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OLD COLLECTION OF HETEROPTERA AT THE NATURAL HISTORY MUSEUM IN BELGRADE

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The initial collection of Heteroptera at the Natural History Museum was formed by Dušan Stojićević, the first zoology curator, in the period from 1904-1926. This Collection includes 44 species and 130 specimens. The specimens were collected at 32 localities in Serbia and 5 localities in Macedonia. New data about the distribution of the species: *Pinthaeus sanguinipes, Acanthosoma haemorrhoidale, Aquarius paludum, Gerris lacustris, Gerris lateralis, Horvathiolus superbus, Ranatra linearis* is now available.

Key words: Heteroptera, Old Collection, Natural History Museum, Belgrade

INTRODUCTION

The Old Collection of Heteroptera at the Natural History Museum in Belgrade was established in the period from 1904-1926. This collection includes 44 species and 130 specimens. Until the processing of the collection, the specimens were stored in two entomological boxes. One was ready for exhibition (Fig. 1), while the other included only the conserved and partially determined material.

Several of our naturalists of the time, today well-known names in natural science, participated in the formation of this collection (Tab.1).

Petar Pavlović (1864-1938) was a geologist, one of the founders and the first Director of the Museum of Serbian Land (then the name of the current Natural History Museum, from 1895-1958). Almost all of the museum collections include Petar Pavlović's name as one of the collectors. The specimens he collected at Veles are from the period when he participated in excavations of Pikermi fossil fauna, together with Professor Vladimir Laskarev, Petar Stevanović, Milan Luković and others.

Table 1. - Names of collectors of the Old Collection of Heteroptera at the Natural History Museum. There are separate columns for the numbers of species and specimens collected.

Names of collectors	Number of species	Number of specimens
Avramović Nikola	1	1
Brzaković Vladimir	2	2
Pavlović Petar	4	13
Petrović Jordan	9	11
Ranojević Nikola	3	12
Stojadinović Dobrivoje	9	24
Stojadinović Živojin	2	2
Stojićević Dušan	28	58
Živković Vasa	2	2
Pupils of grammar school "Realka"	1	2
NN – unknown collectors	2	3
Total	44	130

Dušan Stojićević (1866-1936) was the first zoology curator and the second Director of the Museum of Serbian Land. The Museum hosts a large collection of spiders collected and processed by Stojićević. According to the yearly report of Serbian Academy of Sciences and Arts for 1929, Dušan Stojićević had prepared for exhibition the collection of Hymenoptera and the collection of Hemiptera, "only if the space allows". According to reports of the Serbian Academy of Sciences and Arts, Dušan Stojićević distinguished and had identified insects in museum collections and formed entomological boxes for exhibitions until 1934, all in order to preserve and create order in the collected entomological material.

Nikola Ranojević (1869-1922), a botanist, worked as a teacher in the Gymnasium, was an executive of the Center for tropical diseases in Topčider, and the honorary curator of the Botanical department of the Museum of Serbian Land. In 1905 he gathered a large collection of butterflies in the vicinity of Belgrade, mostly in Topčider. His collection of fungi has also been stored at the Natural History Museum.

