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***PARDOSA SALTANS* TÖPFER-HOFMANN, 2000 (ARANEAE: LYCOSIDAE), A NEW REPORT FOR THE ROMANIAN FAUNA**

COSTICĂ ADAM

Abstract. *Pardosa saltans* Töpfer-Hofmann, 2000 is reported for the first time in the Romanian fauna as a result of a material represented by three females collected from southern Romania. Data on the geographical distribution of the species and some morphological features which distinguish it from the related species *Pardosa lugubris* (Walckenaer, 1802) are also presented.

Résumé. On signale pour la première fois la présence dans la faune de la Roumanie de l'espèce *Pardosa saltans* Töpfer-Hofmann, 2000, sur la base des recherches effectuées sur un matériel représenté par trois femelles collectées dans le sud de la Roumanie. On présente des données concernant la disitribution géographique de l'espèce et quelques caractères morphologiques et morphométriques qui la séparent de l'espèce la plus proche, *Pardosa lugubris* (Walckenaer, 1802).

Key words: *Pardosa saltans*, *Pardosa lugubris*, Araneae, Lycosidae, fauna, Romania.

INTRODUCTION

From Lycosidae, *Pardosa* is the richest genus in species, including 519 species and 23 subspecies (Platnick, 2007). *Pardosa* species are distributed in all continents, from the warm areas to the subpolar ones. As yet, in Central and East Europe, 49 species of *Pardosa* (Nentwig et al., 2007) were reported, out of which 33 were reported in Romania (Weiss & Petrişor, 1999).

Pardosa saltans Töpfer-Hofmann, 2000 belongs to the “lugubris” species group of *Pardosa*. From this group the following five species occur in Europe, too: *P. lugubris* (Walckenaer, 1802), *P. alacris* (C. L. Koch, 1833), *P. baehrorum* Kronstedt, 1999, *P. pertinax* von Helversen, 2000 and *P. caucasica* Ovtsharenko, 1979.

In 2000, Gaby Töpfer-Hofmann, Detlev Cordes and Otto von Helversen reviewed this *Pardosa* group, especially basing on some behaviour particularities of the male during the breeding season, but also on some morphological features and, especially, morphometrical.

In Romania, only *P. lugubris* and *P. alacris* (Weiss & Petrişor, op. cit.; Duma, 2006) were reported, for the time being.

MATERIAL AND METHOD

The specimens on which I could establish the presence of this *Pardosa* species in Romanian fauna for the first time were collected by Dorin Moldoveanu, on 15th of May 2005, from the outskirts of locality Comana (Giurgiu County) from South Romania. More precisely, these specimens were collected directly by hand from the litter of the forest of Comana Natural Park. Three female spider specimens and two egg sacs were totally collected. The specimens and the egg sacs were preserved in 75% alcohol. For identification, I dissected the epigyne of one of the

females and I mounted it in Entellan (a synthetic balsam), following the classical technics. The drawings were made using an "Olympus" microscope with „camera lucida" and a 6.7X ocular and a 10X objective. Also, the epigyna photo was made at the same microscope, using 15X oculars and 4X objective.

For the identification of these three specimens I used the papers signed by Fuhn & Niculescu-Burlacu (1971), Locket & Millidge (1951), Nentwig et al. (op. cit.) and Töpfer-Hofmann, Cordes & von Helversen (op. cit.). Morphological terminology, used in this paper, is that one given by Fuhn & Niculescu-Burlacu (op. cit.).

RESULTS AND DISCUSSIONS

As a result of the studies on the collected material, I identified the three specimens as females which belong to the species *P. saltans*. Two of them have the egg sac fixed by their spinnerets.

