Annotated bibliography of the odonatological papers of Ukraine

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INTRODUCTION

The ecological and faunistic research of Odonata in Ukraine has been based on three main pillars. The first are investigations of species composition, habitat preferences, trophic connections, parasites and predators, behaviour patterns, and morphological and physiological peculiarities of dragonflies by expert-odonatologists. The second pillar is the collection and identification of adults for the survey of animals from different regions, especially rare and endangered species for the Red Lists and Red Data Book. Thirdly, there is the study of Odonata larvae as components of freshwater ecosystems, particularly as food of fish.

Some present Ukrainian regions belonged to Poland, Hungary, Slovakia and Romania before 1939-1945. Odonatological investigations were held up during the Second World War and the 12 years of post-war rebuilding.

The first data on Ukrainian Odonata were published in the second part of the 19th century (Belke, 1859, 1866). Since then, several Ukrainian, Russian, Polish, Hungarian and Romanian scientists have made great contributions to the investigation of the odonate fauna and ecology. One of the most famous odonatologists, J. Dziêdzielewicz, worked in the western Ukraine from the end of the 19th to the early 20th century. At the same time G. Artobolevs'ky investigated the northern and central parts of Ukraine and the Crimea peninsula. A. Brauner and A. Bartenev carried out research in the southern Ukraine and Crimea.

R. Pavlyuk continued research in the western region of Ukraine. He carried out faunistic, ecological and parasitological investigations. A. Oliger studied faunistic and ecological aspects of dragonflies in the easternmost part of the Ukraine (Donets'k region). Recently, S. Gorb published many papers devoted to the functional morphology of dragonflies. He also provided a study of the species composition and ecological peculiarities of Odonata in northern Ukraine and a catalogue of the Ukrainian species. Today, several odonatologists are actively involved in odonatological research in Ukraine. N. Mathuskina works on the functional morphology of the ovipositor and dragonfly behaviour, L. Khrokalo on faunistics and ecology in the northeastern Ukraine and on aspects of nature conservation, O. Dyatlova on the faunistics in the southwest of the country and some aspects of morphology and behaviour. A. Martynov studies the faunistics in the eastern part of Ukraine.

RESULTS

This bibliography comprises a total of 261 publications. They either deal with the dragonfly fauna and ecology of Ukraine or are papers on the behaviour, functional morphology, parasites of odonates and other aspects of Odonatology written by Ukrainian specialists. The review paper about Ukrainian Odonata fauna (Gorb *et. al*, 2000, no. - 115) included literature and original data on 73 species. From the species mentioned in the latter monograph the record of *Coenagrion mercuriale* in Ukraine needs confirmation. In addition, the authors did not treat *Calopteryx taurica* as a separated species and did not separate *Orthetrum coerulescens* and *O. anceps*.

The list of odonatological papers published in Ukraine and for Ukrainian territory is presented in alphabetical order. Annotation and comments on most of the publications devoted to faunistic, ecological and ethological investigations are presented. Unfortunately, several articles were not available and given without annotation. An English transcription is provided for most published titles.

Checklist of Ukrainian odonatological works

1. Averin, V. G. 1915. - O massovom lete strekoz letom 1914 v Europeyskoy Rossii. (About a mass flight of dragonflies in summer 1914 in European Russia). - Byuleten' o vreditelyakh sels'kogo khozyaystva. (Bulletin on agricultural pests (Kharkiv)) 2: 1-10. (in Russian)

The peculiarities of mass flights of *Libellula quadrimaculata* (sometimes involving another species) was described for European Russia, including present Ukrainian territories (former Kyiv, Kharkiv, Podolie, Volyn' districts).

2. Artobolevsky, G. V. 1915. - Dopolnenie k faune strekoz Kryma. (Supplement to Odonata fauna of Crimea). - Entomol. Vestnik 2 (2): 113-114. (in Russian)

Three species were reported for the first time for Crimea. *Nehalennia speciosa*, *Erythromma viridulum, Anax imperator* were found on the west coast of the Crimea peninsula (environs of Yevpatoriya).

3. Artobolevsky, G. V. 1917a. - Zametki o strekozakh Poltavskoy gubernii. (Notes on the Odonata of the goverment of Poltava). - Materialy k poznaniyu fauny yugo-zapadnoy Rosii. (Materials to the knowledge of the fauna of Southwestern Russia) 2: 17-29. (in Russian with English subtitle)

Tventy five Odonata species were reported from Dnieper valley near Kobelyaki town (former Poltava goverment, present Poltava administrative region, NE Ukraine). The author described aberrations (phenotypic morphs) of some species. The differences between *Calopteryx splendens splendens* and *Calopteryx s. ancilla* and their taxonomic status were discussed.

