



Second report on the occurrence of *Pedicia (Crunobia) pallens* Savchenko, 1978 (Diptera, Pediciidae) in Poland

Drugie stwierdzenie *Pedicia (Crunobia) pallens* Savchenko, 1978 (Diptera: Pediciidae) w faunie Polski

DOI: 10.5281/zenodo.17807188

<https://zoobank.org/References/A0791454-89FA-4629-A974-0D7338255749>

Jolanta Wiedeńska

Department of Invertebrate Zoology and Hydrobiology, University of Łódź, Banacha 12/16,
90-237 Łódź, Poland, e-mail: jolanta.wiedenska@biol.uni.lodz.pl

ABSTRACT: A new locality of *Pedicia (Crunobia) pallens* Savchenko, 1978 in Poland is reported. In addition, previously published records of this species from the country are revised and corrected. The photographs of male and female genitalia are presented.

KEY WORDS: Diptera, Pediciidae, faunistics, new record, Poland

INTRODUCTION

Pedicia (Crunobia) pallens Savchenko, 1978 (Diptera, Pediciidae) was originally described by Savchenko (1978) as a subspecies of *Pedicia (Crunobia) zernyi* (Lackschewitz, 1940). It was elevated to species rank by Starý (2006).

It is a rare species, and its distribution in the Western Palaearctic has not yet been thoroughly studied. To date, its occurrence has been confirmed in Greece, Montenegro, Bosnia-Herzegovina, Hungary, Czech Republic, Slovakia, Poland, Ukraine, South European Russia and North Caucasus (Oosterbroek 2025a). *P. (C.) pallens* is associated with moist shrublands and forests situated near streams and swamps, which serve as habitats for its predatory larvae (Savchenko 1978, Kolcsár & Török 2017). It is a montane species (Dénes et al. 2016a, Kolcsár & Keresztes 2016), occurring at altitudes of 500–860 m a.s.l. (Oosterbroek 2025a) and up to about 1100 m a.s.l. in the Caucasus (Savchenko 1986).

In Poland, *P. (C.) pallens* was first recorded from the Łysogóry Mts (the main range of the Świętokrzyskie Mts) as *Pedicia (Crunobia) zernyi pallens* Savchenko, 1978 (Wiedeńska 1991). This record was subsequently included in the Polish checklists of Limoniidae and Pediciidae (Krzemiński 1991, Wiedeńska 2007). Unfortunately, during the revision

of these checklists, it was overlooked that the subspecies name had been omitted. Thus both checklists refer to *P. (C.) zernyi*, which has not yet been recorded in the fauna of Poland.

MATERIAL

Detailed information about the new record from the Pieniny Mts and the material from the Świętokrzyskie Mts is provided below; UTM grid coordinates are also included.

New record:

Pieniny Mts, scrub at the source of the Kotłowy stream, 660 m a.s.l., DV57; 07.VI.1999, 1 ♂ (leg. I. Słowińska); (Phot. 1 – 3).

Material from the Świętokrzyskie Mts, published as *Pedicia (C.) zernyi pallens* Sav. (Wiedeńska 1991, Tab. 1):

Nowa Słupia, vegetation on the bank of the Łagowianka stream, upstream of the village, 260 m a.s.l., EB03; 03.VI.1982, 2 ♀♀ (leg. J. Siciński); (Phot. 4 – 5);

Huta Szklana, meadows at the Belnianka river, 470 m a.s.l., EB03; 22.V.1984, 1 ♀ (leg. J. Wiedeńska);

Kakonin, banks of the Kakonianka stream below the forest border, upstream of the village, 450 m a.s.l., DB93; 25.V.1984, 1 ♀ (leg. S. Niesiołowski); (Phot. 6);

Kakonin, meadows on the banks of the Kakonianka stream below the village, 360 m a.s.l., DB93; 25.V.1984, 1 ♀ (leg. J. Wiedeńska); (Phot. 7);

Huta Stara, meadows on the banks of the Belnianka stream, 420 m a.s.l., EB03; 26.V.1984, 1 ♂ 1 ♀ (leg. J. Wiedeńska).

COMMENTS

Savchenko (1978) described the subspecies *Pedicia (C.) zernyi pallens* primarily on the basis of body coloration, emphasizing that the new subspecies is much lighter than the nominative form described by Lackschewitz (1940). Savchenko noted these features both in the description (p. 703) and in the key (p. 712). The illustrations of the hypopygium were captioned ambiguously: as *P. (C.) zernyi pallens* ssp.n. (p. 704) and *P. (C.) zernyi* (Lack.) (p. 712). However, in his later, more comprehensive publication (Savchenko 1986), both illustrations were reproduced and consistently captioned as *P. (C.) zernyi pallens* (pp.153, 154).

