

Torbjörn KRONESTEDT: *Pardosa fulvipes* (Araneae, Lycosidae) new to Slovakia

During the post-colloquium excursion of the 18th European Colloquium of Arachnology in Slovakia in July 1999, I had the opportunity to collect a small material of wolf spiders at the boundary of the Slovak Paradise National Park c. 20 km south of Poprad. Except for two common species [*Pardosa palustris* (LINNAEUS) and *P. pullata* (CLERCK)], numerous females of *Pardosa fulvipes* (COLLETT) were taken. An additional specimen of the latter was captured at Stará Lesná close to the High Tatras National Park. *P. fulvipes* was not included in the catalogue of spider species recorded from Slovakia (GAJDOŠ et al. 1999) though it may previously have been overlooked due to misidentification with some other species in the *pullata* group.

SOMATIC CHARACTERS

Pardosa fulvipes is of about the same body size as its allies *P. prativaga* (L. KOCH) and *P. sphagnicola* (F. DAHL) (i. e. 4-6 mm) and can be distinguished from them by the following somatic characteristics (for more details, incl. copulatory organs, of all three species, see HOLM & KRONESTEDT 1970; all three also included and illustrated in ROBERTS 1995):

♂:

- Book lung covers dark-coloured, devoid of hairs (Fig. 1).
- Carapace more or less dark brownish (black in fresh material), shining, with very short pubescence (also in eye region) (median band indistinct and lateral bands continuous).
- Legs contrastingly light yellowish. First metatarsi and tarsi thickened (compared with those of the other legs) and densely equipped with long, thin light hairs (metatarsi prolaterally and retrolateroventrally) (Fig. 2). Spines of first (Fig. 3) legs more or less reduced.

Tibiae I (Fig. 3) and II slightly curved. Fourth coxae with denticulated hairs (a few also on fourth trochanters) (Fig. 1).

- Palp brownish (black in fresh material), patella with only short hairs and a distinct dorsal concavity (Fig. 4).

♀:

- Book lung covers usually somewhat dark-coloured, devoid of hairs.

- Legs:

-- Younger females: legs yellowish brown with indistinct brownish markings (sometimes more or less concolorous light brown to greyish yellow).

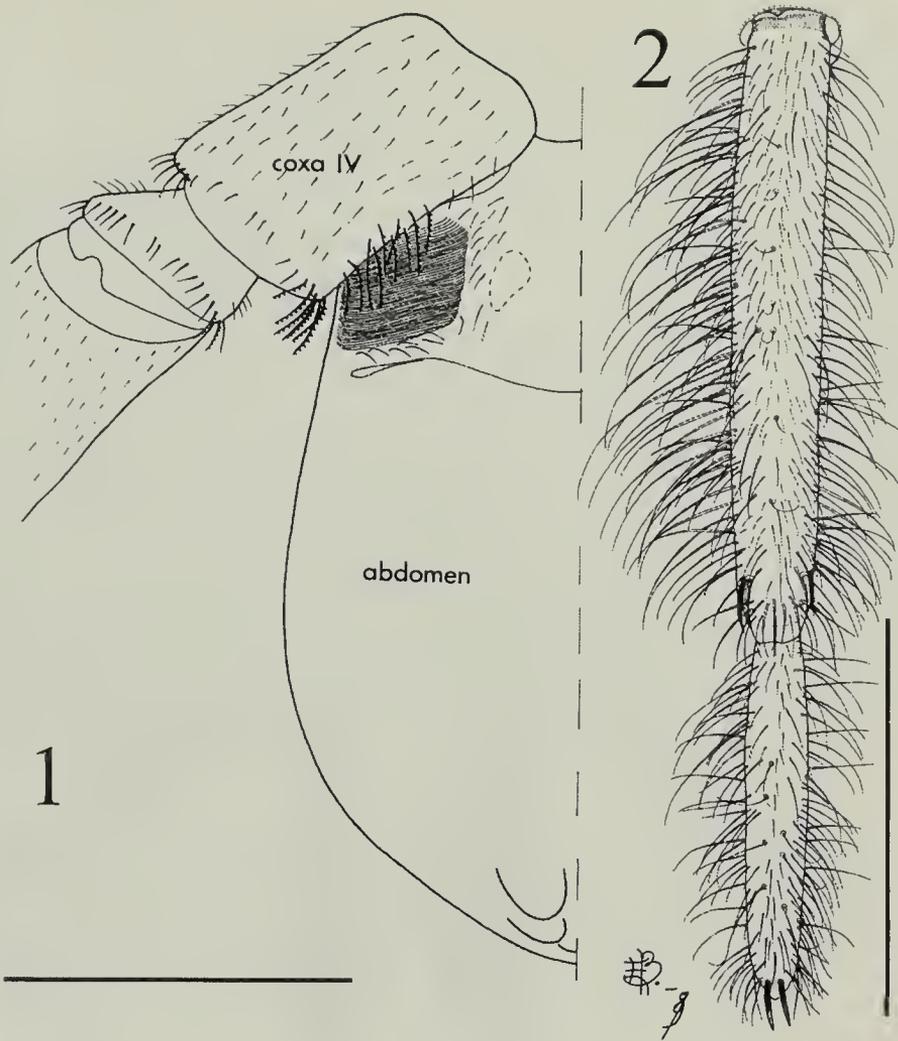
-- Older females: leg femora ventrally and latero-ventrally blackish except distally (cf. Figs. 5-6), other markings somewhat more contrasting than in younger females. Femur I prolaterally patterned as in Fig. 5.