4. Artobolevsky, G. V. 1917b. - Novye dannye o strekozakh okrestnostey Kieva. (Supplement to the faune of Odonata of the neighbourhood of Kiev). - Materialy k poznaniyu fauny yugo-zapadnoy Rossii. (Materials to the knowledge of the fauna of Southwestern Russia) 2: 29-34. (in Russian with English subtitle)

Data on the distribution, ecology and behaviour were presented of 11 Odonata species found in Kyiv and its environs (N Ukraine). *Leucorrhinia dubia* and *Aeshna affinis* were recorded for the first time in this area. The species composition of Odonata of the vicinity of Kyiv has been analysed.

5. Artobolevsky, G. 1917c - Dopolnenie k spisky strekoz Khersonskoy gubernii (Addition to the list of Odonata of the Cherson district). - Materialy k poznaniyu fauny yugo-zapadnoy Rosii. (Materials to the knowledge of the fauna of Southwestern Russia) 2: 58. (in Russian with English subtitle)

Gomphus vulgatissimus was recorded for the first time for then-Kherson district (S Ukraine). The species was found in the vicinity of Kirovohrad (now Kirovohrad administrative region, central Ukraine)

6. Artobolevsky, G. 1917d. - K faune strekoz Bessarabii (To the fauna of Odonata of Bessarabia). - Materialy k poznaniyu fauny yugo-zapadnoy Rossii. (Materials to the knowledge of the fauna of Southwestern Russia) 2: 58. (in Russian with English subtitle)

Sympetrum sanguineum was found near the town of Akkerman (now Bilgorod-Dnistrovs'ky) so firstly recorded for Bessarabia (S Ukraine).

7. Artobolevsky, G. 1917e. - K rasprostraneniyu Orhtetrum brunneum (Fonsc.) v Europeyskoy Rossii (On the distribution of Orthetrum brunneum (Fonsc.) in European Russia). - Materialy k poznaniyu fauny yugo-zapadnoy Rosii. (Materials to the knowledge of the fauna of Southwestern Russia) 2: 58. (in Russian with English subtitle)

The distribution of *Orthetrum brunneum* in European Russia was considered. The record of *O. brunneum* in former Ekaterinoslavsk district (now Zaporizhzhya administrative region, central Ukraine) was the most northern one.

8. Artobolevs'ky, G. V. 1923. - Do Odonatofauny Poltavschyny. (On the Odonatofauna of the Poltava district). - Ukrainian Zool. Journ. 2: 12. (in Ukrainian)

Leucorrhinia caudalis near Yagotyn (now Kyiv administrative region, N Ukraine): One female had smoke-coloured spots on the wing margins near the pterostigma.

9. Artobolevs'ky, G. V. 1926. - Do fauny babok (Odonata) Chernigivschyny. (On the Odonata of the district of Chernigov). - Zapysky Kyivs'kogo tovarystva pryrodoznavtsiv. (Proceedings of the Kyiv Naturalists Society) 27 (1): 85-89. (in Ukrainian with English subtitle)

Faunistic list of 25 species published after studying material of several private collections and that of the Zoological Museum of the Ukrainian Academy of Sciences. The sites are situated in present Kyiv and Chernihiv administrative regions. Short descriptions of phenotypic morphs of some species were given. The distribution of *Sympecma paedisca* in the Palearctic was discussed.

10. Artobolevs'ky, G. V. 1927a. - Do vyvchennya babok Podillya. (Matériaux á la faune des libellules de Podolie. Materials to study of Odonata of Podolie). - Zbirnyk prats' Zool. museyu Vseukrains'koi Akademii nauk: Trudy fisiko-matematychnogo viddilu (Transactions of the Zoological Museum of the Ukrainian Academy of Sciences. Proceedings of the Physics-Mathematics Department) 7 (1): 159-162. (in Ukrainian with French summary)

A short literature review and a faunistic list of 26 species are provided for Podolie (now Vinnytsya and Odessa administrative regions). The problems of identifications of immature females of *Orthetrum cancellatum* and *O. albistylum* were discussed. The author gave a description of one male of *Calopteryx* sp.