P. saltans resembles very much one of the other five species of the group „lugubris" from Europe, just with *P. lugubris*. The most obvious differences between these two species occur in males (Töpfer-Hofmann, Cordes & von Helversen, op. cit.). Initially, *P. saltans* was separated as a valid species from *P. lugubris*, especially basing on some differences in the male behaviour during the breeding season (the rhythm and order of the pedipalpi raising and descent, as well as the position of the first leg pair during the breeding dances made by the males). Later, some morphological and morphometrical differences were discovered between these two species. In females, these differences are less obvious. That is why, Töpfer-Hofmann, Cordes & von Helversen (op. cit.) presented an identification key only for males when revising this group. But these authors mention some morphometrical differences between *P. saltans* and *P. lugubris*, the first species being relatively bigger both in total body length and the length of the cephalothorax and leg size. Also, these authors mentioned that from morphological point of view, the females of the two species can not distinguish clearly.

Having only female specimens at my disposal, it was difficult to establish their affiliation to the species *P. saltans*, yet I succeeded some morphometrical features which differentiate this species from *P. lugubris* (specified by Töpfer-Hofmann, Cordes & von Helversen, op. cit.), as well as some differences in the morphology of epigyna (enough subtle differences, but constant in those three specimens). As regards the length of the cephalothorax, a female has 3 mm, and the other two has 3.1 mm (Tab. 1). Töpfer-Hofmann, Cordes & von Helversen (op. cit.) measured the cephalothorax of 65 females of *P. saltans*, establishing a variation interval of the occurred dimensions between 2.66-3.07 mm, and as regards *P. lugubris* they measured the cephalothorax of only 18 females and established a variation interval of the dimensions between 2.43-2.96 mm. Considering the body total length, these authors give only one dimension for the female paratype after which they made the description of the female of *P. saltans*, that is 5.7 mm, and for *P. lugubris* they present also the length of a single female, that is 4.8 mm. It can be observed that the dimensions of the specimens studied by us are much closer to those of the species *P. saltans*, than those of the species *P. lugubris*.

Table 1

Dimensions of the three studied females (total length and the cephalothorax length).

Studied specimens	Total length (mm)	Cephalothorax length (mm)
Female „1”	6	3
Female „2”	6.4	3.1
Female „3”	6.8	3.1

As regards the dimensions of the legs (Tab. 2), measured for one of the females studied by us (the smallest one) the values are slightly smaller but much closer to those given by the above-mentioned authors for *P. saltans*, than those given for *P. lugubris*.

Table 2

Leg measurements for the female “1”.

Legs	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.4	1	2.1	1.9	1.3	8.7
II	2.2	0.9	1.9	1.9	1.2	8.1
III	2.3	0.9	1.9	2.1	1.2	8.4
IV	2.9	1	2.7	3.7	1.7	12

In the diagnosis of the species *P. lugubris*, Fuhn & Niculescu-Burlacu (1971) mention the variation interval of the body total length in the studied females between 6 and 8 mm. These authors do not present the values of the cephalothorax length. Considering the mentioned variation interval (6-8 mm) it is possible that the authors have also specimens of *P. saltans* among the studied specimens and identified as *P. lugubris*. But the drawings of the pedipalpus and epigyne presented by the authors are typical for *P. lugubris* sensu strictu.

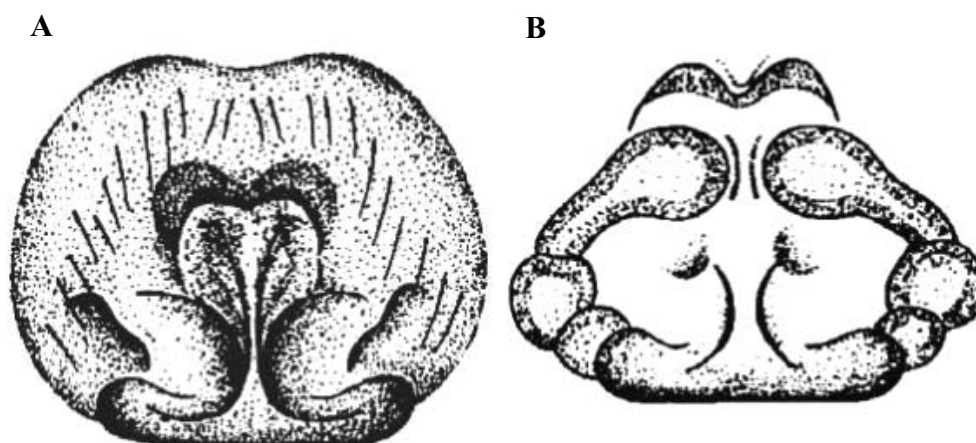


Fig. 1 – *Pardosa lugubris* (Walckenaer, 1802) (sensu strictu) (after Fuhn & Niculescu-Burlacu, 1971). A, epigyne; B, vulva.

