



Critical check-list of spiders (Araneae) of the Kampinos National Park

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Abstract: This paper presents the results of the research conducted so far on Araneae of the Kampinos National Park. After verification of the published data, it was established that 305 species of spiders recorded in the Park area; this is 36.8% of Araneae reported from Poland. The results of the study so far indicate that Kampinos NP is characterized by a very great diversity of araneofauna. In the Park have been found four protected species: *Agroeca dentigera*, *Eresus kollari*, *Philaeus chrysopeus*, *Yllenus arenarius* and many rare and interesting spider species, e.g. *Archaeodictyna ammophila*, *Enoplognatha mordax*, *Haplodrassus moderatus*, *Kishidaia conspicua*, *Titanoeca spominima* and many others. Three species: *Micaria micans*, *Pardosa alacris* and *Sibianor larvae* are reported for first time from this park.

Key words: biodiversity, Mazovia, protected areas

INTRODUCTION

Established on 16 January 1959, Kampinos National Park is situated on the Central Mazovian Lowland, slightly west of Warsaw. Its area totals approximately 38 544.33 ha (76 300.33 ha including the buffer zone), including of 72.4 ha allocated to the European Bison Breeding Centre situated in Smardzewice in the Łódzkie Voivodship. Within the Park borders, there are vast areas of the Kampinos Primeval Forest situated in the Vistula pre-valley, which are the remnants of the former Mazovian Primeval Forest. The relief of the Kampinos NP was shaped in the post-glacial period under the influence of waters flowing down from the melting glacier. The waters flowing down the Prawisła riverbed towards the west accumulated sands and gravels, which gave rise to two embankments of latitudinal inland dunes separated by wide wet depressions (Kondracki 2011, Matuszkiewicz 2003). The sandy dunes and hills are mostly covered with dry pine forests and the more fertile parts with oak-hornbeam or mixed forests (Kloss 2003a, Kloss et al. 2016). Wetlands of the Kampinos Forest are dominated by alder forests, riparian forests and open peat bogs, sedges and wet meadows, and on the dune hills by thermophilous communities (Kloss 2003a, b; Kucharski & Michalska-Hejduk 2003; Kloss et al. 2016). Forests cover approximately 73% of the area of Kampinos NP. The great diversity of habitats results in the fact that there are approximately 1390 species of vascular plants, 146 species of bryophytes and 187 species of lichens in the Kampinos NP (Kiełtyk et al. 2016). Among them there are relict boreal species, e.g. leatherleaf (*Chamaedaphne calyculata*), twinflower (*Linnaea borealis*), Siberian iris (*Iris sibirica*), Pontic species, e.g. dwarf cherry (*Prunus fruticosa*), Purple vipper's grass (*Scorzonera purpurea*) and numerous rare and protected species (Głowacki & Ferchmin 2003, Kiełtyk et al. 2016). High diversity of natural habitats and vegetation makes Kampinos National Park one of the most important fauna sanctuaries in the Polish lowlands. Due to the abundance of bird species (Bird Directive) and the diversity of plant communities (Habitats Directive), since 2004 Kampinos National Park has been an area included in the NATURA 2000 network (code PLC 140001).

So far more than 16 500 animal species have been reported from the area of Kampinos NP (Wiśniewski 2016). All vertebrate phyla, for which the Kampinos National Park is one of

the most important areas of occurrence in the central part of the country and a crossing point of migration routes (Chudzicka et al. 2003, Romanowski 2016), are well studied. Invertebrates, including arthropods are a less studied group (Chudzicka et al. 2003, Ceryngier & Marczak 2016). Only some orders (e.g. Formicidae, Odonata, Orthoptera) or families (e.g. Carabidae, Cerambycidae, Coccinelidae, Rhopalocera, Scarabeidae), have been quite studied in detail (Chudzicka et al. 2003, Dziekańska & Selezniev 2008, Ceryngier & Marczak 2016), but entire large taxonomic units, e.g. Chrysomelidae, Curculionidae, Diptera, Homoptera are known only in a fragmentary way, rarely exceeding 20% of the national fauna (Chudzicka et al. 2003, Ceryngier & Marczak 2008).

The first data on spiders (Araneae) from the areas of Kampinos NP were published by Kaczmarek (1958), listing 11 species, although some of them raise serious doubts as to the correctness of the designations. In the 1960s and 1970s, a number of publications appeared which discussed issues related to the species diversity of the araneofauna of selected sites or plant communities in the Kampinos National Park and ecological or trophic relations in the predator-prey system (e.g. Łuczak 1960; Kajak 1961; Kajak & Łuczak 1961; Prószyński 1961; Kaczmarek 1963; Łuczak 1963; Kajak 1965a, b; Breymeyer 1966a, b; Łuczak 1966; Staręga 1966; Dąbrowska-Prot et al. 1968a, b; Dąbrowska-Prot 1970; Staręga 1974; Zimka 1974). In the 1980s, publications by Staręga (1984, 1989), among others, were published, which brought a number of new data on the araneofauna of Kampinos NP. Since the beginning of the 1990s, the number of publications relating to the araneofauna of the Kampinos National Park has decreased, although there are still new data scattered in studies discussing other regions of the country (e.g. Staręga 1996, 2003a, b), or devoted to the occurrence of single, interesting species (Diehl et al. 2003, Wawer 2005, 2006, Marczak 2010).

The study by Kajak and Łuczak (2003) summarised the state of knowledge on the araneofauna of Kampinos Primeval Forest, and in fact of Kampinos NP. It showed the presence of 306 species, but it is burdened with many serious errors. Among others, two families (Mimetidae and Tetragnathidae) are duplicated in the list, which makes the list of species overestimated by 10 positions. The synonymy used in this study is in many cases out of date in several cases two different synonyms of one species are counted as two separate species, e.g. *Euophrys frontalis* and *E. maculata* are one species – *E. frontalis*, *Evarcha falcata* and *E. flammata* are one species – *E. falcata*, which also inflates the total number of species. Furthermore, Kajak and Łuczak (2003) still mentioned *Micaria albovittata* and *Pardosa proxima*, as occurring in Kampinos Primeval Forest, the presence of which in Poland was already questioned and considered a result of incorrect identifications (cf. Prószyński & Staręga 1971). The list also omits several species mentioned in the cited literature, e.g. *Abacoproeces saltuum* (Łuczak 1960), *Agroeca dentigera* (Staręga 1974), *Nigma flavescens* (Łuczak 1960), and at the same time the list in the bibliography is very incomplete. Due to these and a number of other errors in the publication Kajak & Łuczak (2003), the image of the araneofauna of the Kampinos Forest and Kampinos National Park, drawn on its basis, remains far from reality.

MATERIAL AND METHODS

In order to establish a list of spider species (Araneae) actually occurring in the area of the Kampinos National Park, data from the literature were critically analysed, paying attention not only to the lists of species included by the authors, but also to other additional information, e.g. about the places of their occurrence or the time of their capture. Synonymy was also verified based on historical and current data. The study was limited to data from the area of Kampinos NP without its buffer zone. In some cases evidence specimens preserved in the collection of Museum and Institute of Zoology of the Polish Academy of Sciences in Łomna-Las

(J. Prószyński, W. Staręga) were also verified, however, after numerous works and studies carried out by the Institute of Ecology of the Polish Academy of Sciences in Dziekanów Leśny (A. Breymeyer, E. Dąbrowska-Prot, A. Kajak, J. Łuczak, and co-workers) no museum material survived. In the cited literature, only publications containing original data were included. Synonymy in the presented list based on World Spider Catalog (2022). In square brackets [] are the synonyms under which the species was shown in the cited publication. A question mark at work means that the species has been mentioned in the work without prior documentation.

LIST OF SPECIES

Family: **Agelenidae**1. *Agelena labyrinthica* (Clerck, 1757)

Dąbrowska-Prot et al. 1973 [*Agelena similis* – misidentification], Staręga 1974.

2. *Allagelena gracilens* (C. L. Koch, 1841)

Staręga 1989 [*Agelena gracilens*].

An occurrence of this xerophilic and thermophilic species (Nentwig et al. 2022) in wet meadows or in alder forests (Dąbrowska-Prot et al. 1973) is unlikely. These data refer to the common species *Agelena labyrinthica*.

3. *Coelotes atropos* (Walckenaer, 1830)

Breymeyer 1966a [*Amaurobius terrestris* – misidentification], Zimka 1974 [*Amaurobius terrestris* – misidentification].

The question of species identified in the older literature under the name *Coelotes atropos* and *Coelotes terrestris* is complicated; many authors used the synonym *Coelotes terrestris* as *C. atropos* vice versa than is now understood (see Prószyński & Staręga 1971, World Spider Catalog 2022). Nevertheless, in the lowland part of Poland only *Coelotes atropos* occurs.

– *Coelotes terrestris* (Wider, 1834)

Breymeyer 1966a [*Amaurobius terrestris*], Zimka 1974 [*Amaurobius terrestris*]. See notes at *Coelotes terrestris*.

4. *Inermocoelotes inermis* (L. Koch, 1855)

Breymeyer 1966a [*Coelotes inermis*], Zimka 1974 [*Coelotes inermis*].

Family: **Anyphaenidae**5. *Anyphaena accentuata* (Walckenaer, 1802)

Łuczak 1960, Dąbrowska-Prot & Łuczak 1968a, Staręga 1974.

Family: **Araneidae**6. *Agalenatea redii* (Scopoli, 1763)

Prószyński 1961 [*Araneus redii*], Łuczak 1963 [*Araneus redii*], Dąbrowska-Prot et al. 1973 [*Araneus redii*], Łuczak 1997.

7. *Araneus alsine* (Walckenaer, 1802)

Prószyński 1961, Dąbrowska-Prot et al. 1973, Staręga 1974.

8. *Araneus angulatus* Clerck, 1757

Prószyński 1961, Staręga 1974.

9. *Araneus diadematus* Clerck, 1757

Łuczak 1960, 1963, Prószyński 1961, Dąbrowska-Prot et al. 1973, Krzyżanowska 1979, Staręga 1989, Łuczak 1997.

10. *Araneus marmoreus* Clerck, 1757

Łuczak 1960 [*Araneus marmoreus* + *Araneus marmoreus pyramidatus*], Prószyński 1961 [*Araneus marmoreus marmoreus* + *Araneus marmoreus pyramidatus*], Łuczak 1963 [*Araneus marmoreus* + *Araneus marmoreus pyramidatus*], Dąbrowska-Prot et al. 1973 [*Araneus marmoreus* + *Araneus marmoreus pyramidatus*], Staręga 1974.

11. *Araneus quadratus* Clerck, 1757

Prószyński 1961, Kajak 1965a, 1965b, 1967, Kajak & Stejgwiłło-Laudańska 1968, Kajak & Olechowicz 1969, Myrcha & Stejgwiłło-Laudańska 1970, Kajak 1971, Kajak et al. 1971, Dąbrowska-Prot et al. 1973, Kajak 1978, Staręga 1989.

