

## 70 years of Arachnology in Georgia: Tamara S. Mkheidze (1915–2007)

The study of Caucasian spiders started more than 140 years ago with a study by L. Koch (1866) on a collection of spiders from the Transcaucasus. During the following 70 years arachnological studies were conducted exclusively by specialists from abroad, e.g. from Russia (A. I. Kroneberg, E. Verzhbitsky, A. M. Zavadsky, D. E. Charitonov) or even farther away (L. Koch, W. Kulczyński, E. Simon, T. Thorell).

Tamara Severyanovna Mkheidze was the first native arachnologist of the Caucasus region. She was born on 22nd December 1915 in Kutaisi (west Georgia). She learnt Russian from her father, Severyan Nikolayevich Mkheidze who was a teacher of Russian in school. Tamara Mkheidze's mother Mariam Narimovna Mosidze was a housewife. After graduating from school in 1931 she enrolled in the Stalin University, Tbilisi (nowadays Ivane Javakhishvili University). There she studied for nine years and continued work after graduating, initially as a laboratory assistant in the department of invertebrate zoology. Starting in 1949 she taught invertebrate and entomological zoology for several decades until her retirement in 1990. During these years her teaching and research activities encompassed the whole territory of the country of Georgia. After 1990 Tamara Mkheidze remained active for a further 16 years and continued giving seminars in invertebrate zoology as well as field courses around the capital, Tbilisi, right up to her mortal disease in 2006.

Tamara Mkheidze's passion for spiders started during her university studies in the 1930s. In 1939 she met the well-known Russian arachnologist Dmitri E. Charitonov [Kharitonov] in Perm (Urals) to gain more insight into arachnology (Figure 2). As a result of this trip Tamara Mkheidze published her first article on Georgian spiders in 1941 which, as most of her works, was published in Georgian. In 1943 she defended her doctoral thesis on the spider fauna of Georgia. Dmitri Charitonov played a major role in the work of Tamara Mkheidze because the 1930s were the most productive of his life and he also studied Caucasian spiders, especially cave-dwelling species. They frequently consulted each other while Dmitri Charitonov helped T. Mkheidze with determinations and gave voucher specimens to Mkheidze's collection. He also became the scientific supervisor of Tamara Mkheidze's doctoral thesis and introduced to her his student Alexandr S. Utochkin, with whom she later cooperated in studies on the thomisid genus *Xysticus*.

It should be mentioned that in the early years of T. Mkheidze's career – and even in the 1990s – it was very difficult to study Caucasian spiders. First of all there was a lack of descriptive works by earlier authors. Also, L. Koch's figures were very schematic and E. Simon's publications had no figures at all. At the same time in Georgian libraries there was (and still is) a great shortage of literature. The adjacent faunas of the Northern Caucasus, Iran and Turkey are still only poorly known.

On the other hand the arachnodiversity of the Caucasus is very high. Endemism is around 20% in Araneae and ranges up to 90% in Dysderidae or 100% in Nemesiidae (Marusik *et al.*, 2005). Continuing lack of



Figure 1. Tamara Severyanovna Mkheidze.

literature, voucher specimens and correspondence with experts abroad made studies very difficult for T. Mkheidze and subsequent research by P. M. Dunin and E. F. Guseinov.

During the late 1990s, and due to the spread of the internet, communication with colleagues worldwide intensified and excellent revisions of Near East spiders by G. Levy allowed the young generation of Caucasian arachnologists (E. F. Guseinov, N. Y. Snegovaya, V. D. Pkhakadze) to study the Caucasian arachnofauna more effectively.

T. S. Mkheidze described 36 spider species from 12 families (2 Araneidae, 1 Clubionidae, 11 Dysderidae, 1 Eresidae, 1 Gnaphosidae, 1 Linyphiidae, 8 Lycosidae, 1 Nemesiidae, 1 Philodromidae, 1 Salticidae, 7 Thomisidae and 1 Uloboridae). Besides the spiders, Tamara studied and described other arachnids as well (Opiliones and Hydrachnidia Acari). A complete list of species described by Tamara Mkheidze is given by Marusik (2008).

Tamara Mkheidze made great contributions to the faunistic knowledge of her home country and beyond. Of the roughly five hundred known species in Georgia she had reported 226 for the first time and 119 species were first records for the Transcaucasus region, from which around one thousand species are known so far. Tamara Mkheidze also reported one genus and nine species for the first time from the Caucasus as well as from the Soviet Union (Mkheidze, 1997).