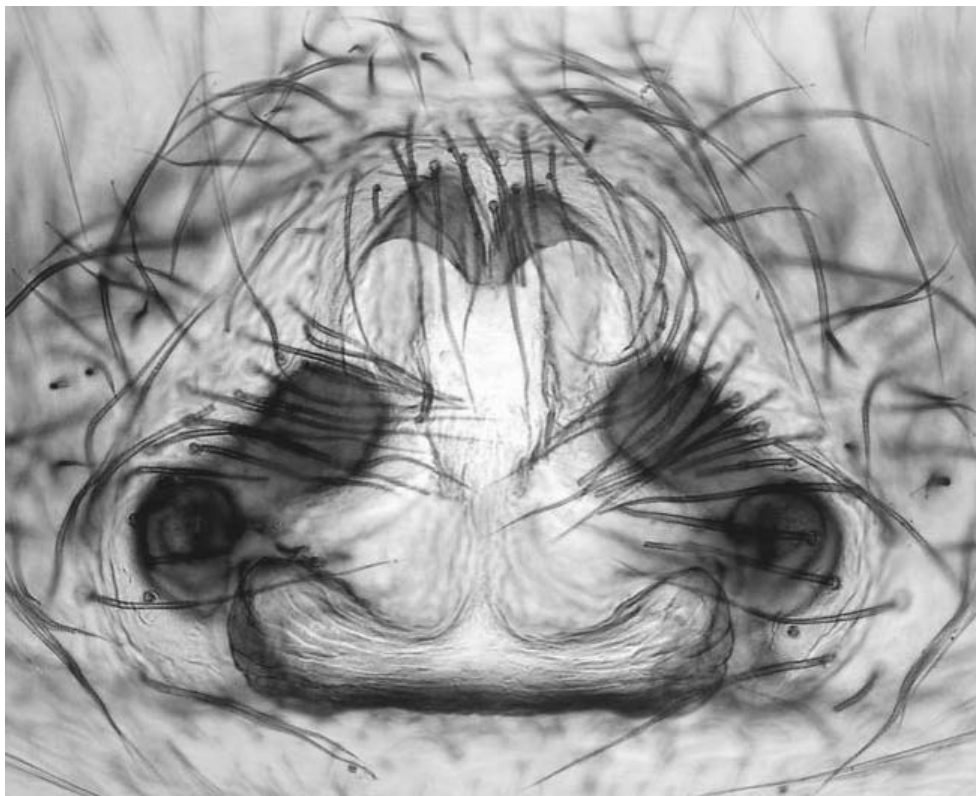


Fig. 2 – *Pardosa saltans* Töpfer-Hofmann, 2000 (original). Epigyne (clarified and mounted in synthetic balsam).

As regards the structure of the epigyne, there are some differences between *P. saltans* and *P. lugubris*. In *P. lugubris* 2/3 of the longitudinal and posterior side of the epigyne septum is very narrow, and in the anterior side, longitudinal part of the septum enlarges gradually up to the “M”-shaped chitinized procesus (Fig. 1 A). Thus, in this species the longitudinal part of the septum is like a glass viewed in profile, with a high stem and a little deep cup, as a cone with the tip towards the glass stem. Also in *P. lugubris* transversal part of the epigyne septum has distinct openings contiguous to the longitudinal septum, and the spermathecae are big, almost reaching the “M”-shaped chitinized procesus (Fig. 1 B). In *P. saltans* only 1/3 of the longitudinal and posterior part of the epigyne septum is very narrow, and in the anterior part it suddenly enlarges up to the “M”-shaped chitinized procesus, therefore the sides of this part are parallel (Figs 2, 3 A, B). In this species the longitudinal part of the septum is like a glass with a short stem and a cylindrical deep cup in profile. Also in *P. saltans* the transversal part of the epigyne septum has undistinguishable openings contiguous to the longitudinal septum, and the spermathecae are smaller than in *P. lugubris*, couldn’t reaching so closely the “M”-shaped chitinized procesus (Fig. 3 B, C).