12. *Araneus sturmi* (Hahn, 1831)

Prószyński 1961, Kaczmarek 1963, Łuczak 1963, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Staręga 1974 [*Atea sturmi*].

13. *Araneus triguttatus* (Fabricius, 1775)

Łuczak 1960.

14. *Araniella cucurbitina* (Clerck, 1757)

Łuczak 1960 [*Araneus curbitinus*], Prószyński 1961 [*Araneus cucurbitinus cucurbitinus*], Łuczak 1963 [*Araneus curbitinus*], Dąbrowska-Prot & Łuczak 1968a [*Araneus cucurbitinus*], Dąbrowska-Prot et al. 1973 [*Araneus cucurbitinus*], Locket & Łuczak 1974 [*Araneus cucurbitinus*], Staręga 1974, Łuczak 1997.

15. *Araniella opisthographa* (Kulczyński, 1905)

Prószyński 1961 [*Araneus cucurbitinus opisthographus*], Staręga 1989.

16. *Argiope bruennichi* (Scopoli, 1772)

Diehl et al. 2003, Kajak & Łuczak 2003, Olszewski 2003, Wawer 2005, Wawer & Mróz 2006, Wawer & Kostro-Ambroziak 2016.

17. *Cercidia prominens* (Westring, 1851)

Łuczak 1960, Prószyński 1961, Łuczak 1963, Staręga 1974, 1989, Łuczak 1997.

18. *Cyclosa conica* (Pallas, 1772)

Prószyński 1961, Kaczmarek 1963, Łuczak 1963, Staręga 1974, Łuczak 1997.

19. *Cyclosa oculata* (Walckenaer, 1802)

Prószyński 1961, Dąbrowska-Prot et al. 1973.

– ***Gibbaranea bituberculata* (Walckenaer, 1802)**

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park

20. ***Hypsosinga heri* (Hahn, 1831)**

Kajak & Olechowicz 1969 [*Singa heri*], Kajak 1971 [*Singa heri*], Kajak et al. 1971 [*Singa heri*], Staręga 1974, Kajak 1978 [*Singa heri*].

21. ***Hypsosinga pygmaea* (Sundevall, 1831)**

Prószyński 1961 [*Singa pygmaea*], Łuczak 1963 [*Singa pygmaea*], Kajak & Olechowicz 1969 [*Singa pygmaea*], Dąbrowska-Prot et al. 1973 [*Singa pygmaea*], Staręga 1974, 1989, Łuczak 1997.

22. ***Hypsosinga sanguinea* (C. L. Koch, 1844)**

Staręga 1974.

23. ***Larinioides cornutus* (Clerck, 1757)**

Kajak 1961 [*Araneus cornutus*], Kajak & Łuczak 1961, Prószyński 1961 [*Araneus cornutus*], Kajak 1965a [*Araneus cornutus*], Kajak 1965b [*Araneus cornutus*], Kajak 1967 [*Araneus cornutus*], Dąbrowska-Prot & Łuczak 1968a [*Araneus cornutus*], Kajak & Olechowicz 1969 [*Araneus cornutus*], Staręga 1974 [*Cyphepeira cornuta*], Staręga 1989.

24. ***Larinioides patagiatus* (Clerck, 1757)**

Prószyński 1961 [*Araneus patagiatus*]; Łuczak 1963 [*Araneus patagiatus*], Dąbrowska-Prot et al. 1973 [*Araneus patagiatus*].

25. ***Mangora acalypha* (Walckenaer, 1802)**

Łuczak 1960, Kajak 1961, Prószyński 1961, Kaczmarek 1963, Łuczak 1963, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974, Łuczak 1997.

26. ***Neoscona adianta* (Walckenaer, 1802)**

Łuczak 1960 [*Araneus adiantus*], Prószyński 1961 [*Araneus adiantus*], Łuczak 1963 [*Araneus adiantus*], Dąbrowska-Prot et al. 1973 [*Araneus adiantus*].

27. ***Nuctenea umbratica* (Clerck, 1757)**

Łuczak 1960 [*Araneus umbraticus*], Łuczak 1963 [*Araneus umbraticus*], Staręga 1974.

28. ***Singa hamata* (Clerck, 1757)**

Kajak 1961, Kajak & Łuczak 1961, Prószyński 1961, Kajak 1971, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974.

29. ***Singa nitidula* C. L. Koch, 1844**

Staręga 1989.

30. *Zilla diodia* (Walckenaer, 1802)

Łuczak 1960, Prószyński 1961, Łuczak 1963, Dąbrowska-Prot & Łuczak 1968a, Łuczak 1997.

31. *Zygiella atrica* (C. L. Koch, 1845)

Prószyński 1961 [*Zygiella calophylla*].

– *Zygiella x-notata* (Clerck, 1757)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

Family: **Cheiracanthiidae**32. *Cheiracanthium erraticum* (Walckenaer, 1802)

Kajak 1961, Kajak & Łuczak 1961, Kajak 1971, Kajak et al. 1971, Dąbrowska-Prot et al. 1973, Staręga 1989 [*Cheiracanthium carnifex*].

Family: **Clubionidae**33. *Clubiona caerulescens* L. Koch, 1867

Łuczak 1960, Breymeyer 1966a, 1966b, Zimka 1974.

34. *Clubiona compta* C. L. Koch, 1839

Breymeyer 1966a [*Clubiona compta*], Zimka 1974 [*Clubiona compta*].

35. *Clubiona diversa* O.P.-Cambridge, 1862

Staręga 1974 [*Microclubiona diversa*].

36. *Clubiona frutetorum* L. Koch, 1867

Łuczak 1960.

37. *Clubiona germanica* Thorell, 1871

Łuczak 1960, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974.

38. *Clubiona lutescens* Westring, 1851

Breymeyer 1966a, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974, Zimka 1974.

39. *Clubiona pallidula* (Clerck, 1757)

Łuczak 1960 [*Clubiona holosericea*].

40. *Clubiona phragmitis* C. L. Koch, 1843

Dąbrowska-Prot & Łuczak 1968a, Staręga 1974.

41. *Clubiona reclusa* O. P.-Cambridge, 1863

Dąbrowska-Prot et al. 1973, Staręga 1989 [*Euryclubiona reclusa*].

42. *Clubiona stagnatilis* Kulczyński, 1897

Kajak & Łuczak 1961, Staręga 1974 [*Euryclubiona stagnatilis*], Kostro-Ambroziak & Wawer 2015.

43. *Clubiona subsultans* Thorell, 1875

Staręga 1974 [*Euryclubiona subsultans*].

44. *Clubiona subtilis* L. Koch, 1867

Dąbrowska-Prot et al. 1973, Staręga 1974 [*Microclubiona subtilis*].

45. *Clubiona terrestris* Westring, 1851

Dąbrowska-Prot et al. 1973.

46. *Clubiona trivialis* C. L. Koch, 1843

Łuczak 1966.

Family: **Dictynidae**47. *Archaeodictyna ammophila* (Menge, 1871)

Prószyński & Staręga 1971.

48. *Archaeodictyna consecuta* (O. P.-Cambridge, 1872)

Staręga 1974.

49. *Argenna patula* (Simon, 1874)

Prószyński & Staręga 1971 [*Argenna albopunctata*], Staręga 2003b [*Argenna albopunctata*].

50. *Argenna subnigra* (O. P.-Cambridge, 1861)

Staręga 1989.

51. *Dictyna arundinacea* (Linnaeus, 1758)

Łuczak 1960, Kajak 1961, Kajak & Łuczak 1961, Łuczak 1963, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

52. *Dictyna pusilla* Thorell, 1856

Staręga 1974.

53. *Dictyna uncinata* Thorell, 1856

Łuczak 1960 [*Dictyna ncinata*], Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

54. *Nigma flavescens* (Walckenaer, 1830)

Łuczak 1960 [*Dictyna flavescens*], Staręga 1989.

Family: **Eresidae**55. *Eresus kollari* Rossi, 1846

Prószyński & Staręga 1971 [*Eresus niger*], Rozwałka et al. 2019.

Family: **Gnaphosidae**56. *Drassodes lapidosus* (Walckenaer, 1802)

Breymeyer 1966a, 1966b, Zimka 1974, Staręga 1989.

57. *Drassodes pubescens* (Thorell, 1856)

Breymeyer 1966a, 1966b, Zimka 1974, Staręga 1989.

58. *Drassyllus lutetianus* (L. Koch, 1866)

Breymeyer 1966a [*Zelotes lutetianus*], Zimka 1974 [*Zelotes lutetianus*], Staręga 1989

59. *Drassyllus praeficus* (L. Koch, 1866)

Breymeyer 1966a [*Zelotes praeficus*], Zimka 1974 [*Zelotes praeficus*], Staręga 1989.

60. *Drassyllus pusillus* (C. L. Koch, 1833)

Breymeyer 1966a [*Zelotes pusillus*], Staręga 1989.

61. *Haplodrassus cognatus* (Westring, 1861)

Breymeyer 1966a, Zimka 1974.

– *Haplodrassus minor* (O. P.-Cambridge, 1879)

Breymeyer 1966a [*Drassodes minor* – misidentification], Zimka 1974 [*Drassodes minor* – misidentification].

Very rare species known from southern and partly western Europe (Grimm 1985, Nentwig et al. 2022). Its occurrence in the Kampinos National Park is very doubtful and data from the quoted publications refer to other, common species of the genus *Haplodrassus*, not mentioned in those publications.

62. *Haplodrassus moderatus* (Kulczyński, 1897)

Staręga 1974, 1989.

63. *Haplodrassus signifer* (C. L. Koch, 1839)

Breymeyer 1966a [*Drassodes signifer*], Breymeyer 1966b [*Drassodes signifer*], Zimka 1974 [*Drassodes signifer*].

64. *Haplodrassus silvestris* (Blackwall, 1833)

Breymeyer 1966a [*Drassodes silvestris*], Breymeyer 1966b [*Drassodes silvestris*], Zimka 1974 [*Drassodes silvestris*], Krzyżanowska 1981, Staręga 1989.

65. *Haplodrassus soerenseni* (Strand, 1900)

Breymeyer 1966a [*Drassodes soerenseni*], Zimka 1974 [*Drassodes soerenseni*], Krzyżanowska 1981, Staręga 1996.

66. *Haplodrassus umbratilis* (L. Koch, 1866)

?Kaczmarek 1963 [*Drassodes umbratilis* + *Drassodes umbratus* – probably misidentification], Krzyżanowska et al. 1981.

Species indicated by Krzyżanowska et al. (1981) from Kampinos Forests around Łomna-Las, earlier recorded from Dziekanów Leśny by Kaczmarek (1963) but the data are not reliable (Krzyżanowska et al. (1981).

67. *Kishidaia conspicua* (L. Koch, 1866)

Prószyński & Staręga 1971 [*Poecilochroa conspicua*].