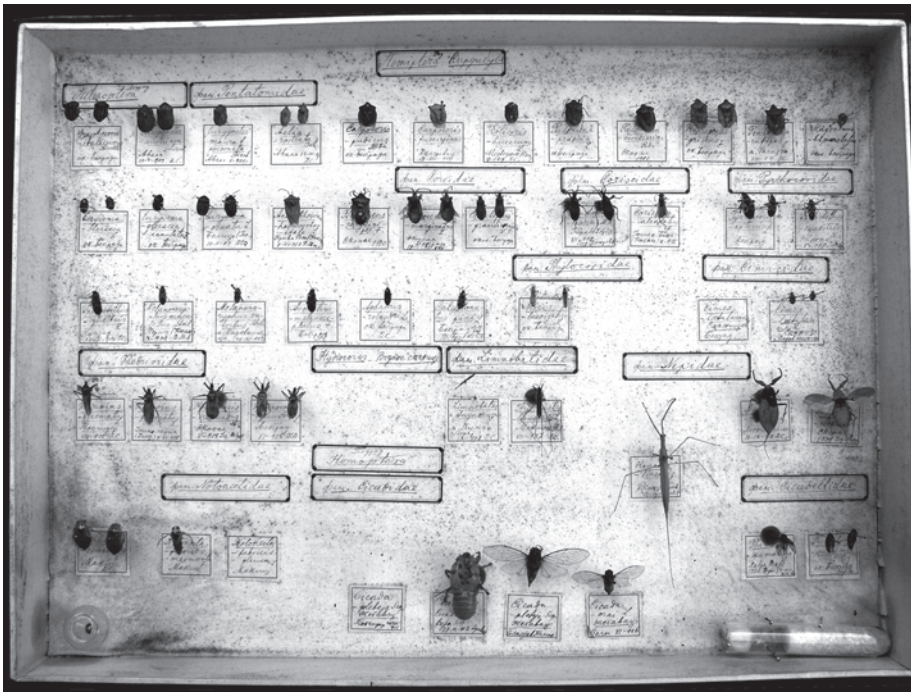

Fig. 1. – The first of two entomological boxes of the Old Collection of Heteroptera at the Natural History Museum in Belgrade. This one Dušan Stojićević prepared for exhibition.

Dobrivoje Stojadinović (1882-1959), better known in museum circles as "uncle Doša", was officially employed as a museum conservator. He was a hard worker – in fact such a hard worker that in its first century of existence the Museum never found his equal. The results of his work are present in all expert departments. Uncle Doša kept collecting anything he could in the outdoors, from rocks and fossils to plants and animals. He conserved the collected specimens in quantities so high that it is incomprehensible today. He also had bound most of the volumes in the

library in the museum. Another interesting piece of data is that in 1937 he was the only employee of the Museum; after Director Dušan Stojićević retired in 1937, the Museum had no curators, so all the collections were handled only by Stojadinović.

Vladimir Brzaković was a forestry technician from Rogot. The Museum hosts his collection of Coleoptera and Lepidoptera. A great enthusiast, he also collected other groups of insects and animals. His collection of birds, stored at the Natural History Museum in Belgrade, is particularly immense.

Participants in collecting the specimens for this collection also include numerous enthusiasts, field associates of the Museum, who donated a certain number of museum objects each year. They were mostly teachers and students of the Science Gymnasium.

Živojin Stojadinović was a teacher at Novo Selo near Trstenik.

Nikola Avramović was born in Tetovo in 1882. He graduated from a lyceum in Skopje in 1902.

Jordan Petrović was a teacher from Skopje. He was born in Prilep in 1881 and graduated from an Istanbul Gymnasium in 1902.

Vasa Živković, parish leader of Požarevac and a retired teacher; collected insects in the vicinity of Knjaževac.

LIST OF LOCALITIES

* the localities in Serbia where Heteroptera were never collected before or after this record

Serbia:

CP86 Bajna Bašta: Monastery Rača
DQ56 Beograd
DQ56 Beograd (pond)
DQ56 Beograd (surroundings)
DQ64 Beograd: Avala
DQ55 Beograd: Makiš
DQ55 Beograd: Sava
DM62 Korab
CQ71 Krupanj: Stubline*
EP43 Monastery Manasija*
CQ84 Monastery Radovašnica*
EQ44 Monastery Tuman*
FQ01 Negotin: Monastery Vratna
FP29 Negotinsko Blato

DQ55 Beograd: Topčider
EP27 Jagodina: Belica*
EP27 Jagodina: Crni Vrh: Beli Izvor*
EP27 Jagodina: Jošanička Šuma*
EQ40 Jošanička Reka*
FP12 Knjaževac*
FP12 Knjaževac: Meriš*
DP88 Kopaonik: Jošanička Banja
DP89 Kopaonik: Kriva Reka
FN27 Pirot: Masurovci *
FP40 Pirot: Topli Do*
EQ14 Požarevac: Potok Torman
EP08 Rogot: Morava
EP08 Rogot: Moravište
FP09 Trnjani* (Negotinska Krajina)
DP93 Trstenik: Novo Selo*
CP99 Valjevo: Medvednik*
CQ85 *Zminjak (Podrinje)