As yet, *P. saltans* was reported from Austria, Belgium, Czech Republic, France, Germany, Great Britain, Italy, the Netherlands, Poland, Sweden and

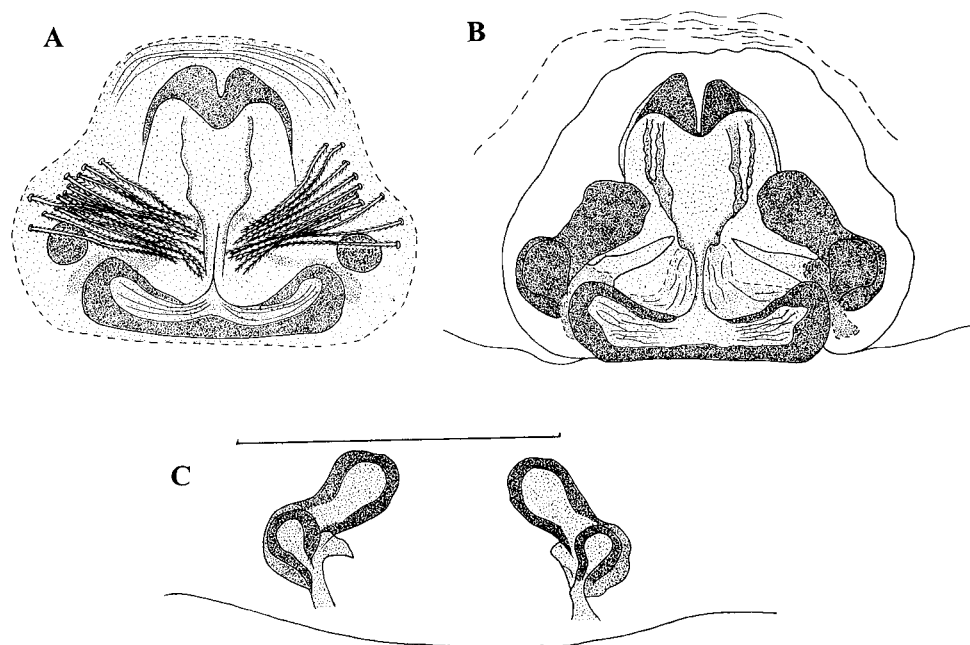


Fig. 3 – *Pardosa saltans* Töpfer-Hofmann, 2000 (original). A, unclarified and unmounted epigyne; B, clarified and mounted epigyne in synthetic balsam; C, vulva. Scale bars (in mm): A, B, C, 0.5.

Switzerland (Töpfer-Hofmann, Cordes & von Helversen, op. cit.). We report this species for the first time from South-eastern Europe. Henceforth it would be interesting to study all the specimens from the „Ion Fuhrn” spider collection which were identified as *P. lugubris*, because it is possible that some of these specimens to belong, in fact, to *P. saltans*. Also, it has to be studied attentively the place where these three females were collected for catching the males, too. Thus, the confirmation of the presence of *P. saltans* in Romania would become more precisely.

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PARDOSA SALTANS TÖPFER-HOFMANN, 2000 (ARANEAE: LYCOSIDAE), O NOUĂ SEMNALARE PENTRU FAUNA ROMÂNIEI

REZUMAT

Este semnalată pentru prima dată prezența în fauna României a speciei *Pardosa saltans* Töpfer-Hofmann, 2000, pe baza cercetării unui material reprezentat de trei femele colectate din sudul României, de la Comana (județul Giurgiu). Sunt prezentate date privind distribuția geografică a speciei și câteva caractere morfologice (structura epiginei) și morfometrice (lungimea totală a corpului,

lungimea cefalotoracelui și dimensiunile picioarelor) ce o deosebesc de specia cea mai înrudită, *Pardosa lugubris* (Walckenaer, 1802).

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