68. *Micaria fulgens* (Walckenaer, 1802)

Breymeyer 1966a [*Micaria scinillans* – misidentification; rev. W. Staręga in Prószyński & Staręga 1971], Staręga 1974.

69. *Micaria micans* (Blackwall, 1858)

Staręga 1989 [*Micaria pulicaria* (part.); rev. R. Rozwałka].

Determinations from the publication by Staręga (1989) partially refer to *Micaria micans*.

70. *Micaria pulicaria* (Sundevall, 1831)

Łuczak 1960, Breymeyer 1966a, Staręga 1974, Zimka 1974, Staręga 1989 [*Micaria pulicaria* (part.), rev. R. Rozwałka].

– *Micaria albovittata* (Lucas, 1846)

Breymeyer 1966a [*Micaria scintillans* – misidentification], Kajak & Łuczak 2003 [*Micaria romana* – misidentification].

Staręga revised determinations of this species and explained that there was a mistake with *Micaria fulgens* (Prószyński & Staręga 1971), nevertheless this species is still mentioned from the Kampinos NP by Kajak & Łuczak (2003).

– *Zelotes apricorum* (L. Koch, 1876)

Kaczmarek 1963 – misidentification, Breymeyer 1966a = misidentification, Zimka 1974 – misidentification.

Very rare thermophilous species, in older publications often confused with the morphologically similar and frequently occurring in forests species *Zelotes clivicola* and *Z. subterraneus* (see Prószyński & Staręga 1971, Grimm 1985). For this reason occurrence of this spider species mentioned in the publications of Kaczmarek (1963), Breymeyer (1966a) and Zimka (1974) in the Kampinos NP is doubtful.

71. *Zelotes clivicola* (L. Koch, 1870)

Breymeyer 1966a, Zimka 1974 [*Zelotes clivicolus*].

72. *Zelotes electus* (C. L. Koch, 1839)

Kaczmarek 1963, Breymeyer 1966a, Zimka 1974.

73. *Zelotes latreillei* (Simon, 1878)

Breymeyer 1966a, Staręga 1989, Zimka 1974.

74. *Zelotes longipes* (L. Koch, 1866)

Breymeyer 1966a [*Zelotes serotinus*], Zimka 1974 [*Zelotes suritinus*].

75. *Zelotes petrensis* (C. L. Koch, 1839)

Kaczmarek 1963 [*Zelotes patrenis* – possible misidentification], Staręga 1989.

Species indicated by Staręga (1989), earlier recorded from Dziekanów Leśny by Kaczmarek (1963) but the data are not reliable. Data of Kaczmarek (1963) publication probably referring to *Zelotes longipes*, a more commonly species living in dry forests and open sandy environments, than to *Z. petrensis*, which prefers dry biotopes but is rarely found in forests (Rozwałka & Stachowicz 2021).

76. *Zelotes subterraneus* (C. L. Koch, 1833)

Breymeyer 1966a, Staręga 1974, Zimka 1974, Krzyżanowska 1981.

Family: **Hahniidae**77. *Antistea elegans* (Blackwall, 1841)

Breymeyer 1966a, Staręga 1974, 1989.

78. *Cicurina cicur* (Fabricius, 1793)

Breymeyer 1966a, Zimka 1974.

79. *Hahnia pusilla* C. L. Koch, 1841

Kaczmarek 1963, Breymeyer 1966a, Staręga 1974, 1989.

80. *Mastigusa arietina* (Thorell, 1871)

Staręga 1978 [*Tuberta arietina*], Krzyżanowska et al. 1981 [*Tuberta arietina*].

Family: **Linyphiidae**81. *Abacoproeces saltuum* (L. Koch, 1872)

Łuczak 1960, Krzyżanowska 1981.

– *Acartauchenius scurrilis* (O. P.-Cambridge, 1873)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

82. *Agyneta cauta* (O. P.-Cambridge, 1903)

Staręga 1989, 2003b.

83. *Agyneta decora* (O. P.-Cambridge, 1871)

Staręga 1984, 1989.

– *Agyneta gulosa* (L. Koch, 1869)

Kaczmarek 1963 [*Micryphanes gulosus* – misidentification], Kajak & Łuczak 2003 [*Meioneta gulosa* + *Micryphantes gulosa* (sic!)].

The occurrence of this very rare boreo-montane species mainly living of mountain meadows, in Poland well known only Pieniny Mts. (Staręga 1976) and Gdańsk Pomerania (Staręga 1966), in pine forests of Kampinos National Park is very doubtful. Elaborations by Krzyżanowska et al. (1981) and Staręga (1983) also do not take into account the occurrence of this species in the Kampinos Forest.

84. *Agyneta mollis* (O. P.-Cambridge, 1871)

Staręga 1989 [*Agyneta tenera*].

85. *Agyneta rurestris* (C. L. Koch, 1836)

Kaczmarek 1958 [*Micryphantes rurestris*], Kaczmarek 1963 [*Micryphantes rurestris*], Łuczak 1997 [*Meioneta rurestris*], Kajak & Łuczak 2003 [*Meioneta rurestris* + *Micryphantes rurestris* (sic!)].

86. *Agyneta saxatilis* (Blackwall, 1844)

Staręga 1978, Krzyżanowska et al. 1981.

87. *Allomengea vidua* (L. Koch, 1879)

Staręga & Stankiewicz 1996.

88. *Anguliphantes angulipalpis* (Westring, 1851)

Staręga 1974 [*Lepthyphantes angulipalpis*], Krzyżanowska 1981 [*Lepthyphantes angulipalpis*].

– *Bathyphantes approximatus* (O. P.-Cambridge, 1871)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

89. *Bathyphantes gracilis* (Blackwall, 1841)

Staręga 1974.

90. *Bathyphantes nigrinus* (Westring, 1851)

Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974.

91. *Bathyphantes parvulus* (Westring, 1851)

Krzyżanowska et al. 1981, Staręga 1989.

– *Bathyphantes setiger* F. O. P.-Cambridge, 1894

Łuczak 1960 – misidentification.

A rare hygrophilous species (Nentwig et al. 2022), according to Łuczak (1960) collected in dry pine forest. Mistake with other common members of the genus *Bathyphantes*, probably with *B. gracilis* or *B. parvulus*.

– *Bolyphantes alticeps* (Sundevall, 1833)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

92. *Centromerita bicolor* (Blackwall, 1833)

Staręga 1989.

93. *Centromerus brevivalpus* (Menge, 1866)

Staręga 1989 [*Centromerus aequalis*].

94. *Centromerus incilium* (L. Koch, 1881)

?Kaczmarek 1958, ?1963, Staręga 1989.

Data on the occurrence of *Centromerus incilium* from publications by Kaczmarek (1958) and Kaczmarek (1963) are not quite certain, but the occurrence of this species in the Kampinos NP was confirmed by Staręga (1989).

– *Centromerus sellarius* (Simon, 1884)

Kaczmarek 1958 [*Centromerus similis* – misidentification].

Rare mountain species living in leaf litter of damp woodland (Nentwig et al. 2022), therefore its occurrence in dry pine forests (Kaczmarek 1958) is unlikely.

– *Centromerus semiater* (L. Koch, 1879)

?Kajak & Łuczak 2003 [*Centromerus incultus*].

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

95. *Centromerus sylvaticus* (Blackwall, 1841)

Kaczmarek 1958 [*Centromerus silvaticus*], Kaczmarek 1963 [*Centromerus silvaticus*], Krzyżanowska 1981, Staręga 1989.

96. *Ceratinella brevipes* (Westring, 1851)

Staręga 1989.

97. *Ceratinella brevis* (Wider, 1834)

Łuczak 1960, Staręga 1966, 1974, 1989.

– *Ceratinella scabrosa* (O. P.-Cambridge, 1971)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

98. *Cnephalocotes obscurus* (Blackwall, 1834)

Staręga 1974, 1989.

99. *Dicymbium brevisetosum* Locket, 1962

Staręga 1974 [*Dicymbium nigrum*], Staręga 1989 [*Dicymbium nigrum*].

Common meadow species listed in the older literature as *Dicymbium nigrum*, but these data refer to *D. brevisetosum* (see Staręga 1988, 2003b, Rozwałka & Stachowicz 2021).

– *Dicymbium nigrum* (Blackwall, 1834)

Staręga 1974 [*Dicymbium nigrum*], Staręga 1989 [*Dicymbium nigrum*].

Data on *Dicymbium nigrum* refer to *D. brevisetosum*. See notes at *Dicymbium brevisetosum*.

– *Dicymbium tibiale* (Blackwall, 1836)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

100. *Diplocephalus picinus* (Blackwall, 1841)

Locket & Łuczak 1974.

101. *Diplostyla concolor* (Wider, 1834)

Staręga 1974.

– *Entelecara congenera* (O. P.-Cambridge, 1879)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

– *Entelecara flavipes* (Blackwall, 1834)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

102. *Erigone atra* Blackwall, 1833

Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

103. *Erigone dentipalpis* (Wider, 1834)

Łuczak 1960, Kaczmarek 1963, Łuczak 1963, Staręga 1974, 1989.

– *Erigone longipalpis* (Sundevall, 1830)

Dąbrowska-Prot et al. 1973 – misidentification.

Rare species caught sparsely in open, humid and coastal habitats (Nentwig et al. 2022). Mistake with the very common in various types of meadows spider species *Erigone atra* or *Erigone dentipalpis*, not mentioned in this publication.

104. *Erigonella ignobilis* (O. P.-Cambridge, 1871)

Staręga 1966.

105. *Floronia bucculenta* (Clerck, 1757)

Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot & Łuczak 1970b, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

106. *Gnathonarium dentatum* (Wider, 1834)

Staręga 1974.

107. *Gonatium paradoxum* (L. Koch, 1869)

Staręga 1974 [*Gonatium corallipes*].

108. *Gonatium rubellum* (Blackwall, 1841)

Dąbrowska-Prot et al. 1973.

109. *Gonatium rubens* (Blackwall, 1833)

Kaczmarek 1963, Łuczak 1963.

110. *Gongylidiellum murcidum* Simon, 1884

Staręga 1989.

111. *Gongylidium rufipes* (Linnaeus, 1758)

Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

112. *Helophora insignis* (Blackwall, 1841)

Dąbrowska-Prot et al. 1973.

– *Hylyphantes graminicola* (Sundevall, 1830)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider in the Kampinos National Park.

– *Hypomma bituberculatum* (Wider, 1834)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

113. *Hypomma cornutum* (Blackwall, 1833)

Łuczak 1960.

– *Improphantes nitidus* (Thorell, 1875)

Kaczmarek 1963 [*Lepthyphantes kochi* – misidentification].

