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## Arachnology in Finland. 1. From Laxmann to Palmgren

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### Abstract

The activity of Finnish-born researchers in arachnology during a period of over two centuries, from contemporaries of the Swedes C. Clerck and C. Linnaeus to P. Palmgren, is briefly dealt with here. The following persons have been included: Eric Laxmann, Petter Forsskål, Alexander von Nordmann, Fredrik Wilhelm Mäklin, Karl Evald Odenwall, Toivo Henrik Järvi, Rolf Krogerus, and Pontus Palmgren. The arachnological career of Palmgren was long-lasting, he published papers on spiders during a period of half of century. Järvi studied spiders during ca 15 years and produced valuable papers. Laxmann, Forsskål, von Nordmann and Mäklin had each only one publication dealing with spiders, and Odenwall and Krogerus published both two papers.

### INTRODUCTION

Only little has been published on history of arachnology in Finland. The life and activity of two scientists, professors Pontus Palmgren (Koponen 1994) and Toivo Henrik Järvi (Jäger & Koponen 2005) has been briefly described. In addition, Terhivuo (1996) has listed arachnological papers on the Finnish fauna.

In the present note, representatives of arachnologists in Finland from the time of the famous Swedes Clerck and Linnaeus to Palmgren are presented. Some information about these scientists has been published earlier in Finnish (Koponen 2008).

### ARACHNOLOGY IN FINLAND

#### Early explorers

In the 18<sup>th</sup> century, Finland was a part of the Swedish Kingdom, and many Finnish naturalists of that time had good contacts with Carolus Linnaeus (or Carl von Linné), like the two Finnish-born explorers below.

**Eric Laxmann** (Erik Laxman, 1737–96) described *Aranea singoriensis* (now *Lycosa* or

*Allohogna singoriensis*) with drawings from Ust-Kamenogorsk area, nowadays in north-eastern Kazakhstan (Laxmann 1770). It is probably the first spider species described from Siberia. Laxmann lived in Russia most of his active time, especially in St. Petersburg and Siberia, where he died. His field of activity was very diverse, he was a school teacher, priest, professor of economy and chemistry in the Russian Academy of Sciences, mineralogist in Siberia, naturalist, explorer, and he even organized the first Russian scientific expedition to Japan.

**Petter Forsskål** (Petrus Forsskål, 1732–63) died during an expedition organized by the Danes to Yemen, Arabia, when he was only 31 years old. He collected all kinds of natural specimens, including spiders both in Egypt and Arabia. His travelling companion C. Niebuhr edited and published Forsskål's descriptions in 1775 and figures in 1776. Forsskål described five spiders of which four names are still valid. There are four orb-weavers: *Aranea sector* (now *Argiope sector*), *Aranea trifasciata* (*Argiope trifasciata*) and *Ara-*

*nea citricola* (*Cyrtophora citricola*). *Aranea insidiatrix* (*Filistata insidiatrix*) belongs to Filistatidae. *Aranea rivulata* is a junior synonym of the pholcid *Holocnemus pluchei*, described by J.A. Scopoli in 1763, the death year of Forsskål. Forsskål found *A. sector* on Melhan Mountains in Yemen, and the other species in Egypt, most around Cairo (Forsskål 1775). The collection by Forsskål consists of many groups, both plants and animals (including marine animals), and Linnaeus named the plant genus *Forsskaolea* (of the family Urticaceae) after his student.

### Scholars of the Finnish fauna

The first list of spiders in Finland, including also Lapland, was compiled by **Alexander von Nordmann** (1803–66) in 1863. It included 140 species, and it was based on specimens collected by himself and by his co-workers and identified mainly by the well-known Swedish arachnologist T. Thorell (v. Nordmann 1863). Also the additional 30 species new to Finland, reported by **Fredrik Wilhelm Mäklin** (1821–83) about ten years later (Mäklin 1874), were identified by Thorell. A. von Nordmann and F. W. Mäklin were professors in Zoology at the University of Helsinki. In 1901, **Karl Evald Odenwall** (1873–1965) and **Toivo Henrik Järvi** (1877–1960) reported 71 species new to Finland (Odenwall & Järvi 1901); and soon Järvi (1906) added 14 species. So a century ago, about 255 species of spiders were known from Finland. This is 40 % of the presently known fauna (Koponen 2007).