11. Artobolevs'ky, G. V. 1927b. - Babky (Odonata) Kyivs'kykh okolyts'. (Les libellules des environs de Kyiv (Odonata). Dragonflies (Odonata) of Kyiv environs.) - Zbirnyk prats' Zool. museyu Vseukrains'koi Akademii nauk: Trudy fisiko-matematychnogo viddilu. (Transactions of the Zoological Museum of the Ukrainian Academy of

Sciences. Proceedings of the Physics-Mathematics Department 7 (3): 65-118. (in Ukrainian with French summary)

In this detailed regional odonatological report for the northern and central Ukraine the author reviewed all previous literature about dragonflies of Kyiv and its surroundings. As a result of his own collections and the review of collections of several museums, 52 species were recorded for the Kyiv district. Study sites were situated in present-day Kyiv, Zhytomyr, Cherkasy administrative regions. Interesting records included those of *Calopteryx virgo, Sympecma fusca, S. paedisca, Coenagrion armatum, C. ornatum, Nehalennia speciosa, Anax parthenope, Aeshna juncea, Ophiogomphus cecilia, Orthetrum brunneum, Leucorrhinia dubia, L. rubicunda* and *Sympetrum striolatum.* Habitats, aspect of the behaviour of all recorded species and some phenotypic morphs were described. In the second part, the author analysed the flight seasonality of the species. He compared the number of species per month to those in the Moscow district. A zoogeographical analysis of Odonata fauna of Kyiv district was presented.

12. Artobolevsky, G. V. 1928. - Zametki o strekozakh Poltavskoy gubernii. (Notices sur les Odonates du gouvernement de Poltava II, III. Notes on Odonata of district of Poltava II, III.). - Zbirnyk Poltavs'kogo derzhavnogo zool. museyu im. V. G. Korolenka. (Transactions of the Poltava State V. Korolenko Museum) 1: 229-245. (in Russian with French summary)

This paper on the dragonfly fauna of the Poltava district (NE Ukraine) was an addition to the previous data set. Material was collected in the present-day Kyiv, Cherkasy, Poltava and Kharkiv administrative regions. *Libellula fulva* and *Ortetrum brunneum* were recorded for the first time for the former Poltava district. Peculiarities of the behaviour, prey, phenotypic morphs and morphological abnormalities are described for some species.

13. Artobolevs'ky, G. V. 1929a. - Notatky pro babok Poltavschyny (Notices sur les Odonates du gouvernement de Poltava. Notes on Odonata of the Poltava district). - Zbirnyk prats' Zool. museyu Vseukrains'koi Akademii nauk: Trudy fisiko-matematychnogo viddilu (Transactions of the Zoological Museum of the Ukrainian Academy of Sciences. Proceedings of the Physics-Mathematics Department 13 (1): 5-22. (in Ukrainian and French)

In the first part (in Ukrainian) 37 Odonata species are listed that were collected during two trips in 1921-1922 in the Poltava district (NE Ukraine). The material concerns the present-day Kyiv, Sumy, Cherkasy, Poltava and Kharkiv administrative regions. *Ischnura pumilio* was first recorded for the Poltava district. Two specimens of *Sympecma paedisca* with reduced projections of the humeral stripe into the thorax were described. In the second part (in French) the author reviewed odonatological studies in the Poltava district. A short history of investigations was given, 48 Odonata species were mentioned from the whole period of study. Flight seasons and relative numbers of all species were shown in tables.

14. Artobolevsky, G. V. 1929b. - Strekozy Kryma. (Les Odonates de la Crimée. Odonata of Crimea). - Byuleten' obschestva naturalistov i druzey prirody Kryma. (Proceedings of the Crimean Naturalists' Society) 11: 139-150. (in Russian with French subtitle)

This paper included a review of the odonatological investigations in Crimea and contained a faunistic list of 37 species. A zoogeographic analysis of the Odonata fauna of Crimea peninsula was presented. The new subspecies *Lestes viridis parvidens* (now: *Chalcolestes parvidens* Art.) was described.

15. Artobolevs'ky, G. V. 1929c. - Materialy do fauny babok Ukrainy (Materiaux pour la faune des Odonates de l'Ukraine. Materials to Odonata fauna of Ukraine). - Zbirnyk prats' Zool. museyu Vseukrains'koi Akademii nauk: Trudy fisiko-matematychnogo viddilu. (Transactions of the Zoological Museum of the Ukrainian Academy of Sciences. Proceedings of the Physics-Mathematics Department 13 (1): 141-146. (in Ukrainian with French summary)

Additional data for different areas of Ukraine and Moldova were presented. The author reported sites for 40 Odonata species, *Sympetrum fonscolombii* was recorded for the first time in the Kyiv region. In addition, 19 first records were presented for the former Katerynoslav district (central Ukraine).