Starý (2006) pointed out clear and significant differences in the structure of the hypopygium, thereby elevating *P. (C.) zernyi pallens* to species rank as *P. (C.) pallens* Savchenko. In verifying the material available to him (from the Czech Republic, Slovakia, Ukraine and Greece), he relied on the description and illustrations of *P. (C.) zernyi* from Mendl (1974), as well as on the original material by Lackschewitz from Dalmatia and Albania. However, Starý's article (2006) does not include any illustrations or a more detailed description of the hypopygium, beyond noting that the differences between the species are primarily related to „the shape of the apical extension of the gonocoxite”.

Even the wing venation is not a reliable key diagnostic feature, because the discoidal cell, which is always closed in *P. (C.) zernyi*, may be closed or open in *P. (C.) pallens* (Savchenko 1978, 1986) (Phot. 6 – 7).



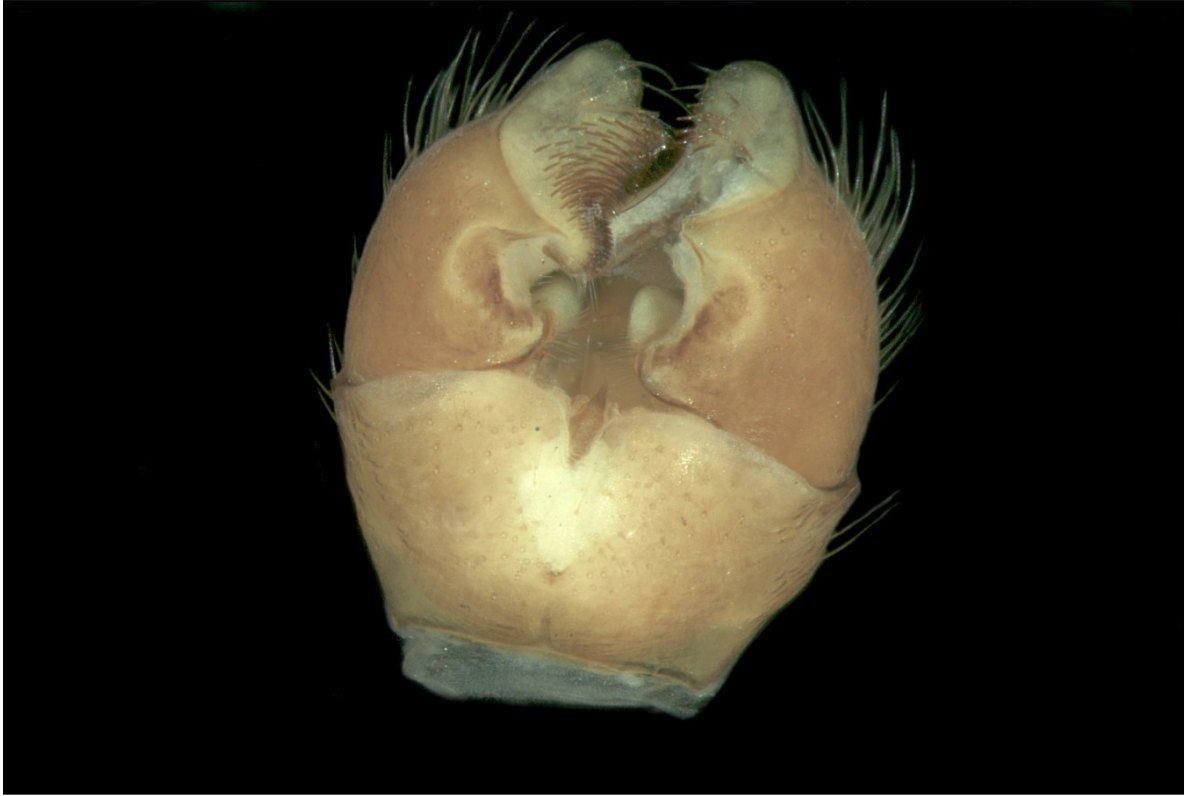
Phot. 1. *Pedicia (Crunobia) pallens* – male (Phot. by M. Gellert)

Therefore, to support the identification of both species discussed, the following sources of illustrations are available, in addition to the published descriptions:

Pedicia (C.) zernyi. In Lackschewitz (1940), the drawings are not very precise, and Mendl (1974) illustrated this species based on two of Lackschewitz's specimens, both of which were poorly preserved: one flattened on a broken microscope slide, and the other mounted on a pin, dry and severely shrunken. The illustrations from Mendl (1974) are available also on the Catalogue of the Craneflies of the World website (CCW) (Oosterbroek 2025a).