- Egg sac usually comparatively dark, with a greenish-blue tinge (fresh material).

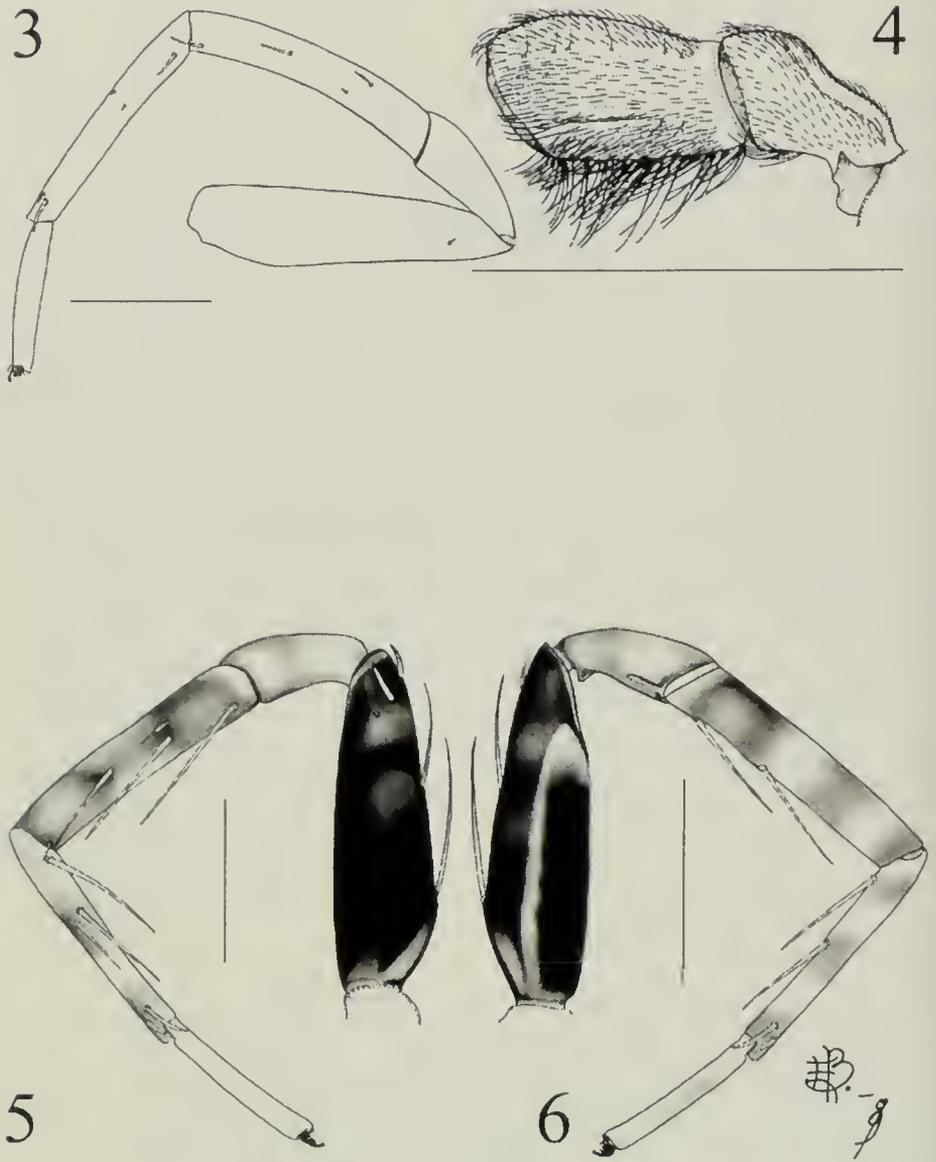
The book lung covers are without hairs (unique condition) also in the pre-adult stages (KRONESTEDT 1973), enabling a species-specific identification of juveniles in this species. The surface of the cover cuticle in the adults is specifically striated. In the adult male the book lung covers form one part of a stridulatory apparatus, the other part being the uniquely denticulated, stout hairs retrolaterally on the fourth coxae and trochanters (KRONESTEDT 1973). During courtship display (KRONESTEDT 1979), the male performs vertical movements of the abdomen, enabling the surface of the lung covers to rub against the denticulated hairs.