16. Barsov, V. A. 1987. - Rasprostranenie juzhnykh elementov entomofauny v landshaftakh stepnogo Pridneprov'ya. (Distribution of southern elements of the entomofauna in Middle Prydniprov'ya landscapes). - Tez. dokl. III s'ezda Ukrainskogo Entomologicheskogo Obschestva (Kyiv, 1991). (Proceedings of the III Ukrainian Entomological Society Congress (Kyiv, 1991)): 20. (in Russian)

Crocothemis erythraea was found in the Dnipropetrovs'k administrative region in the valleys of the rivers Dnieper, Samara and others (N part of the Ukrainian steppe).

17. Bartenev, A. N. 1912à. - K faune strekoz Kryma. (Contributions á la Faune des Odonates de la Crimée). (On the Odonata fauna of Crimea). - Ezhegodnik Zool. museya imperatorskoy Akademii Nauk (Annals of the Zoological Museum of the Imperial Academy of Sciences) 17: 281-288. (in Russian with French subtitle)

This annotated list of 27 species from Crimea was published after reviewing the literature and the collections of the Zoological Museum of the Imperial Academy of Sciences. *Coenagrion scitulum* was recorded in Crimea for the first time. Zoogeographic analysis of Odonata fauna of Crimea peninsula showed a large number of southern Palearctic elements.

18. Bartenev, A. N. (1911) 1912b. - Palearcticheskie i vostochnoasiatskie vidy i podvidy roda *Calopteryx* (Odonata, Calopterygidae). (Palearctic and East Asian species and subspecies of the genus *Calopteryx* (Odonata, Calopterygidae)). - Raboty Laboratorii Zoologicheskogo Kabineta Imperatorskogo Varshavskago Universiteta (Transactions from the Laboratory of Zoology of the Warsaw Imperial University) 1: 63-257. (in Russian)

More than 20 morphs in the genus *Calopteryx* in the Palearctic region were described after reviewing the material of many international collections. Identification key was given. From Ukraine, *C. virgo virgo* (SE part of present Luhans'k region), *C. taurica taurica* (Crimea), C. *splendens splendens* (whole Ukraine) and *C. ancilla* (Danube delta) were recorded.

19. Bartenev, A. N. 1930a. - K voprosu o zimovkakh imago strekoz (Zur Frage der Überwinterung der Imago der Odonaten. On the question of overwintering adult Odonata). - Russkiy Zoologichesky Zhurnal 10 (1): 65-92. (in Russian with German summary)

On page 65 of this paper author mentioned the case of overwintering of *Sympecma fusca* in Galician province (now L'viv region, W Ukraine) published by J. Dziêdzielewicz (1902).

20. Bartenev, A. N. 1930b. - Opyt biologicheskoy grupirovki strekoz Evropeyskoy chasti SSSR. Chast' I. (Versuch einer biologischen Gruppierung der Odonaten des Europäischen Teiles der Sowietunion. T. I. An attempt of a biological classification of the Odonata of the European part of the USSR. Part 1.). - Russkiy Zoologichesky Zhurnal 10 (4): 57-131. (in Russian with German summary)

The European Odonata, including the ones distributed in Ukraine, were classified according to their habitats, flight seasonality and biotopes preferences.

21. Bartenev, A. N. 1932. - Opyt biologicheskoy gruopirovki strekoz Evropeyskoy chasli SSSR. Chast' II. (Versuch einer biologischen Gruppierung der Odonaten des Europäischen Teiles der USSA. T. II. An attempt of a biological classification of the Odonata of the European part of the USSR. Part 2.). - Russkiy Zoologichesky Zhurnal 11 (1): 3-57. (in Russian with German summary)

This paper was the continuation of previous one (Bartenev, 1930). In the second part author summarized the results of all classifications from the first part and described the historic development of European Odonata species and genera.

22. Bartenev, A. N. & A. N. Popova 1928. - Materialy po faune strekoz Palearktiki. (Matériaux pour servir à la faune des Odonates de la région paléarctique. Materials to Odonata fauna of Palearctic). - Revue Russe d'Entomogie 22 (3-4): 235-239. (in Russian with French subtitle)

Data about Odonata from different areas of the USSR were presented based on the material of Bartenev's collections. The authors reported 4 dragonfly species for Ukraine from environs of Ismail (Danube delta, S Ukraine).