Pedicia (C.) pallens. Drawings of the hypopygium, wing and ovipositor are provided in Savchenko (1978, 1986, 1989) and are also reproduced on the CCW website (Oosterbroek 2025a). Photographs of the imago (Dénes et al. 2016a, Tillier 2024) and the hypopygium (Dénes et al. 2016a) are also available on the CCW website (Oosterbroek 2025a). Additionally, the website hosts unpublished photographs of the imago by Kolcsár.

It is worth noting that the general coloration of *P. (C.) pallens* in Kolcsár's photographs (Oosterbroek 2025a) and in Dénes et al. (2016a) is very light – yellowish – which is consistent with the key diagnostic features. The specimen from Greece (Tillier 2024, Oosterbroek 2025a), on the other hand, is distinctly darker and exhibits V-shaped markings on the praescutum (these may represent shallow grooves rather than true coloration). There is also a darker streak along anterior margin of the wing, whereas the key diagnostic feature is a light, undarkened wing (Savchenko 1978). It is very likely that an underexposure of the photographs causes the specimen to appear darker than it truly is.



Phot. 2. *Pedicia (Crunobia) pallens* – male terminalia (hypopygium), ventral view; apical extension of the right gonocoxite is broken (Phot. by M. Gellert)



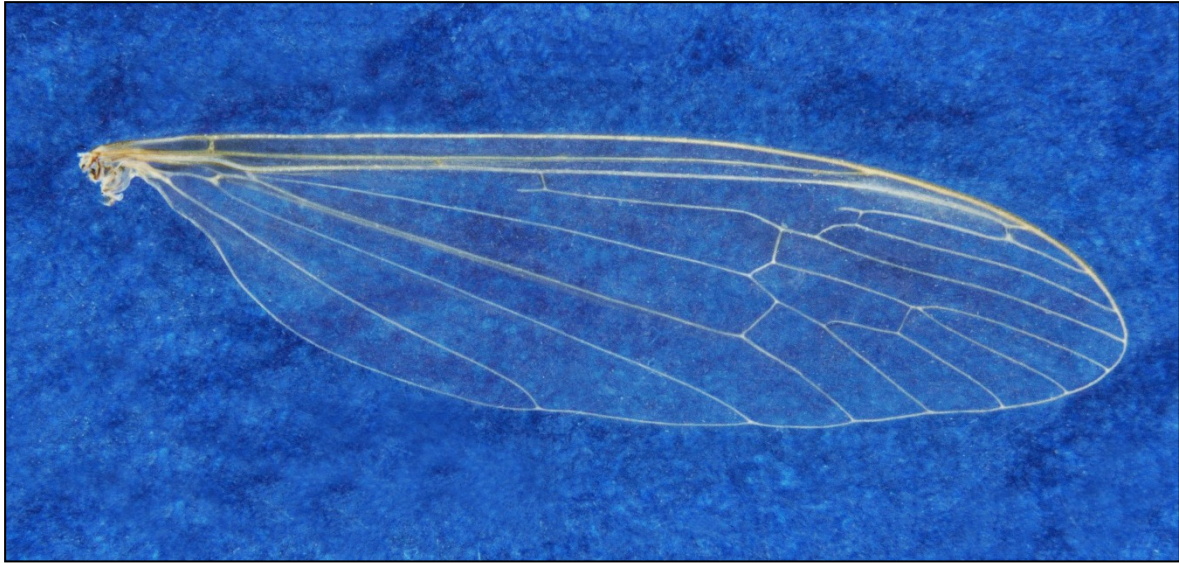
Phot. 3. *Pedicia (Crunobia) pallens* – male terminalia (hypopygium), caudo-ventral view; apical extension of the right gonocoxite is broken (Phot. by M. Gellert)



Phot. 4. *Pedicia (Crunobia) pallens* – female terminalia (ovipositor), lateral view (Phot. by M. Gellert)



Phot. 5. *Pedicia (Crunobia) pallens* – female terminalia (ovipositor), ventral view (Phot. by M. Gellert)



Phot. 6. *Pedicia (Crunobia) pallens* – wing of the female with the discoidal cell (Phot. by M. Gellert)



Phot. 7. *Pedicia (Crunobia) pallens* – wing of the female without discoidal cell (Phot. by M. Gellert)

In summary: There is undoubtedly an issue with the accurate identification of both species discussed. This problem concerns not only the material from Poland discussed in this study, but also material published from other regions of Europe. This is evidenced by the correction of some data (Ujvárosi, Starý 2003, Ujvárosi 2005, 2007) previously posted on the CCW website (Oosterbroek 2025a, 2025b), as well as by reports of misidentifications in collections from Romania (Kolesár et al. 2012, Oosterbroek 2025a, 2025b).