Macedonia:

EM92 Kočane: Štip
EM34 Skopje
EM34 Skopska Bara
EM34 Skopje: Katlanovsko Blato
EM62 Veles: Zelenikovo

RESULTS

The Old Collection is now arranged in systematic order according to the most contemporary catalogues for the Palearctic region (Aukema & Rieger 1995; 1996; 1999; 2001; 2006). The names of taxa in square parentheses are synonyms that were displayed in the Old Collection until recently.

All the specimens were inventoried and marked with numbers 1/I - 77/I. The upper-case letter I next to the inventory number signifies that the specimen was part of the Initial collection.

NEPOMORPHA "HYDROCORES"

Nepidae

1. Nepa cinerea Linnaeus, 1758

[*Nepa rubra* Linnaeus, 1758]

4/I FP29 Negotinsko Blato 1910.09.10. leg. D. Stojićević

5/1 EM34 Skopje 1908. leg. J. Petrović

2. Ranatra linearis (Linnaeus, 1758)

[*Nepa linearis* Linnaeus, 1758]

6/I EP08 Rogot (Morava) leg. V. Brzaković 1f

7/I EP08 Rogot, Morvište 1905-06-13 leg. P. Pavlović 2 ex

8/I EP08 Rogot 1907-10-01 leg. P. Pavlović 2 ex

9/I CQ85 *Zminjak (Podrinje) 1910-08-19 leg. D. Stojićević

10/I EM34 Skopska Bara 1910. leg. J. Petrović, destroyed

11/I DQ5 Beograd: Makiš 1911-08-06 leg. D. Stojićević

12/I FP29 *Negotinsko Blato 1923-08-11 leg. P. Pavlović 2 ex

13/I FP29 *Negotinsko Blato 1923-08-11 leg. P. Pavlović

Naucoridae

3. Ilyocoris cimicoides (Linnaeus, 1758)

[*Nepa cimicoides* Linnaesu, 1758; *Naucoris cimicoides* (Rossi 1790)]

1/I DQ55 Beograd: Makiš leg. D. Stojićević 2m

Notonectidae

4. Notonecta glauca glauca Linnaeus, 1758

[*Notonecta fabrici* var *glauca* Linnaeus, 1758, *Notonecta glauca glauca* f. *guttata* Stichel, 1932; *Notonecta fabrici* var. *marmorata* Fabricius, 1851]

2/I DQ55 Beograd: Makiš leg. D. Stojićević, just a label without a specimen

3/I DQ55 Beograd: Makiš 1911. leg. D. Stojadinović

Hydrometridae

5. Hydrometra stagnorum (Linnaeus, 1758)

[*Cimex stagnorum* Linnaeus, 1758; *Limnobates stagnorum* Herrich-Scahffer, 1836-53]

14/I EQ14 Požarevac: Potok Torman 1907-09 leg. D. Stojićević

15/I *FP09 Trnjani (Negotinska Krajina) 1904-09-23 2m 1f

16/I EQ44 * Monastery Tuman 1907-09-23 1m

GERROMORPHA

GERRIDAE

6. Aquarius najas (De Geer, 1773)

[*Cimex najas* De Geer 1773]

35/I FQ01 Negotin: Monastery Vratna 1911-04-11 leg. D. Stojićević 5m, 2f

7. Aquarius paludum (Fabricius 1794)

[*Gerris paludum* Fabricius 1794]

36/i DQ55 Beograd: Sava 1907-07 leg. N. Ranojević 3m, 7f

37/I FP40 Pirot:*Topli Do 1907-07-23 leg. D. Stojićević 2m, 3f

38/I EP43 * Monastery Manasija 1908-06-19 leg. D. Stojićević 1m, 1f

39/I EQ40 *Jošanička Reka, r 1909-08-05 leg. D. Stojadinović 2m, 2f

40/I DP93 Trstenik:*Novo Selo 1910-03 and 04 leg. Ž. Stojadinović 1f

8. Gerris (***Gerris***) ***costae fieberi*** Stichel, 1938

17/I EM92 Kočane: Štip 1921-05-19 leg. D. Stojadinović 1m

9. Gerris (***Gerris***) ***lacustris*** (Linnaeus, 1758)

[*Cimex lacustris* Linnaeus, 1758, *Hydrometra lacustris* Herrich-Schaeffer, 1836-530]