A rare species mentioned from a few localities in south-western Poland (Czajka 1963, Prószyński & Staręga 1971, Staręga 1983, Woźny et al. 1988), indicated in the Kampinos NP on the basis of erroneous determinations. Moreover an occurrence this species is in unclearly indicated in a publication by Kaczmarek (1963). In the summary table (Table 3) this species is omitted, in partial tables (Table 10, 11) and text – species relatively common.

114. *Incestophantes crucifer* (Menge, 1866)

Staręga 1974 [*Bolyphantes crucifer*].

– *Kaestneria dorsalis* (Wider, 1834)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

115. *Kaestneria pullata* (O. P.-Cambridge, 1863)

Staręga 1974, Staręga 1989 [*Laetesia pullata*].

116. *Linyphia hortensis* Sundevall, 1830

Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

117. *Linyphia triangularis* (Clerck, 1757)

Łuczak 1960, 1963, Dąbrowska-Prot et al. 1967, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1968a, 1968b, Dąbrowska-Prot & Łuczak 1970b, Łuczak & Dąbrowska-Prot 1970, Dąbrowska-Prot & Łuczak 1972, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974, Zimakowska-Gnoińska 1981, Staręga 1989, Łuczak 1997.

118. *Lophomma punctatum* (Blackwall, 1841)

Staręga 1966, 1974.

119. *Macrargus carpenteri* (O. P.-Cambridge, 1895)

Staręga 1984 [*Macrargus 107ygmaea107s*].

120. *Macrargus rufus* (Wider, 1834)

Kaczmarek 1958, Łuczak 1960, Kaczmarek 1963, Staręga 1974, Krzyżanowska 1981.

121. *Maso sundevalli* (Westring, 1851)

Staręga 1974.

122. *Metopobactrus prominulus* (O. P.-Cambridge, 1873)

Staręga 1989.

123. *Micrargus herbigradus* (Blackwall, 1854)

Łuczak 1960, Kaczmarek 1963 [*Macrargus herbigradus* + ?*Micrargus herbivorus*], Staręga 1974, 1989.

124. *Micrargus subaequalis* (Westring, 1851)

Staręga 1978.

125. *Microlinyphia pusilla* (Sundevall, 1830)

Łuczak 1960 [*Linyphia pusilla*], Kajak 1961 [*Linyphia pusilla*], Kaczmarek 1963 [*Linyphia pusilla*], Łuczak 1963 [*Linyphia pusilla*], Dąbrowska-Prot et al. 1973 [*Linyphia pusilla*], Staręga 1989, Łuczak 1997.

126. *Microneta viaria* (Blackwall, 1841)

Staręga 1974, Krzyżanowska 1981.

127. *Nerienne clathrata* (Sundevall, 1830)

Łuczak 1960 [*Linyphia clathrata*], Dąbrowska-Prot & Łuczak 1968a [*Linyphia clathrata*], Dąbrowska-Prot et al. 1973 [*Linyphia clathrata*], Staręga 1974.

128. *Nerienne emphana* (Walckenaer, 1841)

Locket & Łuczak 1974.

– *Nerienne furtiva* (O. P.-Cambridge, 1871)

Staręga 1974 – misidentification.

This species is not occurring in Poland, mistaken determination probably with *Linyphia hortensis* or *Nerienne clathrata*.

129. *Neriene montana* (Clerck, 1757)

Dąbrowska-Prot et al. 1973 [*Linyphia montana*], Locket & Łuczak 1974, Starega 1974.

130. *Neriene peltata* (Wider, 1834)

Dąbrowska-Prot et al. 1973 [*Prolinyphia peltata*].

131. *Oedothorax gibbosus* (Blackwall, 1841)

Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Starega 1974.

132. *Oedothorax retusus* (Westring, 1851)

Starega 1974, 1989.

133. *Panamomops menzei* Simon, 1926

Łuczak 1960 [*Savignya sulcifrons*], Krzyżanowska 1981.

– *Pelecopsis elongata* (Wider, 1834)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

134. *Pelecopsis parallela* (Wider, 1834)

Starega 1989.

135. *Pocadicnemis juncea* Locket et Millidge, 1953

Starega 1984, 1989.

136. *Pocadicnemis pumila* (Blackwall, 1841)

Kaczmarek 1963.

– *Porrhomma convexum* (Westring 1851)

Łuczak 1960 – misidentification.

A mountainous and troglomorphic species (Nentwig et al. 2022), not occurring in the lowland part of Poland, probably a mistaken for *Porrhomma pygmaeum* or another species of the genus *Porrhomma*.

137. *Porrhomma pygmaeum* (Blackwall, 1834)

Starega 1974.

138. *Savignia frontata* Blackwall, 1833

Starega 1974.

139. *Stemonyphantes lineatus* (Linnaeus, 1758)

Starega 1989.

140. *Styloctetor compar* (Westring, 1861)

Starega 1989 [*Styloctetor stativus*].

141. *Tallusia experta* (O. P.-Cambridge, 1871)

Starega 1974 [*Centromerus expertus*], Starega 1989.

142. *Tapinopa longidens* (Wider, 1834)

Staręga 1974.

143. *Tapinocyba insecta* (L. Koch, 1869)

Staręga 1974, 1989.

144. *Tapinocyba pallens* (O. P.-Cambridge, 1873)

Staręga 1996.

145. *Tenuiphantes cristatus* (Menge, 1866)

Staręga 1974 [*Lepthyphantes cristatus*].

146. *Tenuiphantes flavipes* (Blackwall, 1854)

Staręga 1989 [*Lepthyphantes flavipes*], Krzyżanowska 1981 [*Lepthyphantes flavipes*].

147. *Tenuiphantes mengei* (Kulczyński, 1887)

Staręga 1989 [*Lepthyphantes mengei*].

148. *Tenuiphantes tenebricola* (Wider, 1834)

Łuczak 1963 [*Lepthyphantes tenuis* – misidentification].

– *Tenuiphantes tenuis* (Blackwall, 1852)

Łuczak 1963.

Rare species mainly found in anthropogenic environments (Nentwig et al. 2022). Mistake for a *Tenuiphantes tenebricola* – common forest species not mentioned in this publication.

149. *Thyreosthenius parasiticus* (Westring, 1851)

Staręga 1984.

150. *Tiso vagans* (Blackwall, 1834)

Staręga 1974, 1989.

151. *Trematocephalus cristatus* (Wider, 1834)

Łuczak 1960.

152. *Trichopternoides thorelli* (Westring, 1861)

Staręga 1989 [*Baryphyma thorelli*].

153. *Walckenaeria alticeps* (Denis, 1952)

Łuczak 1960 [*Wideria antica* – misidentification] – rev. W. Staręga in Staręga & Nakaziuk 1985], Staręga 1974 [*Wideria antica* (part. – misidentification)] – rev. W. Staręga in Staręga & Nakaziuk 1985, Staręga 1989.

154. *Walckenaeria antica* (Wider, 1834)

Staręga 1974 [*Wideria antica* (part.) – rev. W. Staręga in Staręga & Nakaziuk 1985].

155. *Walckenaeria atrotibialis* (O. P.-Cambridge, 1878)

Staręga 1966 [*Wideria melanocephala*], (Staręga 1989: [*Walckenaeria melanocephala*].

156. *Walckenaeria cucullata* (C. L. Koch, 1836)

Staręga 1974 [*Wideria cucullata*], Krzyżanowska 1981.

157. *Walckenaeria dysderoides* (Wider, 1834)

Locket & Łuczak 1974 [*Wideria psilocephala*].

158. *Walckenaeria furcillata* (Menge, 1869)

Staręga 2003a.

159. *Walckenaeria kochi* (O. P.-Cambridge, 1873)

Staręga 1966 [*Cornicularia kochi*].

160. *Walckenaeria nudipalpis* (Westring, 1851)

Staręga 1974 [*Trachynella nudipalpis*].

161. *Walckenaeria unicornis* O. P.-Cambridge, 1861

Staręga 1966 [*Cornicularia unicornis*], Staręga 1974 [*Cornicularia unicornis*].

Family: **Liocranidae**– *Agroeca cuprea* Menge, 1873

Kaczmarek 1958 [*Agroeca pullata* – misidentification].

The occurrence in pine forest of this rare and thermophilic species inhabiting xerothermic or psammophilic grasslands and scrubs (Grimm 1986, Rozwałka & Stachowicz 2021) is very questionable.

162. *Agroeca brunnea* (Blackwall, 1833)

Breymeyer 1966a, 1966b, Staręga 1989.

163. *Agroeca dentigera* Kulczyński, 1913

Staręga 1974.

164. *Agroeca lusatica* (L. Koch, 1875)

Staręga 1989.

165. *Agroeca proxima* (O. P.-Cambridge, 1871)

Kaczmarek 1963 [?*Agroeca pygmaea* + *Agroeca proxima*], Breymeyer 1966a, Zimka 1974.

166. *Apostenus fuscus* Westring, 1851

Kaczmarek 1963, Breymeyer 1966a, Zimka 1974.

167. *Liocranoeca striata* (Kulczyński, 1882)

Breymeyer 1966a [*Agroecina striata*]; Zimka 1974 [*Agroecina striata*].

Family: **Lycosidae**168. *Alopecosa accentuata* (Latreille, 1817)

Prószyński 1961 [*Alopecosa barbipes*] ver. R. Rozwałka.

The question of what species should be understood by the name *Alopecosa accentuata* is complicated (see Breitling et al. 2016, Canard & Cruveillier 2019, World Spider Catalog 2022). Until recently the above mentioned name referred to the species now named *Alopecosa farinosa* (Canard & Cruveillier 2019). In the collection of the Museum of the Institute of Zoology of the Polish Academy of Sciences there are specimens of *A. accentuata* from Góra Nartowa collected by J. Prószyński (ver. R. Rozwałka).

169. *Alopecosa aculeata* (Clerck, 1757)

Prószyński 1961, Breymeyer 1966a [*Tarentula aculeata*], Breymeyer 1966b [*Tarentula aculeata*].

170. *Alopecosa cuneata* (Clerck, 1757)

Prószyński 1961, Staręga 1989 [*Tarentula cuneata*].

171. *Alopecosa cursor* (Hahn, 1831)

Prószyński 1961.

172. *Alopecosa fabrilis* (Clerck, 1757)

Kaczmarek 1963 [*Tarentula fabrilis*], Breymeyer 1966a [*Tarentula fabrilis*].

173. *Alopecosa pulverulenta* (Clerck, 1757)

Prószyński 1961, Breymeyer 1966a [*Tarentula pulverulenta*], Staręga 1989 [*Tarentula pulverulenta*], Krzyżanowska 1981 [*Tarentula pulverulenta*].

– *Alopecosa trabalis* (Clerck, 1757)

Staręga 1989 [*Tarentula trabalis*].

Staręga (1989) had only juvenile specimens and marked his determinations with a question mark, therefore the occurrence of this species requires confirmation.

174. *Arctosa cinerea* (Fabricius, 1777)

Breymeyer 1966a.

