

Supplementary Materials

Annex 1. List of species referred by Josifov ²⁶

Infraorder Pentatomomorpha

Family Pentatomidae Leach, 1815

1. *Podops curvidens* Costa, 1843
2. *Staria lunata* Hahn, 1835
3. *Dolycoris baccarum* Linnaeus, 1758

Family Coreidae Leach, 1815

4. *Centrocoris spiniger* Fabricius, 1781
5. *Coreus marginatus* Linnaeus, 1758
6. *Coriomeris denticulatus* Scopoli, 1763
7. *Coriomeris hirticornis* Fabricius, 1749
8. *Coriomeris spinolai* Costa, 1847

Family Lygaeidae Schilling, 1829

9. *Lygaeus equestris* Linnaeus, 1758
10. *Lygaeus pandurus* Scopoli, 1763
11. *Lygaeus saxatilis* Scopoli, 1763
12. *Melanocoryphus albomaculatus* Goeze, 1778
13. *Lygaeosoma reticulatum* Herrich-Schäffer, 1838
14. *Kleidocerys trunculatus* Walker, 1872
15. *Cymus melanocephalus* Fieber, 1861

Family Scutelleridae Leach, 1815

16. *Odontotarsus purpureolineatus* Rosi, 1790

Family Rhopalidae Amyot and Serville, 1843

17. *Liorhyssus hyalinus* Fabricius, 1749
18. *Rhopalus parumpunctatus* Shilling, 1829
19. *Stictopleurus abutilon* Rossi, 1790)
20. *Stictopleurus punctatonervosus* Goeze, 1778

Family Rhyparochromidae Amyot and Serville, 1843

21. *Rhyparochromus (Raglius) vulgaris* Shilling, 1829

22. *Raglius confusus* Reuter, 1866

23. *Rhyparochromus phoeniceus* Rosi, 1749

Family Alydidae Amyot and Serville, 1843

24. *Camptopus lateralis* Germar, 1817

Family Aradidae Spinola, 1837

25. *Aradus versicolor* Herrich-Schäffer, 1838

Family Heterogastridae Stål, 1872

26. *Heterogaster affinis* Herrich-Schäffer, 1835

Family Oxycarenidae Stål, 1872

27. *Macroplox fasciata* Herrich-Schäffer, 1835

Family Stenocephalidae Dallas, 1852

28. *Dicranocephalus albipes* Fabricius, 1781

29. **Family Pyrrhocoridae** Fieber, 1860

30. *Scantius aegyptius* Linnaeus, 1758

31. **Infraorder Cimicomorpha** Leston et al. 1954

Family Miridae Hahn, 1831

32. *Deraeocoris schach* Fabricius, 1781

33. *Stenodema virens* Linnaeus, 1767

34. *Notostira erratica* Linnaeus, 1758

35. *Phytocoris ulmi* Linnaeus, 1758

36. *Calocoris annulus* Brullé, 1832

37. *Lygus gemellatus* Herrich-Schäffer, 1835

38. *Horistus (Capsodes) infuscatus* Brullé, 1832

39. *Heterocapillus tigrisipes* Mulsant & Rey, 1852

Family Reduviidae Latreille, 1807

40. *Rhynocoris iracundus* Poda, 1761

41. *Rhynocoris punctiventris* Herrich-Schaeffer, 1848

42. *Coranus subapterus* De Geer, 1773

Family Nabidae Costa, 1853

43. *Nabis rugosus* Linnaeus, 1758

Infraorder Nepomorpha Popov, 1968

Family Corixidae Leach, 1815

44. *Corixa affinis* Leach, 1817

Infraorder Gerromorpha Popov, 1971

Family Gerridae Leach, 1815

45. *Gerris maculatus* Tamanini, 1946

Family Hydrometridae Billberg 1820

46. *Hydrometra stagnorum* Linnaeus, 1758

Family Veliidae Amyot and Serville, 1843

47. *Velia affinis* Kolenati, 1857

Table 1. Heteroptera species collected in the Berat area.

Infraorder	Family	Species	No. of Specimens	Stations	Reference for Berat
<p>1. Pentatomomorpha The Pentatomomorpha is one of the seven infraorder of the suborder Heteroptera. They play pivotal roles in agricultural and forestry industries and are also employed as control agents in research studies^{29, 30}.</p>	<p>1. Pentatomidae <u>Leach</u>, 1815 Pentatomidae stands as the largest family, comprising approximately over 4,700 species. All pentatomids have 5-segmented antennae, the majority are phytophagous, and include numerous species that pose significant threats as agricultural crop pests^{1, 5}.</p>	<p>1. <i>Apodiphus amygdali</i> Germar, 1817</p>	3	Lybesh 13.06.2020	for the first time by us
		<p>2. <i>Carpocoris purpureipennis</i> De Geer, 1773</p>	3	Peshtan 10.08.2019, Lybesh 08.08.2019	for the first time by us
		<p>3. <i>Carpocoris melanocerus</i> Mulsant & Rey, 1852</p>	2	Peshtan 17.06.2020	for the first time by us
		<p>4. <i>Aelia acuminata</i> <u>Linnaeus</u>, 1758</p>	3	Vodic 13.08.2019, Peshtan 17.06.2020	for the first time by us
		<p>5. <i>Codophila varia</i> <u>Fabricius</u>, 1787</p>	2	Uznov 20.07.2019, Lapardha 01.08.201	for the first time by us