18/I DQ55 Beograd: Makiš 1907-07 leg. D. Stojićević 1m

19/I EM34 Skopje 1907-06 leg. N. Avramović

20/I EM34 Skopje 1907-05 leg. J. Petrović 2ex

21/I EM34 Skopje 1908-04-05 leg. J. Petrović

22/I EP43 *Monastery Manasija 1908-06-19 leg. D. Stojićević

23/I EQ40 *Jošanička Reka, r 1909-08-05 leg. D. Stojićević 3ex

24/I DP93 Trstenik: *Novo Selo 1910-03 leg. Ž. Stojadinović

25/I CQ71 Krupanj: *Stubline 1912-06-05 leg. D. Stojadinović

10. Gerris (***Gerris***) ***thoracicus*** Schumel, 1832

32/I DQ56 Beograd (pond) 1904-04-05 leg. D. Stojićević 1m

33/I Jagodina: Crni Vrh: *Beli Izvor 1910-08-06 leg. D. Stojadinović 1f

34/I CQ71 Krupanj: * Stubline 1912-06-05 leg. D. Stojadinović 1m

11. Gerris (***Gerriselloides***) ***lateralis*** Schumacher, 1832

26/I DQ56 Beograd (pond) 1904-04-05 leg. D. Stojićević

27/I DQ56 Beograd 1905-04 leg. D. Stojićević

28/I FN27 Pirot: *Masurovci 1906 1906-06-04 leg. Z. (unknown)

29/I EM34 Skopje 1908-04-05 leg. J. Petrović

30/I CP99 *Medvednik 1909-05-21 leg. Pupils "Realke" 2 ex

31/I EM34 Skopje: Katlanovsko Blato 1914-06-05 leg. D. Stojićević

CIMICOMORPHA "GEOCORISAE"

MIRIDAE

12. Stenodema laevigata (Linnaeus, 1758)

[*Cimex laevigatus* Linnaeus, 1758; *Miris laevigatus* (Fabricius, 1794)]

41/I DQ56 Beograd (surroundings) leg D. Stojićević 1m, 1f

CIMICIDAE

13. Cimex lectularius Linnaeus, 1758

42/I DQ56 Beograd leg. D. Stojićević, just a label without a specimen

43/I CQ84 *Monastery Radovašnica leg. D. Stojadinović 1m, 1f

REDUVIIDAE

14. Rhinocoris iracundus (Poda, 1761)

[*Cimex iracundus* Poda 1761]

44/I DQ56 Beograd 1906-06 leg. P. Pavlović 1m, 1f, destroyed

45/I EM34 Skopje 1908-05 leg. J. Petrović 1m

15. Reduvius personatus (Linnaeus, 1758)

[*Cimex personatus* Linnaeus, 1758]

46/I DQ55 Beograd: Topčider 1905-08 leg. D. Stojićević, destroyed

47/I EP27 Jagodina:*Jošanička Šuma 1908-06-07 leg. D. Stojadinović 1m

PENTATOMORPHA

BERYTIDAE

16. Neides aduncus Fieber, 1859

48/I EM62 Veles: Zelenikovo 1921-05-12 leg. D. Stojadinović

LYGAEIDAE

17. Aphanus rolandri (Linnaeus, 1758)

[*Cimex rolandri* Linnaeus, 1758]

50/I DQ56 Beograd (surroundings) leg. D. Stojićević 1f

18. Arocatus melanocephalus (Fabricius, 1798)

[*Lygaeus melanocephalus* Fabricius, 1798]

51/I DQ56 Beograd leg. D. Stojićević 1m

19. Horvathiolus superbus (Pollich, 1781)

[*Cimex superbus* Pollich, 1781; *Melanocorypus punctatoguttatus* Stal, 1872]