The last arachnological paper by T.H. Järvi was dealing with the spider fauna around the Tvärminne Zoological Station, South Finland, listing about 150 species (Järvi 1916). As known, some decades later **Pontus Palmgren** (1907–93) began an extensive and long-lasting research in the Tvärminne area, and reported as many as 425 species (Palmgren 1972). Still today Tvärminne is globally one of the areas with the richest known spider fauna in northern hemiboreal or southboreal vegetation zone. Palmgren studied also oth-

er localities, like Kilpisjärvi and Pallastunturi (Palmgren 1965a, b) areas in Finnish Lapland, Koli (Palmgren 1964) and Mäntyharju (Palmgren 1977c, Palmgren & Biström 1979) areas in southeastern Finland, and Nåtö (Palmgren & Lönnqvist 1974) in the Åland islands, southwesternmost Finland. He also studied the spider fauna of eastern Alps (Palmgren 1973a) and compared the habitats of pseudoscorpions of the forest floor in Finland and Austria (Palmgren 1973b). He was also interested in ethology and physiology of spiders and made some experimental studies (Palmgren 1939a, 1945).

A study on arthropods of coastal sand dynes in Finland was published by **Rolf Krogerus** (1882–1966) in 1932. It included also some spider data, about 70 species were mentioned (Krogerus 1932). Krogerus published also a paper on mire (bog) arthropods in 1960, including more than 200 species of spiders; the material was collected in 1932–56 (Krogerus 1960).

### Systematics

The above-mentioned K.E. Odenwall made an expedition to Siberia, Transbaikalia, present-time Buryatia, in 1900. He described seven *Lycosa* species (Odenwall 1901) of which three names are still valid, i.e. *Pardosa lyrata*, *P. selengensis*, and *P. tesquorum*. The arachnological activity of Odenwall was short-lasting, later he turned to aquatic biology.

T.H. Järvi made excellent studies on anatomy and systematics of Lycosidae (Järvi 1905, 1908) and Sparassidae (Järvi 1912–14) during the two first decades of the 20<sup>th</sup> century (Jäger & Koponen 2005); his main work, dealing with Sparassidae, was published in two parts, 1912–14. Half a dozen of his sparassid species names are still valid (Platnick 2008), all published in the second part, 1914, i.e. *Heteropoda saratoides*, *Leptosparassus* (now *Polybetes*) *parvus*, *L. quadrifoveatus*, *L. trifoveatus*, *Rhitymna hildebrandti*, and *R. saccata*, as well as the genus *Pseudomicrommata*. Järvi also later turned to aquatic studies, especial-

ly into fish and fishery research. However, he collected some spider material even in the 1940s for the Zoological Museum, University of Helsinki.

The identification book series by P. Palmgren "Die Spinnenfauna Finnlands und Ostfennoskandiens" I–VIII (Palmgren 1939b, 1943, 1950, 1974a, b, 1975, 1976, 1977a) is even now an important key for scholars of North European spiders. In the last volume there is also a checklist of Finnish spiders, including 595 species (Palmgren 1977b). He described some species, i.e. *Bolyphantes kilpisjaerviensis* in 1975, *Minyrioloides insigne* in 1976 (now in *Baryphyma*), *Wideria picetorum* in 1976 (now in *Walckenaeria*); and *Lepthyphantes trilobatus* in 1965, it is a junior synonym of *Mughiphantes cornutus* (Schenkel, 1927). Palmgren studied also gynandromorphic spiders (Palmgren 1979b) and made detailed work on the anatomy, especially muscular anatomy, of spiders and its use in taxonomy (Palmgren 1978a, b, 1979a, 1980, 1981).

P. Palmgren was a professor in Zoology, in the University of Helsinki, and he was also an ornithologist. His arachnological career was long, papers on spiders were published during a period of half a century. His first paper on spiders treated them as food of passerine birds (Palmgren 1932) and the last ones difficult species pairs in *Walckenaeria* (Palmgren 1982) and *Philodromus* and *Xysticus* (Palmgren 1983).

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