The photographs (Phot. 1 – 7) of specimens from the Świętokrzyskie Mts and the Pieniny Mts included in this note may serve for future verification of the species' identification and taxonomy. There is hope that this will be made possible by the intensive phylogenetic studies that have been underway for some time now (e.g. Keresztes et al. 2012, Dénes et al. 2016a, 2016b), addressing the relationships among species within the subgenus *Crunobia* Kolenati,

1860. These studies, conducted in the Carpathians – one of the most important centers of endemism in Europe (Bálint et al. 2011, Keresztes et al. 2012) – may lead to several changes in the currently accepted taxonomy of the genus *Pedicia* Latreille, 1809.

ACKNOWLEDGEMENTS

I am grateful to Dr. Marta Gellert for taking the photographs, but especially to Dr. Karolina Chaniecka for preparing them for printing. My thanks are due also to Prof. Anna Drozd for checking and improving the English of this paper.

REFERENCES

- Bálint, M., Ujvárosi, L., Theissing, K., Lehrian, S., Mészáros, N., Pauls, S. U. (2011). The Carpathians as a Major Diversity Hotspot in Europe, 189 – 205 pp. In: Zachos, F. E., Habel, J. C. (eds). *Biodiversity Hotspots*, Springer-Verlag Berlin Heidelberg. DOI: 10.1007/978-3-642-20992-5 11
- Dénes, A.-L., Kolcsár, L.-P., Török, E., Keresztes, L. (2016a). Taxonomic revision of the Carpathian endemic *Pedicia* (*Crunobia*) *saryi* species-group (Diptera, Pediciidae) based on morphology and molecular data. *ZooKeys*, 569, 81 – 104. DOI: 10.3897/zookeys.569.7458
- Dénes, A.-L., Kolcsár, L.-P., Török, E., Keresztes, L. (2016b). Phylogeography of the micro-endemic *Pedicia saryi* group (Insecta: Diptera): evidence of relict biodiversity in the Carpathians. *Biological Journal of the Linnean Society*, 119, 719 – 731.
- Keresztes, L., Kolcsár, L.-P., Török, E., Dénes, A.-L. (2012). The spring dwelling dipteran genus *Pedicia* Latreille in the Carpathian area: diversity, divergence and distribution – case studies, 83 – 112 pp. In: Keresztes, L., Marko, B. (eds). *The Carpathians as speciation centres and barriers: from case studies to general patterns*. Cluj University Press, Cluj-Napoca, Romania.
- Kolcsár, L.-P., Keresztes, L. (2016). New records of Pediciidae (Diptera: Tipuloidea) from Hungary. *Folia Entomologica Hungarica*, 77, 119 – 126. DOI: 10.17112/FoliaEntHung.2016.77.119
- Kolcsár, L.-P., Török, E. (2017). New faunistic records of Pediciidae (Diptera) from Ukraine. *Ukrainska Entomofaunistyka*, 8(1), 25 – 26.
- Kolcsár, L.-P., Török, E., Keresztes, L. (2012). An annotated list of Pediciidae (Insecta, Diptera) from Romania with a revision of the literature data. *Entomologica romanica*, 17, 21 – 27.
- Krzemiński, W. (1991). Limoniidae, pp. 78 – 82. In: Razowski, J. (ed.). *Checklist of Animals of Poland*. Vol. 2. ZN Ossolińskich, Wrocław, 342 pp.
- Lackschewitz, P. (1940). Die paläarktischen Limnophilinen, Anisomerinen und Pediciinen des Wiener Naturhistorischen Museums. *Annalen des Naturhistorischen Museums Wien*, 50, 68 – 122.