HABITAT

According to HOLM & KRONESTEDT (1970) *Pardosa fulvipes* has been found on arable land (ley, cereals, rape), other kinds of open grassland and shore meadows in Sweden. From Finland it was reported from arable land (ley) (HUHTA & RAATIKAINEN 1974), oat field and adjacent meadow (ITÄMIES & RUOTSALAINEN 1985), and sandy beach, meadow by sandy beach as well as cultivated fields (LEHTINEN et al. 1979). VILBASTE (a. o. 1980) found it also on mires (fens and bogs). THALER & BUCHAR (1996) reported it from a mown meadow with a small brook at 1100 m a.s. l. near Innsbruck and assumed that this species might be stenotopic on meadows at brooks. The specimens here reported from the Slovak Paradise N. P. were found in a site with mown grass fields and adjacent higher herb/grass vegetation.



Figs. 1-2: *Pardosa fulvipes* (COLLETT). - 1. Adult male, part of right leg IV and abdomen, showing position of stridulatory apparatus (from KRONESTEDT 1973). - 2. Adult male, left metatarsus and tarsus of leg I in dorsal view. Scale bars 1 mm.



Figs. 3-6: *Pardosa fulvipes* (COLLETT). - 3. Adult male, right leg I in prolateral view. - 4. Adult male, left patella and tibia of palp in retrolateral view. - 5. Adult female (from Slovakia), leg I of an old adult in prolateral view. - 6. Ditto, same leg in retrolateral view. Scale bars 1 mm.

DISTRIBUTION

The identity of *Pardosa fulvipes* was elucidated by HOLM & KRONESTEDT (1970). By then, the species was known with certainty only from Norway, Sweden, and a single locality in Austria. It has since been found in Estonia (several papers, see VILBASTE 1987) and Finland (firstly recorded in HUHTA & RAATIKAINEN 1974). *P. fulvipes* also has a wide distribution in Russia, being found far into Siberia, and also occurring in Kazakhstan (MIKHAILOV 1997).

In Central Europe, *P. fulvipes* was for long known only from the Semmering Pass in Austria (type locality for *Pardosa montivaga* KULCZYŃSKI, junior synonym). It was rather recently recorded from southern Bavaria (Murnauer Moos) in Germany (LÖSER et al. 1982) and other recent finds from Central Europe come from some scattered localities above 700 m in Austria (THALER & BUCHAR 1996). *P. fulvipes* is missing from the checklist of spider species in the Czech Republic (BUCHAR et al. 1995, BUCHAR 1997, up-to-date version available at: <http://www.butbn.cas.cz/klimes/arachno/>). Its mentioning in the corresponding list for Poland (PRÓSZYŃSKI & STARĘGA 1997) is, however, based on a misidentification (KUPRYJANOWICZ in litt.).