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		6. <i>Dolycoris baccarum</i> Linnaeus, 1758	3	Uznov 07.05.2020, Lybesh 08.08.2019	by us and also by Josifov 1970
		7. <i>Eurydema ornata</i> Linnaeus, 1758	3	<u>Lapardha</u> <u>01.08.2019, Lybesh</u> <u>13.06.2020</u>	by us and also by Josifov 1970
		8. <i>Graphosoma lineatum</i> Linnaeus, 1758	7	Uznov 20.07.2019, Vodice 27.07.2019, Lybesh 03.09.2019, Peshtan 13.09.2019	by us and also by Josifov 1970
		9. <i>Graphosoma semipunctata</i> Fabricius, 1775	6	Uznov 07.05.2020, Poshnje 23.07.2019	for the first time by us
		10. <i>Nezara viridula</i> Linnaeus, 1758	5	<u>Uznov</u> <u>15.08.2019, Lybesh</u> <u>08.08.2019</u>	for the first time by us
		11. <i>Rhaphigaster nebulosa</i> Poda, 1761	4	Vodice 17.05.2020, Poshnje 20.08.2019	for the first time by us
		12. <i>Staria lunata</i> Hahn, 1835	2	Vodice 17.05.2020, Lybesh 13.06.2020	by us and also by Josifov 1970
	2. Family Coreidae Leach, 1815 The Coreoidea is a vast superfamily of	13. <i>Centrocoris variegatus</i> Kolenati, 1845	3	Vodice 17.05.2020	for the first time by us

Pentatomomorpha which is estimated to include 3100 species ³¹ . Coreoids are predominantly phytophagous, with several species holding economic significance ⁶ .	14. <i>Centrocoris spiniger</i> Fabricius, 1781	3	Poshnje 23.07.2019, Lapardha 01.08.2019	by us and also by Josifov 1970
	15. <i>Coreus marginatus</i> Linnaeus, 1758	3	Peshtan 10.08.2019	by us and also by Josifov 1970
	16. <i>Kleidocerys resedae</i> Panzer, 1797	3	Uznov 20.07.2019	for the first time by us
3. Family Lygaeidae Schilling, 1829 Insects belonging to the family Lygaeidae, commonly referred to as seed bugs, are distributed across all continents, and constitute one of the three largest families within the Heteroptera order, with antennae comprised of four segments. The delineation of distinctive morphological traits defining Lygaeidae is challenging owing to the polyphyletic nature of the family ³² .	17. <i>Spilostethus pandurus</i> Scopoli, 1763	2	Vodic 27.07.2019, Lapardha 25.08.2019	by us and also by Josifov 1970
	18. <i>Spilostethus saxatilis</i> Scopoli, 1763	6	Poshnje 23.07.2019, Peshtan 13.09.2019, Lybesh 03.09.2020	by us and also by Josifov 1970
	19. <i>Lygaeus equestris</i> Linnaeus, 1758	2	Peshtan 13.09.2019	by us and also by Josifov

					1970
<p>4. Family Scutelleridae Leach, 1815 The Scutelleridae, also known as jewel bugs, constitute a family of terrestrial insects. Scutelleridae can easily be distinguished from Pentatomidae because their scutellum completely covers the abdomen and the wings. These relatively large insects are primarily identified by their prominently enlarged scutellum, which typically extends to cover most, if not all, of the abdomen³³.</p>	<p>20. <i>Eurygaster maura</i> <u>Linnaeus, 1758</u></p>	1	Lybesh 03.09.2019	by us and also by Josifov 1970	
	<p>21. <i>Eurygaster austriaca</i> Schrank, 1776</p>	1	Lybesh 13.06.2020	by us and also by Josifov 1970	
	<p>22. <i>Odontotarsus robustus</i> Jakovleff, 1884</p>	1	Peshtan 13.09.2019	for the first time by us	
<p>5. Family Rhopalidae <u>Amyot and Serville, 1843</u> The Rhopalidae, commonly referred to as scentless plant bugs, primarily feed on plants, albeit with a stronger inclination towards reproductive tissues and seeds. Typically exhibiting lighter hues and smaller statures compared to coreids, some species bear a striking resemblance to lygaeids. Approximately 38% of rhopalid species exhibit distributions that are at least partially confined to the Neotropics³⁴.</p>	<p>23. <i>Corizus hyoscyami</i> <u>Linnaeus, 1758</u></p>	3	Poshnje 20.08.2019	for the first time by us	
	<p>24. <i>Stictopleurus punctatonervosus</i> Goeze, 1778</p>	1	Lybesh 13.06.2020	for the first time by us	
<p>6. Family Rhyparochromidae</p>	<p>25. <i>Rhyparochromus pini</i> Linnaeus, 1758</p>	1	Lybesh 08.08.201	for the first	