175. *Arctosa leopardus* (Sundevall, 1833)

Prószyński 1961 [*Megaarctosa leopardus*], Breymeyer 1966a, Staręga 1989.

– *Arctosa lutetiana* (Simon, 1876)

Breymeyer 1966a [*Tricca lutetiana* – misidentification], Breymeyer 1966b [*Tricca lutetiana* – misidentification], Zimka 1974 [*Tricca lutetiana* – misidentification].

A rare xeric and thermophilic species occurring in open sunny xerothermic grasslands and similar habitats (Rozwałka & Stachowicz 2021). In questioned publications (Breymeyer 1966a, 1966b, Zimka 1974) mentioned from different types of forests or wet scrubs and meadows, which is unlikely. Also the absence of other thermophilic spider species suggests that there has been a misidentification in this case.

176. *Aulonia albimana* (Walckenaer, 1805)

Breymeyer 1966a, Zimka 1974, Krzyżanowska 1981.

177. *Hygrolycosa rubrofasciata* (Ohlert, 1865)

?Łuczak 1960 – data doubtful, Breymeyer 1966a [*Lycosa rubrofasciata*], Staręga 1974, Zimka 1974 [*Lycosa rubrofasciata*].

The data of Łuczak (1960) are doubtful due to the biotope given – dry pine forest, but other publications (Breymeyer 1966a, Staręga 1974, Zimka 1974) confirm the presence of this species in Kampinos NP.

178. *Pardosa agrestis* (Westring, 1861)

Staręga 1974, 1989.

179. *Pardosa agricola* (Thorell, 1856)

Staręga 1989.

180. *Pardosa alacris* (C. L. Koch, 1833)

Prószyński 1961 [*Pardosa lugubris* – misidentification (part.) rev. R. Rozwałka].

Determinations from the publication by Prószyński (1961) partially refer to *Pardosa alacris*.

181. *Pardosa amentata* (Clerck, 1757)

Staręga 1974, Zimka 1974 [*Lycosa amentata*], Staręga 1989.

182. *Pardosa bifasciata* (C. L. Koch, 1834)

Prószyński 1961 [*Passiena bifasciata*].

183. *Pardosa lugubris* (Walckenaer, 1802)

Łuczak 1960 [*Lycosa lugubris*], Prószyński 1961 (part.), Breymeyer 1966a [*Lycosa lugubris*], Breymeyer 1966b [*Lycosa lugubris*], Staręga 1974, Zimka 1974 [*Lycosa lugubris*], Krzyżanowska 1981, Staręga 1989.

The taxon identified as “*Pardosa lugubris*” by arachnologists in the 20th century is actually 4 species, three of which (*P. alacris* (C. L. Koch), *P. lugubris* (Walckenaer) and *P. saltans* Töpfer-Hofmann) occurs in Poland (Töpfer-Hofmann et al. 2000, Rozwałka & Stachowicz 2021). *P. lugubris* is the most common and widely distributed species from this complex and its occurrence was considered certain. The occurrence of *P. alacris* and *P. saltans* is very probable but requires confirmation as no museum material has been preserved could resolve this issue.

– *Pardosa monticola* (Clerck, 1757)

Prószyński 1961 [*Pardosa* sp. from *P. monticola* group], Kajak & Łuczak 2003.

Prószyński (1961) was unsure of the identification and classified the specimens at his disposal to the “*Pardosa monticola* group”. In the Catalogue of the Fauna of Poland (Prószyński & Staręga 1971) there is no confirmation or other information as to which species was meant. Information from the publication by Kajak & Łuczak (2003) probably refers to the above mentioned data by Prószyński (1961).

184. *Pardosa paludicola* (Clerck, 1757)

Breymeyer 1966a [*Lycosa paludicola*].

185. *Pardosa palustris* (Linnaeus, 1758)

Prószyński 1961, Breymeyer 1966a [*Lycosa tarsalis*], Staręga 1989.

186. *Pardosa prativaga* (L. Koch, 1870)

Prószyński 1961, Breymeyer 1966a [*Lycosa prativaga*], Staręga 1974, 1989.

– *Pardosa proxima* (C. L. Koch, 1848)

Breymeyer 1966a [*Lycosa proxima* – misidentification], Zimka 1974 [*Lycosa proxima* – misidentification], Kajak & Łuczak 2003 [*Pardosa proxima* – misidentification].

A hygrophilous species inhabiting in wet meadows and other humid, open habitats, mentioned from North Africa, southern Europe, the Balkans, Turkey, southern Ukraine, reaching through the Caucasus countries and Kazakhstan to western China (Nentwig et al. 2022, World Spider Catalog 2022). Occurrence in Poland completely unlikely, as already indicated by Prószyński & Staręga (1971), nevertheless, the species is still mentioned from the Kampinos National Park by Zimka (1974) and Kajak & Łuczak (2003).

187. *Pardosa pullata* (Clerck, 1757)

Prószyński 1961, Breymeyer 1966a [*Lycosa pullata*], Breymeyer 1969 [*Lycosa pullata*], Kajak et al. 1971 [*Lycosa pullata*], Staręga 1989.

188. *Pirata piraticus* (Clerck, 1757)

Prószyński 1961, Breymeyer 1966a, Staręga 1974, Zimka 1974, Staręga 1989.

189. *Pirata piscatorius* (Clerck, 1757)

Prószyński 1961, Breymeyer 1966a.

190. *Piratula hygrophila* (Thorell, 1872)

Breymeyer 1966a [*Pirata hygrophilus*], Staręga 1974 [*Pirata hygrophilus*], Staręga 1989.

– *Piratula insularis* (Emerton, 1885)

Krzyżanowska et al. 1981, Staręga (2003b) regarded the occurrence of *Piratula insularis* in Kampinoski NP as doubtful.

191. *Piratula latitans* (Blackwall, 1841)

Prószyński 1961, Breymeyer 1966a [*Pirata latitans*], Zimka 1974 [*Pirata latinatus*], Staręga 1989.

192. *Piratula uliginosa* (Thorell, 1856)

Breymeyer 1966a [*Pirata uliginosus*].

193. *Trochosa ruricola* (De Geer, 1778)

Prószyński 1961, Breymeyer 1966a, Kajak et al. 1971, Krzyżanowska 1981, Staręga 1989.

194. *Trochosa spinipalpis* (F. O. P.-Cambridge, 1895)

Prószyński 1961, Breymeyer 1966a, 1966b, Staręga 1989.

195. *Trochosa terricola* Thorell, 1856

Kaczmarek 1958, Łuczak 1960, Prószyński 1961, Kaczmarek 1963, Breymeyer 1966a, 1966b, Zimka 1974 [*Xerolycosa terricola*], Krzyżanowska 1981, Staręga 1989.

196. *Xerolycosa miniata* (C. L. Koch, 1834)

Prószyński 1961, Breymeyer 1966a, Staręga 1974.

197. *Xerolycosa nemoralis* (Westring, 1861)

Łuczak 1960, Prószyński 1961, Kaczmarek 1963, Breymeyer 1966a, Zimka 1974.

Family: **Mimetidae**198. *Ero aphana* (Walckenaer, 1802)

Łuczak 1963, Staręga 1974.

199. *Ero furcata* (Villers, 1789)

Kaczmarek 1958, 1963, Łuczak 1963, Staręga 1974.

– *Ero tuberculata* (De Geer, 1778)

?Kajak & Łuczak 2003 Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

Family: **Miturgidae**200. *Zora nemoralis* (Blackwall, 1861)

Breymeyer 1966a, Zimka 1974, Krzyżanowska 1981.

– *Zora silvestris* Kulczyński, 1897

Kaczmarek 1963 – misidentification.

Data most doubtful, probably confusion with the very common species *Zora spinimana* or *Zora nemoralis*.

201. *Zora spinimana* (Sundevall, 1833)

Łuczak 1960, Breymeyer 1966a, Staręga 1974, Zimka 1974, Staręga 1989.

Family: **Oxyopidae**202. *Oxyopes ramosus* (Martini et Goeze, 1778)

Łuczak 1966.

Family: **Philodromidae**203. *Philodromus albidus* Kulczyński, 1911

Dąbrowska-Prot & Łuczak 1968a [*Philodromus rufus* – misidentification], Dąbrowska-Prot et al. 1973 [*Philodromus rufus* – misidentification], Locket & Łuczak 1974 [*Philodromus rufus* – misidentification].

Quite a common species occurring mainly on the trunks of deciduous trees, but misidentified and listed in Poland under the name *Philodromus rufus* (Rozwałka & Stachowicz 2021).

204. *Philodromus aureolus* (Clerck, 1757)

Łuczak 1960, Prószyński 1961 (part.), Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

205. *Philodromus cespitum* (Walckenaer, 1802)

Prószyński 1961 (part.), Braun 1965 [*Philodromus cespitum cespitum*], Staręga 1989.

206. *Philodromus collinus* C. L. Koch, 1835

Łuczak 1960, Prószyński 1961,

207. *Philodromus dispar* (Walckenaer, 1826)

Prószyński 1961.

208. *Philodromus emarginatus* (Schränk, 1803)

Prószyński 1961, Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

– *Philodromus fuscolimbatus* Lucas, 1846

Braun 1956 [*Philodromus cespitum rufolimbatus* – misidentification].

Braun (1965) writes that he verified and included in this taxon a specimen of Prószyński collected in the Nartowa Mountain (Góra Nartowa) area. However, this is an incorrect verification, as *Philodromus fuscolimbatus* is a species found in the Mediterranean Basin, but certainly does not occur in Poland or other Central European countries (Nentwig et al. 2022).

209. *Philodromus fuscomarginatus* (De Geer, 1778)

Breymeyer 1966a, Zimka 1974 [*Philodromus fescomarginatus*].

210. *Philodromus margaritatus* (Clerck, 1757)

Breymeyer 1966a, Zimka 1974 [*Philodromus marginatus*].

– *Philodromus rufus* Walckenaer, 1826

Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

All information on the occurrence of *Philodromus rufus* in Poland concerns the morphologically similar species *Philodromus albidus* (Rozwałka & Stachowicz 2021, Rozwałka unpubl. data). See notes at *Philodromus albidus*.

211. *Rhysodromus histrio* (Latreille, 1819)

Breymeyer 1966a [*Philodromus histrio*], Łuczak 1966 [*Philodromus histrio*], Zimka 1974 [*Philodromus histrio*].

212. *Thanatus arenarius* L. Koch, 1872

Breymeyer 1966a, Zimka 1974 [*Thantus arenarius*].

– *Thanatus formicinus* (Clerck, 1757)

Prószyński 1961 – misidentification, Breymeyer 1966a – misidentification, Zimka 1974 [*Thantus formicinus* – misidentification].

The data are very doubtful due to the biotope given - quite humid meadows and thickets or various forests, while it is a very xeric and thermophilic and heliophilic species (Nentwig et al. 2022, Rozwałka & Stachowicz 2021). However, the humid biotope given corresponds to the preferences of *Thanatus striatus* or other species from the genus *Thanatus*.