Material: SLOVAKIA, Slovenský raj: Podlesok, c. 550 m a.s.l., mown grassland and tall herb/grass vegetation at River Velka Biela Voda, 17.VII.1999, 18 ♀♀; Vysoké Tatry: Stará Lesná, herb/grass vegetation near Hotel Academia, 16.VII.1999, 1♀ (all leg. T. KRONESTEDT).

Illustrations of characters in the male sex made from Swedish material.

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- BUCHAR, J., V. RŮŽIČKA & A. KŮRKA (1995): Check list of spiders of the Czech Republic. - Proc. 15th Europ. Coll. Arachnol. (ed. V. RŮŽIČKA): 35-53. Institute of Entomology, České Budějovice.
- BUCHAR, J. (1997): Supplement to the check list of spiders of the Czech Republic. - Proc. 16th Europ. Coll. Arachnol. (ed. M. ŽABKA): 57-63. Wyższa Szkoła Rolniczo-Pedagogiczna, Siedlce.
- GAJDOŠ, P., J. SVATOŇ & K. SLOBODA (1999): Katalóg pavúkov Slovenska/Catalogue of Slovakian Spiders. Ústav krajinej ekológie SAV, Bratislava. 339 pp.+ maps.
- HOLM, Å. & T. KRONESTEDT (1970): A taxonomic study of the wolf spiders of the *Pardosa pullata*-group (Araneae, Lycosidae). - Acta ent. bohemoslov. 67: 408-428.
- HUHTA, V. & M. RAATIKAINEN (1974): Spider communities of leys and winter cereal fields in Finland. - Annls zool. fenn. 11: 97-104.
- ITÄMIES, J. & M. RUOTSALAINEN (1985): Wolf spiders (Araneae, Lycosidae) in three habitats at Hämeenkyrö, SW Finland. - Memoranda Soc. Fauna Flora fenn. 61: 45-54.
- KRONESTEDT, T. (1973): Study of a stridulatory apparatus in *Pardosa fulvipes* (Collett) (Araneae, Lycosidae) by scanning electron microscopy. - Zool. Scr. 2: 43-47.
- KRONESTEDT, T. (1979): [Ethological characters in taxonomical studies on wolf spiders (Araneae, Lycosidae).] - Ent. Tidskr. 100: 194-199. (In Swedish with English abstract.)
- LEHTINEN, P., S. KOPONEN & M. SAARISTO (1979): Studies on the spider fauna of the southwestern archipelago of Finland II. The Åland mainland and the island of Eckerö. - Memoranda Soc. Fauna Flora fenn. 55: 33-52.
- LÖSER, S., E. MEYER & K. THALER (1982): Laufkäfer, Kurzflügelkäfer, Asseln, Webspinnen, Weberknechte und Tausendfüssler des Naturschutzgebietes "Murnauer Moos" und der angrenzenden westlichen Talhänge (Coleoptera: Carabidae, Staphylinidae; Crustacea: Isopoda; Aranei; Opiliones; Diplopoda). - Entomofauna, Suppl. 1: 369-446.
- MIKHAILOV, K. G. (1997): Catalogue of the spiders of the territories of the former Soviet Union (Arachnida, Aranei). - Sb. Trud. Zool. Muz. 36: 1-416.
- PRÓSZYŃSKI, J. & W. STARĘGA (1997): Araneae. In: Wykaz zwierząt Polski (ed. J. Razowski) 4: 173-199. Inst. Syst. Ewol. Zwierząt PAN, Kraków.
- ROBERTS, M. (1995): Collins Field Guide. Spiders of Britain & Northern Europe. HarperCollins, London etc. 383 pp.
- THALER, K. & J. BUCHAR (1996): Die Wolfspinnen von Österreich 3: Gattungen *Aulonia*, *Pardosa* (p. p.), *Pirata*, *Xerolycosa* (Arachnida, Araneae: Lycosidae) - Faunistisch-terrageographische Übersicht. - Carinthia II186/106: 393-410.
- VILBASTE, A. (1980): The spider fauna of Estonian mires. - Eesti NSV Tead. Akad. Toim. (Biol.) 29: 313-327.
- VILBASTE, A. (1987): [Estonian spiders (Aranei). An annotated check list.] Valgus, Tallinn. 180 pp. (In Estonian with Russian and English summaries.)

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