23. Beling, D. E. 1915. - Ekskursii dlya oznakomleniya s zhyzn'yu presnykh vod (Field trips aimed at the gaining knowledge of freshwater life). - Kursy po podgotovke rukovoditeley estesv. ekskursiy s det'mi v prirodu (Training courses for leaders of children's field trips into nature), Kiev: 14 (in Russian)

Libellula fulva and *Erythromma najas* were found in Darnytsya, near Kyiv.

24. Belke, G. 1859. - Rys historyi naturalnej Kamieñca Podolskiego. (Essay of natural history of Kamyanets-Podilsky) - Warszawa: 1-144. (in Polish)

In this survey 19 Odonata species were reported (on page 82) from the surroundings of Kam'yanets'-Podil's'kyy (Khmel' nyts'kyy administrative region, W Ukraine).

25. Belke, G. 1866. - Notice sur l'histoire naturelle du district de Radomysl Gow. de Kieff. Catalogue des animaux qui habitant le district de Radomysl. - Bull. Soc. Natur. Moscow 2: 491 - 526. (in English)

This paper is the first report about dragonflies of the Kyiv district (N Ukraine). For the Radomyshl' district (now Zhytomyr administrative region) 9 Odonata species were reported.

26. Bernard, R. & H. Wildermuth, 2005. - *Nehalennia speciosa* (Charpentier, 1840) in Europe: a case of a vanishing relict (Zygoptera: Coenagrionidae). - Odonatologica 34 (4): 335-378. (in English)

Based on all available literature and unpublished data, the former and present distribution of *Nehalennia speciosa* in Europe is presented and critically analysed. Data on its occurrence in Ukraine (19 localities) is presented as well. Larger populations were recorded in W and N Ukraine in the first part of the 20th century. The locality near Yevpatoriya in the south coast of Crimea (45°12'N) - the southernmost in Europe - was discovered in 1994. The last record in Ukraine was a single specimen collected in the Chernihiv region, NE Ukraine in 1993.

27. Beutler, H. 1984. - Eine neue Unterart von Libellula depressa L., 1758 auf der Halbinsel Krim (UdSSR) (Insecta, Odonata, Libellulidae). - Faunistische Abhandlungen des Staatlichen Museums für Tierkunde, Dresden 12 (6): 55-58. (in German with English summary)

Libellula depressa taurica ssp. nov. is described and illustrated. The male holotype was collected at Lawrowoe Frunzenskoye (South Crimea, Ukraine). The differences to the nominate subspecies are the shape of abdomen, body colour patterns and the membranula of forewings. The status of the newly described subspecies was discussed.

28. Bezvali, V. 1932. - Odonata de Besarabie. - Bul. Muz. Nat. De Istorie Naturala din Chisinau 4: 68-69. (in Roumanian)

This annotated list of Odonata from former Bessarabia (modern Moldova and some regions of Ukraine) reported 27 species from the present-day Ukrainian part. These include 3 species from the Chernivtsi and 24 from the Odessa regions, among them *Coenagrion ornatum*, *Leucorrhinia pectoralis*, *L. caudalis.* The author also indicated *Nehalennia atrinuchalis* Selys, 1876. This species is a synonym of *Paracercion hieroglyphicum* (Brauer, 1865). However, *P. hieroglyphicum* is an East Asian species and probably not correctly identified.

29. Brauner, A. 1902. - Zametki o strekozakh Khersonskoy gubernii i Kryma. (Remarques sur les libellules du gouvernement de Kherson et la partie septentrionale de la Crimée. Notes on Odonata of Kherson district and Crimea). - Zapiski Novorossiyskogo Obschestva Estestvoispytateley (Transactions of the Novorossiya Naturalists' Society) 24 (2): 75-102. (in Russian with French subtitle)

From all the available literature of European Russia a zoogeographic review is presented of the distribution of dragonfly species in the vegetation zones from the taiga to the southern steppe. Faunistic lists with notes on flight season are also presented for species of southern Ukraine: Kherson district (38 species) and Crimea (13 species). As a result, *Anax parthenope*, *Orthetrum brunneum*, and *Crocothemis erythraea* were recorded for the first time for European Russia.

30. Brauner, A. 1903. - Zametki o strekozakh (Odonata). (Notes on dragonflies (Odonata)). - Revue Russe d'Entomologie 3 (2): 89-91. (in Russian)

The author reported a list of species collected in Arkhangel'sk district, in Caucasia, Crimea and the Danube delta. Four species were found near Izmail (Danube delta, S Ukraine), 8 in Crimea.