After the untimely death of her husband Lavrosi Kutubidze (31st August 1911 – 13th November 1977) Tamara Mkheidze virtually ceased to publish new studies. This was partly due to the fact that her husband – a known Georgian hydrobiologist – helped her compose the





Figure 2. From left: Kuznetsova Yelena Georgiyevna, Xenia Nikolayevna Bel'tyukova, Tamara Mkheidze and Dmitri E. Charitonov (Perm, 15th September 1939).

scientific manuscripts. Although she had good skills in Russian, Tamara Mkheidze was not very skilled in scientific Russian writing. She was, however, able to resume her studies with the help of her former student Veriko Pkhakadze, whose diploma and doctoral thesis Mkheidze ultimately supervised. Together they published six articles between 2005 and 2006. Veriko Pkhakadze defended her doctoral thesis in 2006 and dedicates herself to the study of the fauna, ecology and zoogeography of the spiders in the region surrounding Tbilisi. Tamara Mkheidze considered and trained Veriko Pkhakadze to be her successor in the study of Georgian spiders, and she is now curator of the arachnological collections in the Georgian State Museum in Tbilisi. In this collection most of Mkheidze's material is now deposited as well as material originating from D. E. Charitonov and S. Spassky. Some of her material is deposited in Perm State University and some dysderids that T. Mkheidze gave to P. M. Dunin are now in the Zoological Museum of the Moscow State University (Mikhailov, pers. comm.).

Tamara Mkheidze's most important scientific contribution was her monograph on Georgian Spiders – Systematics, Ecology and Zoogeography, published in Georgian in 1997 and based on the material she had collected between 1937 and 1980. Although the manuscript had been mostly finished when her husband was still alive, she postponed its publication for several reasons. First of all, during the 1980s it became increasingly difficult for Tamara Mkheidze to obtain recent scientific publications from abroad and even other Soviet arachnologists ceased to send new reprints to her. Therefore newly described species from the region and Georgia (e.g. by P. M. Dunin, A. V. Tanasevitch, K. Y. Eskov, K. G. Mikhailov, S. Heimer, J. Buchar, J. Wunderlich) or new synonymies could not be considered in the monograph's manuscript. After the disintegration of the Soviet Union in the 1990s and unstable political and economic conditions in Georgia, publication was further delayed until 1997.

Tamara Severyanovna Mkheidze died on the 11th April 2007 after a short and severe illness.

We are indebted to V. Pkhakadze, N. Y. Snegovaya, K. Mikhailov, S. Esysunin and S. Shetekauri for valuable information on the life and work of Tamara Mkheidze.

## References

- Koch, L. (1866) *Die Arachniden – Familie der Drassiden*. Nürnberg, pp. 304.
- Marusik, Y. M., Mikhailov, K. G. & Guseinov, E. F. (2006) Advance in the study of biodiversity of Caucasian spiders (Araneae). *European Arachnology 2005. Acta zoologica bulgarica*, Suppl. No. 1: 259–268.

## Other obituaries on Tamara Mkheidze

- Marusik, Y. M. (2008) [Tamara Severyanovna Mkheidze 1915–2007]. *Arthropoda Selecta* 16 (3). [in Russian]
- Otto, S., V. Pkhakadze & A. Gegechkori (in press) 70 Jahre Arachnologie in Georgien: Tamara S. Mkheidze (1915–2007). *Arachnologische Mitteilungen*.

## Bibliography of Tamara S. Mkheidze

Original citations in Georgian and Russian are given in Otto *et al.* (in press).

