the discrepancy stems from the fact that the elk is a native species in Finland, whereas the White-tailed deer suffers from the intensified hostility towards alien species.

Ticks and health. Practices of protection

Sanna Lillbroända-Annala, Åbo Akademi University

During recent decades, the growing scientific and public knowledge of ticks and health related concerns with regards to ticks have increased. During the tick season, which in Finland lasts from Spring until late Autumn, ticks become active in search for blood meals. During the season, ticks are also lively debated and negotiated in Finnish media and online discussion. Many of these discussions deal with health concerns, the risks ticks possess to humans as well as to our companion animals and ways of protection.

Ticks are nowadays considered dangerous for both humans and their companion animals due to tick related diseases such as TBE, which is a virus infection and borreliosis, also known as Lyme disease, which is a bacterial infection. The fear of these diseases have had a profound impact on peoples attitudes against ticks and on the everyday practices of humans and their companion animals. The fear of ticks have also changed and continues to change the ways in which Finnish people spend time in nature and enjoy natural environments.

In my presentation, I want to address questions of how ticks bring forth different protective measures and practices of protection. These practices can include different protective measures including repeated body controls during the tick season, vaccinations against TBE and tick prevention on companion animals with chemical repellents, collars or clothing. Practices of protection can also include changes in outdoor activities and avoidance of tick infested areas and risk zones.

I will discuss these protective measures and everyday practices of protection against ticks and tick-borne diseases with regards to public knowledge, experiences and attitudes as available in newspaper article comments, online discussions and questionnaires. My aim is also to collect and analyse ethnographic material from the mobile vaccination station, *Punkkibussi*, which provides easy-access-vaccinations against TBE.