52/I CQ84 *Monastery Radovašnica 1920-06-20 leg. D. Stojadinović, 1m

20. Lygaeus equestris (Linnaeus, 1758)

[*Cimex equestris* Linnaeus, 1758; *Spilostethus equestris* (Stichel, 1758)]

54/I DQ56 Beograd 1904-02-05 leg. D. Stojićević 1f

55/I EM34 Skopje 1908-05 leg. J. Petrović, 1f

21. Melanocoryphus albomaculatus (Goeze, 1778)

[*Cimex albomaculatus* Goeze, 1778; *Melanocoryphus apuans* Stal, 1872]

53/I FP12 Knjaževac:*Meriš 1908-10 leg. V. Živković, 1f

22. Rhyparochromus* (*Rhyparochromus*) *pini (Linnaeus, 1758)
[*Cimex pini* Linnaeus, 1758; *Calyptonotus pini* Douglas & Scott, 1865]
41 DQ56 Beograd 1908-02-13 leg. V. Brzaković 1f

Pyrrhocoridae

23. Pyrrhocoris apterus (Linnaeus, 1758)
[*Cimex apterus* Linnaeus, 1758]
56/I DQ56 Beograd leg. D. Stojićević 2f

Stenocephalidae "Coriscidae"

24. Dicranocephalus medius (Mulsant & Rey, 1879)
[*Stenocephalus medius* Mulsant & Rey, 1879]
57/I DM62 Korab 1908-07 leg. J. Petrović

Coreidae

25. Ceraleptus gracilicornis (Herrich-Schaeffer, 1835)
[*Coreus gracilicornis* Herrich-Schaeffer, 1835]
58/I DQ56 Beograd (surroundings) leg. D. Stojićević 2f

26. Coreus marginatus (Linnaeus, 1758)
[*Cimex marginatus* Linnaeus, 1758; *Mesocerus marginatus* Reuter, 1888]
59/I DQ56 Beograd (surroundings) 1911-05-18 leg. P. Pavlović 2f

Alydidae

27. Alydus calcaratus (Linnaeus, 1758)
[*Cimex calcaratus* Linnaeus, 1758; *Coriscus calcaratus* Stichel, 1925]
60/I DP88 Kopaonik: Jošanička Banja 1905-10 leg. N. Ranojević, 1m

SCUTELLERIDAE "PENTATOMIDAE"

28. Eurygaster maura f. ***personata*** (Stichel, 1924)

[*Eurygaster testudinaria* f. *personata* Stichel, 1924]

61/I DQ64 Beograd: Avala 1909-05,leg. D. Stojićević, 1f

29. Eurygaster austriaca (Schrank, 178)

[*Thyreocoris austriaca* Schrank, 1778]

62/I DQ64 Avala 1909-05-11 leg. D. Stojićević 1m, 1f

PENTATOMIDAE

30. Aelia rostrata Boheman, 1852

75/I DQ64 Beograd: Avala 1909-04-12 leg. D. Stojićević 2m

31. Carpocoris fuscispinus (Boheman, 1846)

[*Cimex fuscispinus* Boheman, 1846]

73/I FP12 *Knjaževac 1905-07-18 leg. V. Živković 1f

32. Carpocoris pudicus (Poda, 1761)

[*Cimex pudicus* Poda, 1761]

74/I DQ56 Beograd (surroundings) leg. D. Stojadinović 1f

33. Dolycoris baccarum (Linnaeus, 1758)

[*Cimex baccarum* Linnaeus, 1758]

72/I CP99 Valjevo:*Medvednik 1909-06 leg. D. Stojićević 1f

34. Eurydema oleraceum f. ***albomarginata*** (Goeze, 1778)

[*Cimex albomarginaus* Goeze, 1778; *Eurydema oleracea* f. *annulata* Fallén, 1807]

65/I DQ56 Beograd (surroundings) leg. D. Stojićević 1f

35. Eurydema oleraceum (Linnaeus, 1758)
[*Cimex oleraceum* Linnaeus, 1758]
Inv.no 66/I DQ56 Beograd leg. D. Stojićević 1m, 1f