- Gegechkori, A., Mkheidze, T. S., & Pkhakadze, V. (2005) The zoogeographical – chorological peculiarities of the spiders (family Dysderidae) of Georgia. *Proceedings of the Georgian Academy of Sciences, Biological Ser. B*, 3 (1): 90–93.
- Gegechkori, A., Mkheidze, T. S., & Pkhakadze, V. (2005) The zoogeographical – chorological review of the spiders (family Thomisidae) of Georgia. *Proceedings of the Georgian Academy of Sciences, Biological Ser. B*, 3 (2): 75–82.
- Gegechkori, A., Mkheidze, T. S., & Pkhakadze, V. (2006) The Ecological and Zoogeographical-Chorological Peculiarities of the Spiders (Families Dipluridae, Eresidae, Filistatidae, Amaurobiidae, Titanoecidae, Dictynidae, Uloboridae, Mimethidae, Sicariidae, Anyphaenidae, Sparassidae) Fauna of East Georgia. *Bulletin of the Georgian National Academy of Sciences*, 173 (2): 371–373.
- Kalandadze, L. & Mkheidze, T. S. (1955) [On the biology of the tarantulas *Lycosa vultuosa* C. L. Koch and *Lycosa singoriensis* (Laxmann)]. *Bulletin of the Academy of Sciences of the Georgian SSR*, 16 (9): 731–738. [in Georgian]
- Mkheidze, T. S. (1941) [A study on spiders distributed in Georgia]. *Proceedings of the Stalin State University Tbilisi*, 21: 99–103. [in Georgian]
- Mkheidze, T. S. (1943) [Studies on material of the spider fauna distributed in Georgia]. Dissertation (abstract), *Tbilisi State University*. [in Georgian]
- Mkheidze, T. S. (1946) [New spider species in Georgia]. *Bulletin of the Georgian State Museum Tbilisi*, 13 (A): 285–302. [in Georgian and Russian]
- Mkheidze, T. S. (1952a) [New species of harvestmen (Opiliones) from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, 13 (9): 545–548. [in Georgian]
- Mkheidze, T. S. (1952b) [New species of Opiliones from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, 13 (10): 613–616. [in Georgian]
- Mkheidze, T. S. (1952c) Material on the study of the water-mite fauna of small reservoirs of East Georgia]. *Proceedings of the Stalin State University Tbilisi*, 46: 101–111. [in Georgian]
- Mkheidze, T. S. (1959) [Material on the species-composition and distribution study of harvestmen (Opiliones) in Georgia]. *Proceedings of the Tbilisi State University*, 70: 109–117. [in Georgian]
- Mkheidze, T. S. (1960) [A study of arachnids of the Kharagauli district]. *Proceedings of the Tbilisi State University*, 82: 183–189. [in Georgian]
- Mkheidze, T. S. (1964a) [Harvestmen (Opiliones)]. *Animal World of Georgia. Georgian Academy of Sciences Publications*, 2: 117–126. [in Georgian]
- Mkheidze, T. S. (1964b) [Spiders (Araneina)]. *Animal World of Georgia. Georgian Academy of Sciences Publications*, 2: 48–116. [in Georgian]



- Mkheidze, T. S. (1965) [A study of the species-composition of small-sized water mites of Abkhazia]. *Proceedings of the Tbilisi State University*, **109**: 97–101. [in Georgian]
- Mkheidze, T. S. (1967) [A case of gynandromorphism of *Agelena labyrinthica* (Cl.) (Agelenidae)]. *Zoologicheski Zhurnal Moscow*, **46** (2): 294–296. [in Russian]
- Mkheidze, T. S. (1968) [A study of arachnids distributed in the Tkibuli district]. *Proceedings of the Tbilisi State University*, **123**: 213–223. [in Georgian]
- Mkheidze, T. S. (1968) [Faunistics and Ecology of the Spiders of Georgia]. (abstract), *Tbilisi State University Publications*. [in Georgian]
- Mkheidze, T. S. (1971a) [New species of spiders of the genus *Xysticus* C. L. Koch from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, **62** (3): 713–716. [in Russian]
- Mkheidze, T. S. (1971b) [A new spider species of the genus *Oxyptila* (Thomisidae) from Georgia]. *Zoologicheski Zhurnal Moscow*, **50** (10): 1582–1583. [in Russian]
- Mkheidze, T. S. (1972) [New spider species of the genus *Harpactocrates* (Dysderidae) from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, **68** (3): 741–744. [in Russian]
- Mkheidze, T. S. (1972) [A new species of spider of the genus *Harpactea* (Dysderidae) from Georgia]. *Zoologicheski Zhurnal Moscow*, **51** (3): 450–451. [in Russian]
- Mkheidze, T. S. (1974) [A study on the harvestmen and spiders of Borjomi valley]. *Protected Areas of Georgia*. Collected works (Tbilisi), **111**. [in Georgian]
- Mkheidze, T. S. (1979a) [New spider species of the genus *Dysdera* Latr. (Dysderidae) from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, **93** (3): 721–724. [in Georgian]
- Mkheidze, T. S. (1979b) [New spider species of the genus *Dysdera* Latr. (Dysderidae) occurring in Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, **94** (2): 465–468. [in Georgian]
- Mkheidze, T. S. (1981) [Identification of spiders]. *Javakhishvili State University Tbilisi*. pp. 17. [in Georgian]
- Mkheidze, T. (1983) [The new spider species *Brachythele recki* sp. n. from Georgia]. *Fauna and Ecology of Invertebrates in Georgia*, Tbilisi: 155–159. [in Georgian]
- Mkheidze, T. S. (1997) [Spiders of Georgia – Systematics, Ecology, Zoogeographic Review]. *Tbilisi State University*, pp. 390. [in Georgian]
- Mkheidze, T. S. & Pkhakadze, V. (2004) [A study of the spiders of Tbilisi and its environments]. *Institute of Zoology, Tbilisi State University*, **22**: 63–65. [in Georgian]
- Mkheidze, T. S., Gegechkori, A. & Pkhakadze, V. (2006) The ecological and zoogeographical review of the spiders (family Philodromidae) distributed in East Georgia. *Proceedings of the Georgian Academy of Sciences, Biological Series B*, **4** (2): 110–114.
- Mkheidze, T. S. & Utochkin, A. C. (1971) [New forms of spiders of the genus *Xysticus* C. L. Koch from Georgia]. *Bulletin of the Academy of Sciences of the Georgian SSR*, **64** (1): 209–212. [in Russian]