213. *Thanatus sabulosus* (Menge, 1875)

Staręga 1974.

214. *Thanatus striatus* C. L. Koch, 1845

Krzyżanowska et al. 1981.

215. *Tibellus maritimus* (Menge, 1875)

Kajak 1961, Kajak & Łuczak 1961, Prószyński 1961, Breymeyer 1966a, Kajak 1971, Kajak et al. 1971, Staręga 1974.

216. *Tibellus oblongus* (Walckenaer, 1802)

Łuczak 1960, Prószyński 1961, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989, Łuczak 1997.

Family: **Pholcidae**

217. *Pholcus alticeps* Spassky, 1932

Bartos 1997 [*Pholcus phalangioides* – misidentification], Bartos 1998 [*Pholcus phalangioides* – misidentification].

Pholcus alticeps is a common synanthropic species found throughout of Poland, but was misidentified as *Pholcus phalangioides* until the publication of Fedoriak (2008) and Huber (2011).

– *Pholcus phalangioides* (Fuesslin, 1775)

Bartos 1997, 1998. See notes at *Pholcus alticeps*.

Family: **Phrurolithidae**

218. *Phrurolithus festivus* (C. L. Koch, 1835)

Breymeyer 1966a [*Phrurolithus minimus* – misidentification], Staręga 1974, Zimka 1974 [*Phrurolithus minimus* – misidentification], Staręga 1989. See notes at *Phrurolithus minimus*.

– *Phrurolithus minimus* C. L. Koch, 1839

Breymeyer 1966a, Zimka 1974.

A very rare species found in sparsely vegetated dry sandy grasslands and heathlands (Nentwig et al. 2022). Mistake for a *Phrurolithus festivus*, a common species found in different habitats.

Family: **Pisauridae**

219. *Dolomedes fimbriatus* (Clerck, 1757)

Łuczak 1960, Prószyński 1961, Breymeyer 1966a, Dąbrowska-Prot et al. 1966, 1967, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska Prot et al. 1968a, 1968b, Horn 1969, Dąbrowska-Prot 1970, Dąbrowska-Prot & Łuczak 1970b, Łuczak 1970, Dąbrowska-Prot & Łuczak 1972, Dąbrowska-Prot et al. 1973, Staręga 1974, Zimka 1974, Łuczak & Dąbrowska-Prot 1986, Staręga 1989.

220. *Pisaura mirabilis* (Clerck, 1757)

Łuczak 1960, Prószyński 1961, Breymeyer 1966a, 1966b, Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974, Zimka 1974, Staręga 1989, Łuczak 1997.

Family: **Salticidae**

221. *Aelurillus v-insignitus* (Clerck, 1757)

Prószyński 1961 [*Aelurillus litera v-insignitus* + *Aelurillus festivus* – misidentification].

– *Asianellus festivus* (C. L. Koch, 1834)

Prószyński 1961 [*Aelurillus festivus* – misidentification].

Prószyński (1961) writes that „females of *Asianellus festivus* were caught an accompanied by males of *Aelurillus v-insignitus*”, which implies that there was a mistake in the determination of the females.

222. *Attulus caricis* (Westring, 1861)

Kajak & Łuczak 1961 [*Sitticus caricis*], Prószyński 1961 [*Sitticus caricis*], Staręga 1974 [*Sitticus caricis*].

223. *Attulus floricola* (C. L. Koch, 1837)

Kajak 1961 [*Sitticus floricola*], Kajak & Łuczak 1961 [*Sitticus littoralis*], Prószyński 1961 [*Sitticus littoralis* + *Sitticus mancus*], Breymeyer 1966a [*Sitticus floricola*], Staręga 1974 [*Sitticus floricola*], Staręga 1989 [*Sitticus littoralis*].

224. *Attulus inexpectus* (Logunov et Kronstedt, 1997)

Prószyński 1961 [*Sitticus rupicola* – misidentification], Logunov, Kronstedt 1997 [*Sitticus inexpectus*]. See notes at *Attulus rupicola*.

– *Attulus rupicola* (C. L. Koch, 1837)

Prószyński 1961 [*Sitticus rupicola* – misidentification].

Species mentioned under the name *Attulus rupicola* by Prószyński (1961) is in reality a different taxon - *Attulus inexpectus*, described in 1997 year Logunov, Kronstedt (1997). The specimen "*Attulus rupicola*" from Nartowa Góra is *Attulus inexpectus* was verified by Logunov (Logunov & Kronstedt 1997).

225. *Attulus zimmermanni* (Simon, 1877)

Prószyński 1961 [*Sitticus tullgreni*], Prószyński 1980 [*Sitticus zimmermanni*].

226. *Ballus chalybeius* (Walckenaer, 1802)

Łuczak 1960 [*Ballus depressus*], Breymeyer 1966a [*Ballus depressus*], Zimka 1974 [*Ballus depressus*].

227. *Dendryphantès hastatus* (Clerck, 1757)

Kaczmarek 1963.

228. *Dendryphantès rudis* (Sundevall, 1833)

Prószyński 1961, Łuczak 1966, Staręga 1974.

229. *Euophrys frontalis* (Walckenaer, 1802)

Łuczak 1960, Prószyński 1961 [*Euophrys maculata*], Kaczmarek 1963 [*Enophrys frontalis* + *Enopys frontalis*], Breymeyer 1966a [*Euophrys frontalis* + *Euophrys petrensis*], Zimka 1974 [*Euophrys frontalis* + *Euophrys petrensis*], Krzyżanowska 1981, Staręga 1989, Kajak & Łuczak 2003 [*Euophrys frontalis* + *Euophrys maculata* (sic!)]. See notes as *Talavera petrensis*.

230. *Evarcha arcuata* (Clerck, 1757)

Prószyński 1961, Kajak 1961, Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

231. *Evarcha falcata* (Clerck, 1757)

Łuczak 1960, Prószyński 1961 [*Evarcha flammata*], Breymeyer 1966a, 1966b, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Łuczak 1966, Staręga 1974, Zimka 1974, Łuczak 1997, Kajak & Łuczak 2003 [*Evarcha falcata* + *Evarcha flammata* (sic!)].

232. *Evarcha laetabunda* (C. L. Koch, 1846)

Prószyński 1961.

233. *Heliophanus aeneus* (Hahn, 1832)

Prószyński & Staręga 1971.

234. *Heliophanus cupreus* (Walckenaer, 1802)

Prószyński 1961, Staręga 1989.

235. *Heliophanus dubius* C. L. Koch, 1835

Łuczak 1960, Prószyński 1961, Staręga 1989.

236. *Heliophanus flavipes* (Hahn, 1832)

Prószyński 1961 [*Heliophanus ritteri*].

237. *Marpissa radiata* (Grube, 1859)

Kajak & Łuczak 1961, Prószyński 1961, Staręga 1974.

238. *Neon reticulatus* (Blackwall, 1853)

Łuczak 1960 [*Neon reticulatus* + *Neon valentulus* – misidentification], Prószyński 1961, Kaczmarek 1963.

– *Neon valentulus* Falconer, 1912

Łuczak 1960 – misidentification.

Prószyński & Staręga (1971) considered the data of Łuczak (1960) as a misidentification, as the occurrence of this rare, hygrophilous, peat bog-dwelling species (Nentwig et al. 2022) in dry pine forest is very doubtful.

239. *Pellenes tripunctatus* (Walckenaer, 1802)

Prószyński 1961.

240. *Philaeus chrysops* (Poda, 1761)

Prószyński 1961, Łuczak 1966, Marczak 2010.

241. *Phlegra fasciata* (Hahn, 1826)

Prószyński 1961, Staręga 1989.

242. *Salticus cingulatus* (Panzer, 1797)

Łuczak 1960.

243. *Salticus zebraneus* (C. L. Koch, 1837)

Łuczak 1960, Prószyński 1961 [*Salticus olearii*].

244. *Sibianor aurocinctus* (Ohlert, 1865)

Prószyński 1961 [*Bianor aurocinctus*], Staręga 1974 [*Bianor aurocinctus* (part.)].

245. *Sibianor laeae* Logunov, 2001

Staręga 1974 [*Bianor aurocinctus* – (part.) – misidentification, ver. R. Rozwałka]

Sibianor laeae is a rare hygrophilous species found in peat-bogs, moorlands and other very wet biotopes (Rozwałka & Stachowicz 2021), the data from Srzeleckie Meadows refer to this species (Staręga 1974), but do not to thermophilic taxon *Sibianor aurocinctus*.

246. *Synageles venator* (Lucas, 1836)

Łuczak 1960.

247. *Talavera aequipes* (O. P.-Cambridge, 1871)

Prószyński 1961 [*Euophrys aequipes*].

248. *Talavera aperta* (Miller, 1971)

Staręga 1984 [*Euophrys aperta*], Staręga 1989 [*Euophrys aperta*].

– *Talavera petrensis* (C. L. Koch, 1837)

Breymeyer 1966a [*Euophrys petrensis* – misidentification], Zimka 1974 [*Euophrys petrensis* – misidentification].

A thermophilic species living in sunny stony biotopes, its occurrence in forests or wet meadows is doubtful. Localities of this species from Warsaw and Kampinos NP were questioned (Rozwałka et al. 2020). The cause of misidentification as *Talavera petrensis* may be the darkly coloured specimens of *Euophrys frontalis* (Rozwałka & Stachowicz 2021).

249. *Yllenus arenarius* Simon, 1868

Prószyński 1968, Staręga 1974, Bartos & Szczepko 2011.

Family: **Sparassidae**250. *Micrommata virescens* (Clerck, 1757)

Kaczmarek 1963 [*Micrommata viridissima*], Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973.

Family: **Tetragnathidae**251. ***Metellina mendei* (Blackwall, 1869)**

Łuczak 1960 [*Meta segmentata mendei*], Prószyński 1961 [*Meta segmentata mendei*], Dąbrowska-Prot et al. 1973 [*Meta mendei*].

252. ***Metellina segmentata* (Clerck, 1757)**

Prószyński 1961 [*Meta segmentata segmentata*], Łuczak 1963 [*Meta segmentata*], Dąbrowska-Prot & Łuczak 1968a [*Meta segmentata*], Dąbrowska-Prot & Łuczak 1972 [*Meta segmentata*], Dąbrowska-Prot et al. 1973 [*Meta segmentata*], Locket & Łuczak 1974 [*Meta segmentata*], Staręga 1974 [*Meta segmentata*], Zimakowska-Gnoińska 1981 [*Meta segmentata*], Staręga 1989 [*Meta segmentata*], Łuczak 1997 [*Meta segmentata*].

253. ***Pachygnatha clercki* Sundevall, 1823**

Breymeyer 1966a, Dąbrowska-Prot & Łuczak 1968a, Kajak et al. 1971, Dąbrowska-Prot et al. 1973, Staręga 1974, Zimka 1974, Staręga 1989.