36. Eurydema ornatum (Linnaeus, 1758)
[*Cimex ornatum* Linnaeus, 1758; *Eurydema ornata* (Linnaeus, 1758)]
64/I EP27 Jagodina:*Belica 1909-05-10 leg. P. Pavlović 2f

37. Graphosma lineatum (Müller, 1766)
[*Cimex italicum* Müller 1766; *Graphosoma italicum* Horváth 1907]
76/I DQ56 Beograd (surroundings) leg. D. Stojadinović 1m, 1f

38. Palomena prasina (Linnaeus, 1761)
[*Cimex prasinus* Linnaeus, 1761]
71/I DQ56 Beograd (surroundings) leg. D. Stojićević 1f

39. Palomena viridissima (Poda, 1761)
[*Cimex viridissima* Poda, 1761]
70/I EM34 Skopje 1910 leg. J. Petrović 1f

40. Pentatoma rufipes (Linnaeus, 1758)
[*Cimex rufipes* Linnaeus, 1758]
68/I CP86 Bajna Bašta: Monastery Rača 1909-08 leg. D. Stojićević 1m

41. Pinthaeus sanguinipes (Fabricius, 1781)
[*Cimex sanguinipes* Fabricius, 1781]
63/I EM34 Skopje 1910. leg. J. Petrović 1f

42. Rhaphigaster nebulosa Poda, 1761
[*Rhaphigaster griseus* Costa A. 1838; *Platysolen griseus* Fieber, 1861]
69/I DQ 56 Beograd (surroundings) leg. D. Stojićević 1m, 1f

43. Stagonomus bipunctatus Linnaeus, 1758

Inv.no.67/I DQ56 Beograd (surroundings) leg. D. Stojićević 1f

ACANTHOMATIDAE "PENTATOMIDAE"

44. Acanthosoma haemorhoidale (Linnaeus, 1758)

[*Cimex haemorhoidale* Linnaeus, 1758]

Inv.no 77/I DP89 Kopaonik:*Kriva Reka 1910-05-07 leg. N. Ranojević 1m

DISCUSSIONS AND CONCLUSIONS

The presented collection of Heteroptera is of multifold importance. The Old Collection of Heteroptera is the initial one, and as such it has historical, museological and scientific value. The collectors were the important names of natural sciences and museology: Petar Pavlović, Dušan Stojićević, Vladimir Brzaković, Nikola Ranojević, Dobrivoje Stojadinović, as well as enthusiasts – teachers and students from a Science Gymnasium, a Lyceum in Skopje and a Gymnasium in Istanbul. The collection was formed by Stojićević, who at the time was the only curator of zoology at the Museum of Serbian Land. As a founder, Stojićević gathered the most diverse material all entirela on his own (Tab. 1).

The Old Collection of Heteroptera at the Natural History Museum in Belgrade includes 130 specimens from 16 families and 44 species. Before the processing, the specimens from this collection used to be stored in two entomological boxes. One was prepared for exhibition, while the other included only the conserved and partially identified material.

All the identified specimens were classified by Dušan Stojićević and later revised for this occasion. All the specimens that were previously only conserved and labelled but not identified were fully processed and identified during the revision activities. The revision also included checking the already identified specimens as well as replacing old names for tribes, families, genera and species which are now placed in the synonymy and the presently accepted names for species and other

higher taxonomic categories were written on labels. Most specimens had their sex identified. In a certain number of specimens due to old methods of conservation or due to damaged abdomens, it was impossible to identify sex.

On the list of localities, the sign * marks those localities where the later researchers did not study Heteroptera. The comparison with the localities studied after the establishment of the Old Collection shows that data from this collection are new records of the distribution of the following species of Serbian fauna: *Acanthosma haemorrhoidale*, *Aquarius paludum*, *Gerris lacustris*, *G. lateralis*, *Horvathiolus superbus*, and *Ranatra linearis*

Gerris lateralis was known in Serbia only from two localities in Metohija: Peć and Đakovica (Protić 1998). Data from the Old Collection significantly expand the range of this species for the territory of Serbia, as they were collected in southeastern (Pirot), central (Belgrade) and western Serbia (Jablanik, Medvednik).

