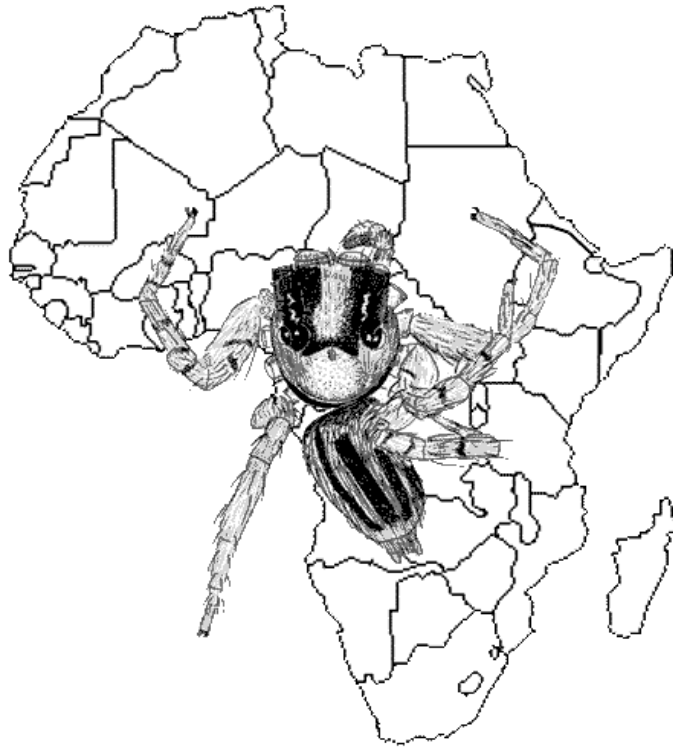


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TAXONOMIC REVISION OF PROBLEMATIC WEST- AFRICAN SALTICID GENERA (ARANEAE: SALTICIDAE)

Summary of PhD thesis



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INTRODUCTION AND AIMS

According to our present knowledge, jumping spiders (Salticidae) represent the most species rich group among the spider families. The 5000 species belonging here are easy to recognise by the large anterior median eyes, situated on the horizontal surface of the stout carapace. Most of the species are living, wandering and hunting in the canopy of trees or bushes. Many species are specialized on a peculiar prey, like the ant-eaters, termitophag or araneophag salticids. Several species of few genera build a web, and there are some araneophag salticids, who invade those web-weaver salticid's web, predating them as their alternative prey.

The relationships of the family are still unclear. Recently it seems they might be related to Clubionidae, Anyphaenidae or Corinnidae. A possible synapomorphy with Clubionidae and Anyphaenidae is the absence of the spigots, (which are present on the genera *Eburneana* and *Tarne*). Corinnidae could also be related because of the peculiar *Humua takeuchii* ONO, 1987 possessing „salticoid” eyes, resembling much to the specialized „salticid” retina.

Although salticids are present everywhere in a huge abundance and diversity, they reach their highest diversity in tropical areas. Surprisingly, the identified tropical salticids are rare in scientific collections. This might be one of the reasons of our poor knowledge on tropical jumping spiders.

About 40% of the species kept in only one collection, and one-fifth of the species cannot be found anywhere, so they exist only in literature.

So far about 120 salticid genera have been described from Africa, and 20% of them haven't been studied by recent arachnologist. The half of the genera requires revision and more than one-third of the genera is known only from the original description. Because it is rather difficult to identify them, the identified material of the collections is not increasing, and without comparative, identified material the future identification of salticid taxa remains still difficult. There are several ways to escape from this devil's circle: precise researches, type examination and redescription of name bearers.

My researches focused on salticid genera difficult to identify, based on materials collected in West-Africa. My aim was to ease the identification of West-African salticid genera, as it is the basic knowledge to further taxonomic, fanunistic researches, which at the moment can be carried out only with investing extra energy – knowing all the genera occur in the region. I would like to make possible the future recognition of the genera, either with revision of the questionable or not useable names (*Alfenus*, *Depreissia*, *Saraina*, *Thiratoscirtus*, *Tarne*), or with description of new taxa (*Eburneana*, *Tomoccida*). During my study I have described eleven species, new to the science. I would assist to the further studies, with an annotated check-list of West African genera, lists 80 genera and all the relevant taxonomical literature treating this topic. I also provide a key to 58 genera.

MATERIALS AND METHODS

1. Collections

During my studies I visited four spider collections (Tervuren, Paris, Wrocław, Copenhagen) and borrowed material from two other museums (Wien, London). Although I have examined type materials mainly, non-identified material was treated as well.

2. Study methods

Specimens were examined with stereo- and light microscope, both with camera lucida attached. Light microscope was necessary to study the copulatory organs, while somatic characters were examined with stereo-microscope. From all the specimens drawings and digital pictures have been made. In a few cases scanning electron micrographs were made in Copenhagen (Denmark) and Tervuren (Belgium).

3. Preparing copulatory organs

Female genitalia were examined after a methyl-salicylate bath, while male palps were studied in alcohol. I tried to use in every case reversible preparing methods to allow further studies. Only temporary slides were made, the objects studied were put back to the original tube in a microvial.