254. ***Pachygnatha degeeri* Sundevall, 1830**

Kajak 1961, Kaczmarek 1963, Breymeyer 1966a, Kajak et al. 1971, Dąbrowska-Prot et al. 1973, Staręga 1974, Zimka 1974, Staręga 1989.

255. ***Pachygnatha listeri* Sundevall, 1830**

Łuczak 1960, Breymeyer 1966a, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Staręga 1974, Zimka 1974, Staręga 1989.

256. ***Tetragnatha extensa* (Linnaeus, 1758)**

Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

257. ***Tetragnatha montana* Simon, 1874**

Łuczak 1960, Dąbrowska-Prot et al. 1966, 1967, Dąbrowska-Prot & Łuczak 1968a, 1968b, Dąbrowska-Prot et al. 1968a, 1968b, Łuczak & Dąbrowska-Prot 1968, Horn 1969, Łuczak et al. 1969, Dąbrowska-Prot 1970, Dąbrowska-Prot & Łuczak 1970a 1970b, Łuczak 1970, Łuczak & Dąbrowska-Prot 1970, Dąbrowska-Prot & Łuczak 1972, Dąbrowska-Prot et al. 1973, Staręga 1974, Tarwid 1976, 1977, Zimakowska-Gnoińska 1981, Łuczak & Dąbrowska-Prot 1986.

258. ***Tetragnatha obtusa* C. L. Koch, 1837**

Łuczak 1963, Breymeyer 1966a, Zimka 1974.

259. ***Tetragnatha pinicola* L. Koch, 1870**

Łuczak 1960, Kaczmarek 1963, Łuczak 1963, Staręga 1974, 1989, Łuczak 1997.

Family: **Theridiidae**– ***Asagena phalerata* (Panzer, 1801)**

?Kajak & Łuczak 2003 [*Steatoda phalerata*].

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

260. *Crustulina guttata* (Wider, 1834)

Łuczak 1960, Staręga 1974.

261. *Dipoena melanogaster* (C. L. Koch, 1837)

Łuczak 1960.

– *Enoplognatha latimana* Hippa et Oksala, 1982

Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park. *Enoplognatha latimana* is a relatively common species and occurs in a diverse range of open habitats (Nentwig et al. 2022), the occurrence of this species should be confirmed. Especially that most of the publications about the occurrence of *E. ovata* in Kampinos NP come from studies conducted in forests or ecotones, which *E. latimana* avoids (Kwiecień-Wrotniewska et al. 1993, Rozwałka & Stachowicz 2021).

262. *Enoplognatha mordax* (Thorell, 1875)

Dąbrowska-Prot et al. 1973 [*Enoplognatha schafussi*].

263. *Enoplognatha ovata* (Clerck, 1757)

Łuczak 1960 [*Theridion ovatum*], Dąbrowska-Prot et al. 1966 [*Theridion ovatum*], Dąbrowska-Prot et al. 1967 [*Theridion ovatum*], Dąbrowska-Prot & Łuczak 1968a [*Theridion ovatum*], Dąbrowska-Prot et al. 1968b [*Theridion ovatum*], Dąbrowska-Prot & Łuczak 1970 [*Theridion ovatum*], Łuczak & Dąbrowska-Prot 1970 [*Theridion ovatum*], Dąbrowska-Prot & Łuczak 1972 [*Theridion ovatum*], Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974 [*Enoplognatha lineata*], Tarwid 1984 (part?), Zimakowska-Gnoińska, Tarwid 1984, Tarwid 1987, Staręga 1989, Łuczak 1997.

– *Enoplognatha thoracica* (Hahn, 1833)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

264. *Episinus angulatus* (Blackwall, 1836)

Prószyński & Staręga 1971, Locket & Łuczak 1974.

265. *Episinus truncatus* Latreille, 1809

Dąbrowska-Prot & Łuczak 1968a, Staręga 1974.

266. *Euryopsis flavomaculata* (C. L. Koch, 1836)

Staręga 1974.

– *Lasaeola tristis* (Hahn, 1833)

?Kajak & Łuczak 2003 [*Dipoena tristis*].

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

267. *Neottiura bimaculata* (Linnaeus, 1767)

Łuczak 1960 [*Theridion bimaculatum*], Łuczak 1963 [*Theridion bimaculatum*], Dąbrowska-Prot & Łuczak 1968a [*Theridion bimaculatum*], Kajak 1971 [*Theridion bimaculatum*], Kajak et al. 1971 [*Theridion bimaculatum*], Dąbrowska-Prot et al. 1973 [*Theridion bimaculatum*], Locket & Łuczak 1974 [*Theridion bimaculatum*], Staręga 1989, Łuczak 1997 [*Theridion bimaculatum*].

– *Paidiscura pallens* Blackwall, 1834)

?Kajak & Łuczak 2003 [*Theridion pallens*].

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

268. *Parasteatoda lunata* (Clerck, 1757)

Łuczak 1960 [*Theridion lunatum*], Łuczak 1963 [*Theridion lunatum*].

269. *Parasteatoda simulans* (Thorell, 1875)

Dąbrowska-Prot & Łuczak 1968a [*Theridion tepidariorum simulans*], Łuczak & Dąbrowska-Prot 1970 [*Achaearanea tepidariorum simulans*], Dąbrowska-Prot et al. 1973 [*Achaearanea simulans*], Locket & Łuczak 1974 [*Achaearanea simulans*], Locket 1975 [*Achaearanea simulans*].

270. *Phylloneta impressa* (L. Koch, 1881)

Łuczak 1960 [*Theridion impressum*], Dąbrowska-Prot et al. 1973 [*Theridion impressum*].

271. *Phylloneta sisypbia* (Clerck, 1757)

Łuczak 1963 [*Theridion sisyphium*].

272. *Platnickina tinctoria* (Walckenaer, 1802)

Łuczak 1960 [*Theridion tinctorum*], Łuczak 1963 [*Theridion tinctorum*].

273. *Robertus lividus* (Blackwall, 1836)

Łuczak 1960, Kaczmarek 1963, Staręga 1974.

274. *Rugathodes instabilis* (O. P.-Cambridge, 1871)

Locket & Łuczak 1974 [*Theridion instabile*].

275. *Simitidion simile* (C. L. Koch, 1836)

Łuczak 1963 [*Theridion simile*].

– *Steatoda albomaculata* (De Geer, 1778)

?Kajak & Łuczak 2003.

Species mentioned in the publication by Kajak & Łuczak (2003), but no confirmation in the literature data on the occurrence of this spider species in the Kampinos National Park.

276. *Steatoda bipunctata* (Linnaeus, 1758)

Kaczmarek 1963.

277. *Theridion pictum* (Walckenaer, 1802)

Łuczak 1960, Łuczak & Dąbrowska-Prot 1970, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

278. *Theridion pinastris* L. Koch, 1872

Łuczak 1960, 1963, Staręga 1974.

279. *Theridion varians* Hahn, 1833

Łuczak 1960, Kaczmarek 1963, Łuczak 1963, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974.

Family: Theridiosomatidae**280. *Theridiosoma gemmosum* (L. Koch, 1877)**

Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

Family: Thomisidae**281. *Coriarachne depressa* (C. L. Koch, 1837)**

Kaczmarek 1958, Prószyński 1961.

282. *Diaea dorsata* (Fabricius, 1777)

Łuczak 1960, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974.

283. *Ebrechtella tricuspидata* (Fabricius, 1775)

Prószyński 1961 [*Misumenops tricuspидatus*], Dąbrowska-Prot et al. 1973 [*Misumena tricuspидata*], Staręga 1974 [*Misumenops tricuspидatus*].

284. *Heriaeus graminicola* (Doleschal, 1852)

Prószyński & Staręga 1971 [*Heriaeus hirtus*].

285. *Misumena vatia* (Clerck, 1757)

Łuczak 1960, Prószyński 1961, Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989, Łuczak 1997.

286. *Oxyptila atomaria* (Panzer, 1801)

Łuczak 1960, Prószyński 1961, Breymeyer 1966a [*Oxyptila atomaria*], Staręga 1974 [*Oxyptila atomaria*], Zimka 1974 [*Oxyptila atomaria*].

287. *Oxyptila brevipes* (Hahn, 1826)

Dąbrowska-Prot & Łuczak 1968a [*Oxyptila brevipes*], Dąbrowska-Prot et al. 1973 [*Oxyptila brevipes*], Staręga 1974 [*Oxyptila brevipes*].

288. *Oxyptila praticola* (C. L. Koch, 1837)

Breymeyer 1966a [*Oxyptila praticola*], Zimka 1974 [*Oxyptila praticola*].

289. *Oxyptila scabricula* (Westring, 1851)

Prószyński 1961.

290. *Oxyptila trux* (Blackwall, 1846)

Łuczak 1960, Prószyński 1961, Breymeyer 1966a [*Oxyptila trux*], Zimka 1974 [*Oxyptila trux*], Staręga 1989 [*Oxyptila trux*].

291. *Pistius truncatus* (Pallas, 1772)

Łuczak 1960, Prószyński 1961.

292. *Psammitis sabulosus* (Hahn, 1832)

Prószyński & Staręga 1971 [*Psammitis sabulosa*].

293. *Spiracme striatipes* (L. Koch, 1870)

Prószyński 1961 [*Xysticus striatipes*].

294. *Thomisus onustus* Walckenaer, 1805

Prószyński 1961, Staręga 1974.

295. *Tmarus piger* (Walckenaer, 1802)

Łuczak 1960, Prószyński 1961, Kaczmarek 1963, Breymeyer 1966a, 1966b, Łuczak 1966, Staręga 1974.

296. *Xysticus audax* (Schrank, 1803)

Kaczmarek 1958 [*Xysticus pini* (part.)], Prószyński 1961, Kaczmarek 1963 [*Xysticus pini* (part.)], Staręga 1974 [*Xysticus cristatus* (part.) – misidentification], Zimka 1974 [*Xysticus audax* (part.)], Łuczak 1997 [*Xysticus cristatus* – misidentification (part.)]

Data on the occurrence of *Xysticus audax* and *X. cristatus* from older studies are uncertain. Until the studies by Heimer and Nentwig (1991) and Jantscher (2001) these species were not separated from each other or treated as synonyms (see Prószyński & Staręga 1971). See notes at *Xysticus cristatus*.

297. *Xysticus bifasciatus* C. L. Koch, 1837

Prószyński 1961, Dąbrowska-Prot et al. 1973, Staręga 1974, 1989.

298. *Xysticus cristatus* (Clerck, 1757)

Kaczmarek 1958 [*Xysticus pini* – part. misidentification], Łuczak 1960, Prószyński 1961, Kaczmarek 1963 [*Xysticus pini* – part. misidentification], Breymeyer 1966a, Łuczak 1966, Dąbrowska-Prot et al. 1973, Staręga 1974 (part.), Zimka 1974 [*Xysticus audax* – misidentification] Staręga 1989, Łuczak 1997 (part.).