31. Brauner, A. 1910. - Materialy po entomologicheskoy faune Bessarabii. Zametka o strekozakh Bessarabii. (Materialien zur der entomologischen Fauna Bessarabiens. Odonata. Materials on entomologic fauna of Bessarabia. Notes on Odonata of Bessarabia). - Trudy Bessarabskogo Obschestva Estestvoispytateley (Transactions of Bessarabia Naturalists' Society) 2 (1): 3-5. (in Russian with German subtitle)

Out of 21 species found in Bessarabia, 13 records concern present-day Ukrainian territory (12 from Chernivtsi region and 1 from Odessa region, SW Ukraine). The rare *Cordulegaster annulatus* was found at two sites in the Khotyn district in Chernivtsi region.

32. Buczyñski P., A. Zawal & E. Filipiuk, 2002. - Neue Nachweise von *Orthetrum albistylum* in Nordpolen: Erweitert sich sein Verbreitungsgebiet in Mitteleuropa? (Odonata, Libellulidae). - Libellula 21 (1/2): 15-24. (in German)

The authors cited the records of *Orthetrum albistylum* in Ukraine by Sheshurak & Padalko (1996), Gorb et al. (2000) and Khrokalo (2000). A map of Ukraine was presented with several administrative regions: Volyns'ka, L'viv, Ivano-Frankivs'k, Chernivtsi, Zakarpats'ka region (west), Kyiv, Chernihiv, Sumy regions (north and northern east), Cherkasy, Poltava (central part), Donets'k (east), Odessa, Kherson regions and Crimea (south).

33. Burbach, K. & M. Winterholler, 1997. - Die Invasion von *Hemianax ephippiger* (Burmeister) in Mittel- und Nordeuropa 1995-1996 (Anisoptera: Aeshidae). - Libellula 16(1-2): 33-59. (in German)

In this paper authors compiled the literature records of *Anax ephippiger* in Europe. On the page 40 they cited the data of its record in N Ukraine (Gorb, 1996a) and SW Ukraine (Gorb & Ermolenko, 1996).

34. Charleman, E. V. 1914. - Massovyi perelet chetyrekhpyatnistykh strekoz v okrestnostyakh Kieva (Mass migration of *Libellula quadrimaculata* in the vicinity of Kiev). - Journal "Lyubitel' prirody" (Nature-lover) 6: 186-189. (in Russian with English subtitle).

Notes on the behaviour of an aggregation of *Libellula quadrimaculata* observed near Kyiv (N Ukraine) were reported.

35. Charleman, E. V. & G. V. Artobolevs'ky, 1915. - Materyaly k faune strekoz okrestnostey Kieva (The dragonflies of the vicinity of Kiev). - Materialy k poznaniyu fauny yugo-zapadnoy Rossii (Materials to the study of fauna of Southweastern Russia) 1: 1-25. (in Russian with English subtitle).

An annotated list of 41 species is presented from Kyiv and its surroundings (N Ukraine) based on own collections and literature data. Phenotypic morphs, behaviour and ecological aspects were described for some species.

36. Cherny, O. S. 2005. - Obzor okhranyaemykh nasekomykh Ukrainskoy chasti del'ty Dunaya (A review or protected insects of Ukrainian Danube delta). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Trans. of conference "Rare end endangered insect species and conceptions of Red Data book of Ukraine"): 127-134. (in Russian with Ukrainian and English summary).

This annotated list of 8 rare Odonata species from Ukrainian Danube delta (SW Ukraine) is based on literature and original data.

37. Czachorowski, S. & P. Buczynski, 1998. - Preliminary evaluation of the specificity of aquatic insects of Polesie based on dragonflies (Odonata) and caddis flies (Tricoptera). - Tezisy dokladov. Mezhdunarodnoy nauchnoy konferentsii Souremennye problemy izucheniya, ispol'zovaniya i okhrany prirodnykh kompleksov Poles'ya. Sektsiya 3: Sokhranenie landshchaftnogo i biologicheskogo razanoobraziya Poles'ya (Abstracts of the International Scientific Conference "Recent problems of study, utilization and protection of nature of Polesie". Section 3: Conservation of landscape and biology diversity of Polesie), Minsk: 204. (in English)

The authors mention that 31 Odonata species were found in the Ukrainian part of Polesie.

38. Dobey, V & S. Bondarchuk, 1998. - Fenologiya rivnokrylykh babok (Odonata, Zygoptera) v umovakh Zakarpats'koi nuzovyny (Phenology of damselflies (Odonata, Zygoptera) on the Transcarpatian lowland). - Naukovy visnyk Uzhgorods'kogo universytetu. Seria biologia. (Scientific bulletin of Uzhgorod University. Biology) 5: 137 (in Ukrainian with English summury)

Between 1994 and 1997 faunistic and ecological investigations on damselflies of the Transcarpatian lowland were made. The authors reported the flight season of 19 species and concluded that flight of most Zygoptera species began in May and finished in August.