RESULTS

During my studies I revised 8 “*problematic*” jumping spider genera. The descriptions are accompanied by concluding remarks. The results of the thesis are the followings:

- The genus *Alfenus* was revised. The genus consists two species (*A. calamistratus*, *A. chrysophaeus*) and is known hitherto by three adult specimens. The species are documented by descriptions and drawings.
- A *Bristowia* species (*B. africana*), new to the science was described from the Congo. This Oriental genus was hitherto monotypic, and this is its first records from Africa. The type species of *Bristowia* and the new species is described and illustrated.
- The second known specimen of *Depreissia myrmex* was recorded. The type species of *Depreissia* is described and figured. The exact locality of the *locus typicus* is presented.
- Genus *Eburneana*, new to the science, is described together with three new species (*E. scharffi*, *E. magna*, *E. wandae*). All species are thoroughly illustrated.
- The monotypic genus *Saraina* was hitherto known by its females. The first description of the males is presented. The type species of the genus (*S. rubrofasciata*) is redescribed and illustrated.
- The monotypic genus *Tomoccida*, new to the science is described. The type species (*T. mwi*) is described and illustrated.
- The hitherto insufficiently known type species of the monotypic genus *Tarne* is described. The genus is revised based on new specimens. New biogeographical data are provided.

- The genus *Thiratoscirtus* is revised. I propose the genus name *Bacelarella* BERLAND & MILLOT, 1941 as a junior synonym of *Thiratoscirtus* SIMON, 1886 based on both somatic and copulatory characters. Six new combinations are proposed.
- *Bacelarella tentativa* SZÜTS & JOCQUÉ, 2001 is proposed as a junior synonym of *Thiratoscirtus versicolor* SIMON, 1902.
- Seven species, new to the science are described. Among them five (*T. conjugans* (SZÜTS & JOCQUÉ, 2001); *T. dracula* (SZÜTS & JOCQUÉ, 2001); *T. iactans* (SZÜTS & JOCQUÉ, 2001); *T. pavidus* (SZÜTS & JOCQUÉ, 2001); *T. tanohi* (SZÜTS & JOCQUÉ, 2001) are valid names, while two is still under publication (*T. christineae* SZÜTS, sp. n.; *T. jocquei* SZÜTS, sp. n.).
- Descriptions of twelve species (among 15) are given (*T. capito* SIMON, 1903; *T. christineae* SZÜTS, sp. n.; *T. conjugans* (SZÜTS & JOCQUÉ, 2001); *T. dracula* (SZÜTS & JOCQUÉ, 2001); *T. fradei* BERLAND & MILLOT, 1941; *T. iactans* (SZÜTS & JOCQUÉ, 2001); *T. jocquei* SZÜTS, sp. n.; *T. pavidus* (SZÜTS & JOCQUÉ, 2001); *T. tanohi* (SZÜTS & JOCQUÉ, 2001); *T. torquatus* SIMON, 1903; *T. versicolor* SIMON, 1902), while two species (*T. fuscus* STRAND, 1906; *T. niveimanus* SIMON, 1886) are considered as *nomina dubia*.
- A key including 12 species is provided. All the copulatory organs are illustrated in comparative tables.
- All the relevant characters – both somatic and copulatory – are illustrated by scanning electron micrographs.
- The annotated check-list of the West-African salticids genera is given, which includes 80 genera, with comments on the identity of the taxa.
- The first identification key to the 58 West-African salticid genera is presented. The key is dichotomic, and all decision is aided with drawings or digital images. An English translation of the key is also given.

PUBLICATIONS RELATED TO THE THESIS

Papers:

SZÜTS, T. (2000) An Afrotropical species, *Asemonea stella* (Araneae: Salticidae) found in Australia. *Folia entomologica hungarica* **61**: 61-63.

SZÜTS, T. & JOCQUÉ, R. (2001) New species in the genus *Bacelarella* (Araneae: Salticidae) from Côte d'Ivoire. *Annals Musée Royal de l'Afrique Centrale (Sciences Zoologiques)* **285**: 77-92.

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Other publications:

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PUBLICATIONS NOT RELATED TO THE THESIS

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SZÜTS, T. & JOCQUÉ, R. (2001) A revision of the afrotropical spider genus *Palfuria* (Araneae: Zodariidae). *Journal of Arachnology* **29**: 205-219.

SZÜTS, T. (2002) Remarks on the genus *Corambis* Simon, 1901 (Salticidae: Araneae). *Folia entomologica hungarica*. **63**: 23-31.

SZÜTS, T. (2002) Description of a new horned jumping spider species, *Thorelliola mahunkai* (Araneae: Salticidae) from New Guinea. *Folia entomologica hungarica* **63**: 17-22.

SZITA, É., SZINETÁR, CS. & SZÜTS, T. (2002) Faunistical investigations on the spider fauna (Araneae) of the Fertő-Hanság National Park. In: Mahunka, S. (ed.) *Fauna of the Fertő-Hanság National Park*. Hungarian Natural History Museum, Budapest. pp. 231-244.

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