- Mendl, H. (1974). Zum Problem der südlichen gelben *Crunobia* – Arten (Diptera, Tipulidae). 3. Beitrag zur Kenntnis der Limoniinen-Fauna Italiens. *Fragmenta Entomologica*, 10(1), 25 – 37.
- Oosterbroek, P. (2025a). Catalogue of the Craneflies of the World (Diptera, Tipuloidea: Pediciidae, Limoniidae, Cylindrotomidae, Tipulidae). Available at: <https://ccw.naturalis.nl/>. Accessed August – September 2025.
- Oosterbroek, P. (2025b). Catalogue of the Craneflies of the World (Diptera, Tipuloidea: Pediciidae, Limoniidae, Cylindrotomidae, Tipulidae). Available at: <https://ccw.naturalis.nl/>. Accessed May 2025.
- Savchenko, E. N. (1978). Novye i maloizvestnye vidy i podvidy komarov semeystva Limoniidae (Diptera) fauny SSSR. 1. Rod *Pedicia*, podrod *Crunobia*. [New and little-known species and subspecies of limoniid-flies (Diptera, Limoniidae) from the USSR. 1. Genus *Pedicia*, subgenus *Crunobia*]. *Zoologicheskii Zhurnal*, 57, 700 – 713. [in Russian with English summary]
- Savchenko, E. N. (1986). Komary-limoniidy (obshchaya kharakteristika, podsemeystva peditsiiny i geksatominy). [Limoniid-flies (general description, subfamilies Pediciinae and Hexatomiinae)]. In: Fauna Ukrainy. T. 14. *Dlinnousyie dvukrylye*, vyp. 2., Naukova Dumka, Kiev, 380 pp. [in Russian]
- Savchenko, E. N. (1989). Komary-limoniidy fauny SSSR. [Limoniidae fauna of the USSR]. Naukova Dumka, Kiev, 377 pp. [in Russian]
- Starý, J. (2006). Nomenclatural changes in West Palaearctic Limoniidae and Pediciidae (Diptera). *Acta Universitatis Carolinae, Biologica*, 49, 175 – 186.
- Tillier P. (2024). Contribution to the knowledge of craneflies in Tinos (Diptera Nematocera, Tipulomorpha). *Parnassiana Archives*, 12, 5 – 12.
- Ujvárosi, L. (2005). Limoniidae and Pediciidae (Insecta: Diptera) assemblages along mountainous streams: additions to assess the biodiversity in wet habitats in Carpathians, Romania. *Acta Biologica Debrecina Oecologica Hungarica*, 13, 233 – 248.
- Ujvárosi, L. (2007). Suprafamilia. Tipuloidea, 228 – 234 pp. In: Moldovan, O. T. (ed.). *Checklist of Romanian fauna (terrestrial and freshwater species)*. Institutul de Speologie Emil Rakovita, Cluj.
- Ujvárosi, L. & Starý, J. (2003). A new *Pedicia* (*Crunobia*) from Romania and other four species new to the country's fauna (Diptera: Pediciidae). *Entomologica romanica*, 7, 45 – 50.
- Wiedeńska, J. (1991). Crane-flies (Diptera, Limoniidae) of the Świętokrzyskie Mountains. Part II. Limoniidae of the Łysogóry Chain. *Fragmenta Faunistica*, 35, 49 – 64.
- Wiedeńska, J. (2007). Diptera: Pediciidae – wykaz gatunków, s. 77. [Diptera: Pediciidae – checklist, p. 77 In: Bogdanowicz, W., Chudzicka, E., Pilipiuk, I., & Skibińska, E. (Eds.) *Fauna Polski charakterystyka i wykaz gatunków*. Muzeum i Instytut Zoologii PAN, Warszawa, 2, 505 pp. [in Polish with English summary].

STRESZCZENIE

Pedicia (Crunobia) pallens Savchenko, 1978 (Diptera, Pediciidae) został pierwotnie opisany przez Savchenkę (1978) jako podgatunek *Pedicia (Crunobia) zernyi* (Lackschewitz, 1940). Do rangi gatunku został wyniesiony przez Starý'ego (2006).

Z Polski wykazany został po raz pierwszy z Łysogór (Wiedeńska 1991) jako *Pedicia (Crunobia) zernyi pallens* Savchenko. Niestety, w polskich wykazach gatunków (Krzemiński 1991, Wiedeńska 2007) została w czasie korekty pominięta nazwa podgatunku, w związku z czym w publikacjach tych wymieniony jest *Pedicia (Crunobia) zernyi* Lackschewitz – gatunek, który w faunie Polski nie został do tej pory stwierdzony.

W niniejszej notatce uzupełniono dane dotyczące lokalizacji gatunku w Łysogórach (Wiedeńska 1991) oraz podano nowe stanowisko w Pieninach. Zwrócono także uwagę na trudności związane z prawidłową identyfikacją gatunku. Podkreślono, że problem ten może zostać zweryfikowany w przyszłości, dzięki intensywnym badaniom filogenetycznym (m.in. Keresztes i in. 2012, Dénes i in. 2016a, 2016b), których efektem mogą być zmiany w obowiązującej obecnie taksonomii i systematyce w obrębie podrodzaju *Crunobia* Kolenati, 1860.



<https://pte.up.poznan.pl/pte/dipteron/redakcja.htm>

© Polskie Towarzystwo Entomologiczne 2025

Licensed under a Creative Commons Attribution License