39. Duz', S. L., V. F. Mikityuk, S. F. Uzhevskaya, A. V. Chernyavsky, V. Ya. Gribov, I. V. Maltsev & O. A. Samoylenko, 2005. - Okhranyaemye nasekomye Odesskoy oblasti (Protected insects of Odessa region). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insect species and conceptions of Red Data book of Ukraine"): 27-31. (in Russian with Ukrainian and English summary)

General information on records of 68 insect species protected by the Red Data Book of Ukraine, the Bern Convention, and the IUCN is presented from the Odessa region (SW Ukraine). *Calopteryx virgo, Gomphus flavipes, Anax imperator* were recorded here.

40. Dyatlova, E. S. 2004. - Polimorphism okraski i vozrastnaya struktura populyatsii *Ischnura elegans* (V. d. Linden, 1823) (Insecta, Odonata). (Coloration polymorphism and age structure in *Ischnura elegans* (V. d. Linden, 1823) population (Insecta, Odonata)). - Materialy naukovo-pract. conf. "Prypodnychi nauky na mezhi stolit' " Do 70 richcha pryrodnycho-geographichnogo facultetu NDPU (Transactions of the scientific-practical conference "Natural sciences at the border of centuries" to the 70th anniversary of natural-geography faculty NNPU) Nizhyn, 2004: 33 (in Russian)

Two colour morphs of *Ischnura elegans* females, the "andromorph" one and *infuscans* occurred in the study area (Odessa region, SW Ukraine). Juvenile adults dominated up to mid-June, andromorphs dominated among mature females during the peak of adult numbers, *infuscans* females occurred more frequently in the second part of summer when population sizes decreased.

41. Dyatlova, E. S. 2004. - Structura polimorphnoi populyatsii *Ischnura elegans* (V. d. Linden, 1823) (Insecta, Odonata) z ponyzzya Khadzhibejs'kogo lymanu. (Structure of polimorphic population *Ischnura elegans* (V. d. Linden, 1823) (Insecta, Odonata) from lowland of Khadzhybejsky firth).- "Suchasni problemy zoologichnoi nauky". Materialy Vseukrainskoi naukovoi Conferensii "Naukovi chytannya, prysvyacheni 170-richchu zasnuvannya kafedry zoologii ta 100-richchu z dnya narodzhennya professora O. B. Kistyakivs'kogo" ("Up-to-date problems of zoology science". Transactions of the All-Ukrainian scientific conference "Scientific lectures devoted to the 170th anniversary of the foundation of the Zoology department and the 100th anniversary of Prof. O. B. Kistyakivs'ky's birthday) Kyiv-Kaniv, 2004: 52-54. (in Russian)

Colour polymorphism and age structure of an *Ischnura elegans* population were studied in the Odessa region (SW Ukraine). The temporal succession of adult colour morphs during maturation was presented. The significance of female polymorphism for reproductive strategies of males was discussed.

42. Dyatlova, E. S. 2004. - The first record of *Coenagrion scitulum* (Odonata, Coenagrionidae) in the south-western part of Ukraine. - Vestnik zoologii 38 (5): 10. (in English)

This short note contains data on a record of *Coenagrion scitulum* in Ukraine. Previous reliable literature data on distribution of this species in Ukraine were the records in Crimea and Kherson region in Dnieper delta. The author found one male and one female in the coastal part of Odessa (NW part of the Black Sea) in June 2004.

43. Dyatlova, E. S. 2004. - New records of *Cercion lindeni* (Odonata, Coenagrionidae) in the basins of lower Danube, Dniestr and Dnieper rivers in the South of Ukraine. - Vestnik zoologii 38 (5): 10. (in English)

New records of *Cercion lindenii* were presented from SW and S Ukraine. Previous investigators found this species in Ukrainian Danube delta only. This note reported new record of this species in the Danube delta and the lower Dniestr (Odessa region) and Dnieper rivers (Kherson region) in June-August 2003-2004. She observed single specimens and tandems.

44. Dyatlova, O. 2004. - Specific features of intra specicies variability of the damselfly *Ischnura elegans* (v. d. Linden) in lower Danube. - Abstracts of the 2nd Regional Odonatological Symposium, the 29th Symposium of the Coleopterological Section of the Polish Entomological Society, 3rd Trichopterological Seminar, Urszulin (Poland): 13 (in English).