New data also increased knowledge of the distribution of the species *Aquarius paludum* in central Serbia: Monastery Manasija, Jošanička Reka, Trstenik: Novo Selo.

Specimens from Vratna support the view that the range of the species *Aquarius najas* includes only the northeastern part of Serbia. All the known localities are from this area. In 1911, Stojićević had collected seven specimens near Vratna Monastery; three specimens were collected in 1967 by Danka Čubrilović in the locality of Pesača, while the author of this review collected 10 individuals in 1984 at Boljetin (Boljetinska Reka). Distribution of *G. najas* in ex Yugoslavia also includes, in addition to Serbia, Croatia (Jaczewski 1934; Novak & Wagner 1951) and Macedonia (Protić 1998). This is a Euro-Mediterranean species.

The species *Horvathiolus superbus* was, according to the existing data, recorded in northeastern, central and southern Serbia. The specimen from the Old Collection, collected near Monastery Radovašnica in western Serbia, therefore represents an increase in its historical range.

The processed collection also includes the species *Pinthaeus sanguinipes* from Skopje, and that was the only specimen of this species

from the area of ex Yugoslavia present in the Museum's collections. The Collection of Heteroptera by Nikola Kormilev, which is stored at the Natural History Museum, includes one specimen of this species from Germany, from the locality of Mönor (Inv. n. 473). According to the literature, it is also distributed in Croatia (Langhofer 1899) and Slovenia (Gogala & Gogala 1989). *P. sanguinipes* is a Euro-Siberian species, which in the Balkan Peninsula has so far been recorded in Bulgaria and Greece (Josifov 1986), while in ex Yugoslavia it was recorded in Slovenia, Croatia and Bosnia (Protić 2001).

During the processing of the material it was noted that after these first studies certain species were never recorded again, although the particular localities were much studied. For example, the following species were never collected again in the vicinity of Belgrade: *Gerris lateralis, G. thoracicus, Aquarius paludum, Aphanus rolandri,* and near Monastery Vratna *Aquarius najas*. I assume that these species were never recorded again due to an insufficient scope of research in water habitats and due to their destruction through drying, irrigation and building of roads and settlements.

Since the time of the establishment of the Old (initial) Collection of Heteroptera, numerous habitats have been altered. Therefore the specimens collected at those habitats are very important for our knowledge of species ranges and understanding of the whole fauna, while from the point of view of nature conservation they show the number of species that have become extinct due to altered conditions. Such large changes are present at the localities of Belgrade, Negotinsko Blato and Skopske Bare, which no longer are in their former state.

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СТАРА ЗБИРКА HETEROPTERA У ПРИРОДЊАЧКОМ МУЗЕЈУ У БЕОГРАДУ

Љиљана Протић

Р Е З И М Е

Стара или прва збирка Heteroptera Природњачког музеја формирана је у периоду од 1904. до 1922. године. Сакупљачи су позната имена међу природњацима: Петар Павловић, Душан Стојићевић, Владимир Брзаковић, Никола Ранојевић, као и ентузијасти учитељи и ђаци Реалке.

Примерци су сакупљани на 32 локалитета. Каснији сакупљачи нису обрађивали неке од тих локалитета, па је њихов значај утолико већи: Књажевац, Топли До (Пирот), Рогот, околина Јагодине, Медведник, Повлен, Јабланик. Посебно су вредни примерци

сакупљени на локалитетима који су данас уништени: Неготинско Блато и Скопске Баре.

Ревизијом примерака у старој збирци утврђено је 45 врста, које су систематисане у 16 фамилија. Збирка обухвата 124 примерка. Утврђена је нова врста за фауну Србије - *Pinthaeus sanguinipes* (Fabricius). По броју примерака издвајају се водене стенице (Nepomorpha, раније Hydrocorisae). Род *Gerris* заступљен је са чак шест врста.