

Toivo Henrik Järvi (1877-1960) – a poorly known arachnologist.

by Peter Jäger & Seppo Koponen

When Pierre Bonnet compiled and published the 'biographie des aranéologues' in the first volume of his 'Bibliographia Araneorum' (Bonnet 1945), he did a tremendous work and we do not know any arachnologist, who did not like a good read in this first volume and was sometimes buried in it. However, some arachnologists were missing, no matter, whether due to lack of knowledge or to less arachnological publications of particular scientists. The latter case could be the reason, why Toivo Henrik Järvi was not included in Bonnet's biography section. He wrote only eight arachnological papers and a few popular articles, the other (ca. 260) papers were devoted to ichthyology, fishery and other subjects. He studied actively salmonid fishes and published many large papers, for example, on vendace, whitefish and Baltic salmon. A short summary of his life with special respect to his arachnological work is provided here, as Järvi is considered an excellent scientist and arachnologist with important ideas.

Toivo Henrik Järvi was born on 31st of March in 1877 in Helsinki, Finland, as the eldest of seven children. His father died, when Toivo Henrik was sixteen, and so he had to take care for the family. In this situation he managed somehow to continue his studies at the university. Although he intended to work on arthropods, especially on spiders, he recognized soon that he could not support his family by that. So, as a biology student, he started working as a dairy inspector for the Finnish Dairy Association. He got married (about 1905), and had three children. In 1909 he applied for a new position as a fish researcher at the Ministry of Agriculture. He got this job, although he never had anything to do with fishes and the only ones he had ever caught, were two tiny fishes, when he was a child. Later on, he was the chief director of the Finnish Central Government of Fishery in 1918-1923 and professor and director of the Research Bureau of Fishery in 1924-1947. Beside that, he was a member of the International Marine Research Council (1920-1950) and chairman of the Finnish Association of Fishing (1927-1957). After writing an article for a book in 1960, he said: „Now all work is done. It is time to die“. A few days later after a slight temperature rise he died in a hospital on 9th of July in 1960, also in Helsinki.

As almost no arachnological activity is mentioned in this short curriculum, one could ask, what kind of achievements leads to this short note? In deed it is not the amount of papers, but the quality of their content. Four of his papers or notes treat new records or faunistical research of spiders in Finland. Before Järvi, the spider fauna of Finland was studied by A. v. Nordmann (1863) and F.W. Mäklin (1874). One of Järvi's publications was a joint-paper with another little-known Finnish arachnologist, E. Odenwall (who described seven *Pardosa* species [sub *Lycosa*] from Transbaicalia, 1901). Faunistical papers by Järvi included a study on spiders of the Tvärminne area, 1916, this publication included also ecological information. Later, Pontus Palmgren continued arachnological research at Tvärminne and published a detailed study in 1972.

Four other papers present for that time outraging ideas and hypotheses on spider evolution and phylogenetics. The first paper were on female genitalia of lycosoids published in 1905, the second on the family Lycosidae in 1908. Järvi's main contribution was 'Das Vaginalsystem der Sparassiden' published in two volumes in 1912 and 1914. In all three papers he tried to recognize general trends behind the partly complex structures of the female genital duct system. Järvi studied beside in Helsinki in Innsbruck, 1905, and stayed in the

Zoological Museum, University of Berlin, winter 1906-07, for genitalia studies, and he greatly acknowledged the help given by Friedrich Dahl. The first part of 'Das Vaginalsystem der Sparassiden' was the Dissertation by Järvi, in the University of Helsinki.

His huge work on the spider family Sparassidae is impressive and worth to mention from two main aspects. First he got an overview over a whole family, which was (and is still) not easily accessible in museum collections, as only small series are present due to the high velocity of living representatives. He examined material from all over the world and summarized his results in a cladogram which considered both morphology and biogeography. Secondly he examined the female genitalia, the main subject of his research, very carefully and was not only able to illustrate the complex structures. Beyond that, he understood the complicated courses of the internal female duct system, was able to abstract these structures and to build possible intermediate forms and transitions between the different states. All this becomes clear when observing his excellent drawings, whose pre-sketches at least are partly deposited in the Senckenberg Museum, Frankfurt. Also the prepared and chemically cleared, pale white translucent vulvae testify for his time-consuming and brilliant methods. The material Järvi examined seems to be deposited mainly in two museums: Berlin and Helsinki.

Except for little changes on his system of the Sparassidae, which has to be made, most of his hypotheses hold true until today (according to other sources this is also the case for his research in ichthyology and fishery). Overall, Toivo Henrik Järvi was a scientist, who can be a shining example for today's generation of arachnologists. As last note we have to claim that unfortunately he could not continue his work on the spiders, which certainly would have produced an amount of interesting and brilliant published thoughts.

Acknowledgements. We wish to thank Mr Antti Järvi, M.Sc. (Mech.Eng.) from Espoo and Professor Timo Järvi (University of Turku) for valuable information on the life and career of their grandfather T.H. Järvi.