Xysticus audax is a pinophilous species occurring in coniferous forests, mainly pine, while *X. cristatus* is widely distributed inhabiting both forest and open habitats. Despite the use of proper synonyms (Kaczmarek 1958, 1963, Zimka 1974), these data are questionable due to the habitat and probably refer to the common *X. cristatus* or both of these species.

299. *Xysticus erraticus* (Blackwall, 1834)

Breymeyer 1966a, Staręga 1974, 1989.

300. *Xysticus kochi* Thorell, 1872

Breymeyer 1966a, Zimka 1974.

301. *Xysticus lanio* C. L. Koch, 1835

Łuczak 1960, Breymeyer 1966a, Zimka 1974.

302. *Xysticus luctator* L. Koch, 1870

Breymeyer 1966a, Zimka 1974.

303. *Xysticus luctuosus* (Blackwall, 1836)

Breymeyer 1966a, 1966b, Staręga 1974, Zimka 1974.

304. *Xysticus ulmi* (Hahn, 1831)

Łuczak 1960, Kajak & Łuczak 1961, Prószyński 1961, Breymeyer 1966a, Dąbrowska-Prot & Łuczak 1968a, Dąbrowska-Prot et al. 1973, Locket & Łuczak 1974, Staręga 1974, Zimka 1974, Staręga 1989.

Family: **Titanoecidae**– *Titanoeca quadriguttata* (Hahn, 1833)

Prószyński & Staręga 1971, Staręga 1974.

See notes at *Titanoeca spominima*.

305. *Titanoeca spominima* (Taczanowski, 1866)

Prószyński & Staręga 1971 [*Titanoeca quadriguttata* – misidentification], Staręga 1974 [*Titanoeca quadriguttata* - misidentification].

Species until the 90s of the XIX century undifferentiated or mistakenly identified with *Titanoeca quadriguttata* and under this name mentioned in publications. Observations on the occurrence of species of the genus *Titanoeca* in Poland indicate that *T. spominima* occurs on dry and sandy or loess grasslands in the central and northern part of the country, while *T. quadriguttata* is a species found mainly in the upland zone and prefers dry stony grasslands and rocky debris (Rozwałka & Stachowicz 2021, Rozwałka unpublished data).

DISCUSSION

Based on the analysis of data from literature and museum materials, the occurrence of 305 species of spiders was documented in Kampinos NP, which constitutes about 36.8% of the number of spider species listed in Poland. This allows to include this Park into a group of well recognized in terms of araneofauna diversity in the lowland part of Poland (Table). However, it should be noted that there are still many spider species to be discovered. It is also noteworthy that 95 species, i.e. almost 31% of all those reported so far, are known from single sites or publications. Moreover, previous studies were mainly concentrated in the eastern part of Kampinos National Park (e.g. Łuczak 1960; Kajak 1961; Łuczak 1963; Breymeyer 1966a, b; Kajak 1971; Kajak et al. 1971; Dąbrowska-Prot & Łuczak 1972; Staręga 1974; Zimka 1974; Staręga 1978, 1989; Łuczak 1997), while the remaining area is much less or completely unexplored.

Table. Number of spider species from selected and more researched national and landscape parks of Poland, without mountain parks.

Protected area and bibliographical data	Number of species
Białowieża NP (Staręga & Kupryjanowicz 2001, with supplements)	286
Biebrza NP (Kupryjanowicz 2005)	481
Bug Landscape Park (Staręga 2003a)	213
Kampinos NP – presented study	305
Knyszyn Forest Landscape Park (Staręga 2003b)	402
Narew NP (Kupryjanowicz 2005)	212
Polesie NP (Rozwałka & Stachowicz 2021)	324
Roztocze NP (Rozwałka & Stachowicz 2021)	163
Świętokrzyski NP (Błoszyk, Rozwałka 2020)	280
Wigry NP (Kupryjanowicz 2005)	261

At the same time, a critical analysis of the data revealed a large number of doubtful species, or species mentioned due to various errors.

From the list of spider species mentioned from Kampinos National Park the following should be removed: *Micaria albobittata*, *Neriene furtiva*, *Pardosa proxima* and *Philodromus fuscolimbatus*, as the above mentioned species do not occur in Poland at all and were given on the basis of misidentifications (Prószyński & Staręga 1971, Nentwig et al. 2022).

The ranges analysis, taxonomic and systematic changes also indicate that previous information on the occurrence in Kampinos NP of *Attulus rupicola*, *Coelotes terrestris*, *Dicymbium nigrum*, *Philodromus rufus*, *Pholcus phalangioides* and *Titanoeca quadriguttata* refer respectively to *Attulus inexpectus*, *Coelotes atropos*, *Dicymbium brevisetosum*, *Philodromus albidus*, *Pholcus alticeps* and *Titanoeca spominima*.

Information published so far on the occurrence of *Agroeca cuprea*, *Arctosa lutetiana*, *Agyneta gulosa*, *Asianellus festivus*, *Bathyphantes setiger*, *Centromerus sellarius*, *Erigone longipalpis*, *Haplodrassus minor*, *Improphantes nitidus*, *Neon valentulus*, *Pardosa monticola*, *Phrurolithus minimus*, *Piratula insularis*, *Porrhomma convexum*, *Talavera petrensis*, *Tenuiphantes tenuis*, *Thanatus formicinus*, *Zelotes apricorum* and *Zora silvestris* in the Kampinos National Park are very doubtful and their presence requires confirmation with reliable material.

An analysis of the text by Kajak and Łuczak (2003) also revealed that, in addition to the errors mentioned in the introduction, the list included in this publication contains 21 species: *Acartauchenius scurrilis*, *Asagena phalerata*, *Bathyphantes approximatus*, *Bolyphantes alticeps*, *Centromerus semiater*, *Ceratinella scabrosa*, *Dicymbium tibiale*, *Enoplognatha latimana*, *Enoplognatha thoracica*, *Entelecara congenera*, *Entelecara flavipes*, *Ero tuberculata*, *Gibbaranea bituberculata*, *Hylyphantes graminicola*, *Hypomma bituberculatum*, *Kaestneria dorsalis*, *Lasaeola tristis*, *Paidiscura pallens*, *Pelecopsis elongata*, *Steatoda albomaculata* and *Zygiella x-notata*, which were not mentioned in any of the literature on the spiders of the Kampinos Primeval Forest, either available at the time or published subsequently. The only unpublished data that Kajak and Łuczak (2003) include in their work was information on *Argiope bruennichi*. At the same time, the above-mentioned authors emphasized that no studies on spiders had been carried out in Kampinos NP in recent times, and most of the data come from the 1960s–1980s. Since it cannot be determined on what basis these species were included in the list of species occurring in the Kampinos Primeval Forest, they cannot be counted as being from this area.

At the same time, on the basis of verification of museum materials, it was established that three species should be added to the araneofauna of Kampinos NP: *Micaria micans*, *Pardosa alacris* and *Sibianor laeae* (see comments in the current list).

Among the spider species found in Kampinos PN so far, the presence of 4 protected taxa should be highlighted: *Agroeca dentigera* and *Philaeus chrysops* are under strict protection in Poland, while *Eresus kollari* and *Yllenus arenarius* are under partial protection (Dz.U. 2016 r.,

poz. 2183). In addition to protected species, many rare spiders associated with wetlands, e.g. *Allomengea vidua*, *Argenna patula*, *Enoplognatha mordax*, *Haplodrassus moderatus*, *Sibianor larae*, *Thanatus striatus*, *Trichopternoidea thorelli*, have been found in the Kampinos National Park. The araneofauna of Kampinos NP includes also xerophilous and thermophilous species connected with warm environments, e.g. *Alopecosa cursor*, *Archaeodictyna ammophila*, *A. consecuta*, *Ozyptila scabricula*, *Pardosa bifasciata*, *Pellenes tripunctatus*, *Psammitis sabulosus*, *Talavera aperta*, *Thanatus sabulosus*, *Thomisus onustus* or *Titanoeca spominima* (current list). The presence of numerous species of thermophilic and hygrophilic spiders is related to the specificity of the habitats of Kampinos NP, where wetlands are adjacent to warm plant communities located on inland dunes (Kloss 2003a, b; Kucharski & Michalska-Hejduk 2003).

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STRESZCZENIE

[Krytyczny wykaz pająków (Araneae) Kampinoskiego Parku Narodowego]

Położony na przecięciu naturalnych korytarzy ekologicznych i bardzo zróżnicowany pod względem siedlisk przyrodniczych Kampinoski Park Narodowy jest jednym z najcenniejszych obszarów chronionych w położonych w Centralnej Polsce, co potwierdzają liczne opracowania poświęcone jego faunie i florze. Pająki (Araneae) występujące na terenie Kampinoskiego PN były przez wiele lat obiektem intensywnych badań, co znalazło odbicie w licznych publikacjach. Brak było jednak krytycznego opracowania podsumowującego, które pozwoliłoby określić stan poznania i zróżnicowanie tej grupy stawonogów. Na podstawie przeprowadzonej analizy danych z piśmiennictwa oraz materiałów muzealnych ustalono, że na terenie Kampinoskiego PN udokumentowano występowanie 305 gatunków pająków, co stanowi około 36,8% krajowej araneofauny. Ten wynik stawia Kampinoski Park Narodowy w gronie najlepiej zbadanych pod kątem zróżnicowania araneofauny obszarów chronionych w nizinnej części Polski. Jednocześnie krytyczna analiza danych z piśmiennictwa, zasięgów geograficznych i synonimiki wykazała dużą liczbę gatunków wymienianych wskutek błędnych lub bardzo wątpliwych oznaczeń.

Spośród 305 gatunków pająków dotychczas wykazanych na terenie Kampinoskiego Parku Narodowego można podkreślić m. in. obecność chronionych gatunków: *Agroeca dentigera*, *Eresus kollari*, *Philaeus chrysops* i *Yllenus arenarius*, a także wielu rzadkich, zarówno związanych z siedliskami wilgotnymi, np. *Allomengea vidua*, *Argenna patula*, *Enoplognatha mordax*, *Haplodrassus moderatus*, *Sibianor laevis*, *Trichopternoides thorelli*; jak również ciepłymi, np. *Archaeodictyna ammophila*, *A. consecuta*, *Pardosa bifasciata*, *Psammitis sabulosus*, *Talavera aperta*, *Thanatus sabulosus*, *Thomisus onustus*, *Titanoeca spominima*. Mimo stwierdzonego dużego bogactwa gatunkowego, należy się spodziewać, że wiele gatunków pająków czeka nadal na odkrycie, gdyż większość badań pochodzi sprzed ponad pół wieku, jak również znaczne obszary Kampinoskiego Parku Narodowego nie były nigdy przedmiotem zainteresowań arachnologów.

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