Yuri M. Marusik & Stefan Otto

## Catalogue of the Pseudoscorpionida

Dr M Harvey, 1990, Manchester University Press.

Just a few copies of this publication remain. They are now priced at £5 plus £5 post & packing for UK delivery. Members wanting a copy should send a cheque payable to “The British Arachnological Society” to the B.A.S. Librarian, John Stanney, 50 Mulberry Way, Leek, Staffs, ST13 5TL.

## *Psalmopoeus reduncus* (Karsch, 1880) a Theraphosid Spider New to Panama

by Ray Gabriel

The theraphosid spider fauna of Panama is at present under researched with twelve species currently acknowledged from the isthmus. There are three species of *Psalmopoeus* Pocock, 1895 currently listed by Platnick (2008) as coming from Panama: *Psalmopoeus intermedius* Chamberlin, 1940, *P. pulcher* Petrunkevitch, 1925 and *P. rufus* Petrunkevitch, 1925. A fourth Central American *Psalmopoeus* species, *P. maya* Witt, 1996 is known only from Belize.

During a trip to Panama in October 2003 the author encountered two brown arboreal theraphosids on Isla Colon and Isla Solarty in the Bocas del Toro province archipelago. Neither specimen was collected since permits had not been obtained. No further arboreal specimens were found during consecutive visits to Panama in April and October 2004 and April 2006. On the latest visit to Panama in April 2008 a freshly moulted juvenile arboreal specimen (Figure 1) was found in the grounds of the *Lost and Found Eco Lodge*, near the small town of Valle de la Mina on the edge of the Fortuna Forest Reserve, Chiriqui province (altitude 1255 m). An exuvia of a second specimen was found in a hole in a tree on Isla Colon in the same jungle “garden” around 7 m from where the first specimen was found in 2003 (c.1 m above sea level). These specimens were collected, under permit, for further study in the UK.

Examination of the prolateral face of the palpal coxa of both the exuviae revealed a typical *Psalmopoeus*-type stridulating organ. These specimens were found to be similar to those of *Psalmopoeus reduncus* (Karsch, 1880), a species previously known from neighbouring Costa Rica and Belize (Reichling 2003), but until now unrecorded from Panama. The known distribution of *P. reduncus* provided by Valerio (1980) is consistent with these Panamanian finds, with no major geographical obstacles to prevent the spread of this species into Panama.

Spiderlings and juveniles of *Psalmopoeus* species are very distinctive and the species can be identified from a young age based on coloration/markings (Figures 3–6). Having captive bred and raised specimens of *P. pulcher* and *P. reduncus*, the Panamanian specimens collected in 2008 do not resemble any of the stages of *P. pulcher*, but are very similar to those of *P. reduncus* which is highly variable in coloration (from tan to black), even within the same population (Valerio 1980, Smith 1987 and pers. obs.). The leg markings of the exuviae from the juvenile Panamanian specimen are almost identical to juvenile *P. reduncus*.

I am satisfied that the specimens found in 2008 are neither *Psalmopoeus intermedius* nor *P. rufus*. *Psalmopoeus intermedius*, based on the description, is probably a junior synonym of *P. reduncus*, while *P. rufus* may be a junior synonym of *P. pulcher*. Petrunkevitch appears to have been unaware of the sexual dimorphism exhibited within most *Psalmopoeus* species. *Psalmopoeus pulcher* Petrunkevitch, 1925, a male collected by William J. Bearg, being the first species described in his 1925 paper would take priority over *P. rufus* Petrunkevitch 1925, the second specimen described in his paper which is probably the female of the species.