	<p><u>Amyot and Serville, 1843</u> The Rhyparochromidae represent a sizable family within the order Hemiptera. Numerous species within this family are colloquially known as seed bugs; they typically exhibit small sizes and are characterized by their predominantly brown or mottled coloration. Previously, the Rhyparochromidae were categorized as a subfamily within the Lygaeidae family³⁵.</p>			9	time by us
		<p>26. <i>Raglius confusus</i> Reuter, 1886</p>	1	Peshtan 13.09.2019	for the first time by us
	<p>7. Family Alydidae <u>Amyot and Serville, 1843</u> Alydidae, often referred to as "broad-headed bugs," are a family of true bugs closely resembling the Coreidae family. These bugs typically possess slender bodies, with some featuring elongated and exceptionally thin legs. Their primary diet consists of seeds, and certain species hold economic significance as pests³⁶.</p>	<p>27. <i>Camptopus lateralis</i> Germar, 1817</p>	1	Lybesh 03.09.2019	by us and also by Josifov 1970
	<p>8. Family Geocoridae Baerensprung, 1860 The Geocoridae family, also known as "big-eyed bugs," encompasses approximately 280</p>	<p>28. <i>Geocoris erythrocephalus</i> Lepelitier & Serville, 1825</p>	1	Lybesh 13.06.2020	for the first time by us

	species which are easily identified by their large kidney-shaped eyes, and predominantly oval-shaped bodies. They represent a moderately species-rich and morphologically diverse family, with potential significance in agriculture as predators of harmful aphids and thrips ⁵ .				
<p>2. Infraorder Cimicomorpha Leston et al. 1954 The Cimicomorpha stands out as one of the most expansive and diversely populated heteropteran infraorders. Although, they are a group that attracts the attention of researchers, for various reasons, such as the evolutionary dynamics of host-plant relationships, the relationships within the Cimicomorpha remain intricate, and little known³⁷.</p>	<p>9. Family Miridae Hahn, 1831 As the largest family of true bugs within the suborder Heteroptera, Miridae comprises over 10,000 species. Well-known as significant agricultural pests, that puncture plant tissues to feed on sap, and certain species, are predatory³⁸.</p>	<p>29. <i>Adelphocoris lineolatus</i> <u>Goeze</u>, 1778</p>	10	Uznov 20.07.2019, Vodice 27.07.2019, Lybesh 03.09.2019	for the first time by us
		<p>30. <i>Deraeocoris schach</i> <u>Fabricius</u>, 1781</p>	3	Vodice 17.05.2020, Peshtan 10.08.2019	by us and also by Josifov 1970
		<p>31. <i>Deraeocoris ruber</i> <u>Linnaeus</u>, 1758</p>	1	Peshtan 17.06.2020	for the first time by us
		<p>32. <i>Lygus punctatus</i> <u>Zetterstedt</u>, 1838</p>	2	Uznov 07.05.2020	for the first time by us
		<p>33. <i>Lygus pratensis</i> <u>Linnaeus</u>, 1758</p>	3	Vodice 13.08.2019, Lapardha 05.06.2020	for the first time by us
		<p>34. <i>Macrolophus pygmaeus</i> <u>Rambur</u>, 1839</p>	1	Uznov 15.08.2019	for the first time by us
		<p>35. <i>Polymerus cognatus</i> <u>Fieber</u>, 1858</p>	1	Vodice 27.07.2019	for the first time by us

		36. <i>Polymerus vulneratus</i> Panzer, 1806	3	Poshnje 27.05.2020	for the first time by us
		37. <i>Stenodema calcarata</i> Fallén, 1807	3	Uznov 20.07.2019, Lybesh 03.09.2019	for the first time by us
	<p>10. Family Reduviidae <u>Latreille</u>, 1807 Reduviidae, commonly known as assassin bugs, ranks as the second largest family within the heteropterans. Their extensive morphological variation is closely linked to the strategies exhibited by these predators. Reduviidae holds economic significance, encompassing both destructive disease vectors and beneficial predators targeting insect pest species³⁹.</p>	38. <i>Rhynocoris iracundus</i> Poda, 1761	4	Poshnje 20.08.2019, Lapardha 05.06.2020	by us and also by Josifov 1970