Ischnura elegans were collected from populations on the banks of different natural reservoirs in the middle of July 2003. The age distribution, sex ratio and female colour polymorphism was estimated for three pre-Danube lakes (SW Ukraine). Remote populations differed from

spatially more close population.

45. Dyatlova, E. S. 2005a. - Novye svedeniya o faune strekoz (Insecta, Odonata) Pridunayskogo regiona. (New data on Odonata fauna of Danube region). - "Sovremennye problemy zoologii i ecologii". Materialy mezhdunarodnoy conferensii, posvyaschennoy 140-letiyu osnovaniya Odesskogo natsional'nogo universiteta im. I. I. Mechnikova, kafedry zoologii ONU, Zoologicheskogo museya ONU i 120 godovschine so dnya rozhdeniya prof. I. I. Puzanova. ("Present problems of zoology and ecology". Transactions of the International conference devoted to the 140th anniversary of the Odessa State University (ONU) "I. I. Mechnikov", Zoology Department of the ONU, the Zoological Museum of the ONU and the 120th anniversary of the birth of Prof. I. I. Pusanov) Odessa, 2005: 81-84. (in Russian)

The paper contains annotated list of 24 Odonata species collected in the lower Danube region during 2003-2004. Two species, *Gomphus flavipes* and *Sympetrum vulgatum*, were recorded for the first time from the Ukrainian part of the Danube delta. The rare *Ñercion lindeni* and *Calopteryx splendens ancilla* were also found.

46. Dyatlova, E. S. 2005b. - Novye svedeniya o faune strekoz (Odonata) Odessy i ee okrestnostey (New data on Odonata fauna of Odessa and its environs). - Zagal'na i prykladna entomologiya v Ukraini. Tezy dopovidey naukovoi entomologichnoi konferentsii prysvyachenoi pam'yati chlena-correspondenta NAN Ukraynu professora V. G. Dolina (General and applied entomology in Ukraine. Transactions of the scientific entomological conference devoted to the memory of Prof. V. G. Dolin) L'viv: 79-81. (in Russian)

A short historic review of the odonatological investigation of Odessa and its surroundings (SW Ukraine) was presented. An annotated list of 37 species collected by the author in this region during 2003-2004 contained 14 that were newly discovered for Odessa and its surroundings: *Lestes dryas* first for the Odessa region, *Coenagrion scitulum* and *Orthetrum coerulescens anceps* for the SE Ukraine.

47. Dyatlova, E. S. 2005c. - Novye nakhodki strekozy *Libellula fulva* (Mueller) (Odonata, Libellulidae) v okrestnostyakh g. Odessy (New records of the dragonfly *Libellula fulva* (Mueller) (Odonata, Libellulidae) in the vicinities of the city of Odessa). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insect species and conceptions of Red Data book of Ukraine"): 31-34. (in Russian with Ukrainian and English summary)

The author suggests that *Libellula fulva* is not a numerous species within the bounds of extensive natural habitat. Presently the habitats of *L. fulva* in SW Ukraine are under threat from human activities. The author proposes to include this species into the regional Red List.

48. Dyatlova, E. S. & V. F. Mikityuk, 2003. - Analiz razmernykh kharacteristic i anomaliy zhilkovaniya kryl'ev Dunajskoy populyutsii strekoz *Calopteryx splendens* Harr. (Analysis of dimensional characteristics and anomalies in wing venation of damselflies *Calopteryx splendens* Harr. from Danube population). - Fauna, voprosy ekologii,

morphologii I evolyutsii amphibioticheskikh i vodnykh nasecomykh Rosii. II Vserossiyskiy symposium po amphibioticheskim i vodnym nasecomym (Fauna, problems of ecology, morphology and evolution of amphibiotic and aquatic insects in Russia. II All-Russian symposium on amphibiotic and aquatic insects) Voronezh 15-17 September 2003: 34-40. (in Russian)

Correlation analyses between wing size and anomalies in wing venation were carried out in *Calopteryx splendens* from a Danube population (SW Ukraine). The distribution of venation anomalies such as crotches, incomplete veins and "bridges" indicated the contingency of their origin. A quantitative analysis of wing venation in 12 areas of the fore- and hindwings showed few significant correlations in venation anomalies between the right and left sides. However, anomalies were more frequent in costal than subcostal sectors. The authors compared their results with those from several territories in Russia.

49. Dyga, A. K., I. P. Lubyanov & V. I. Zolotareva, 1975. - Macrofauna obrastany gidrotekhnicheskikh sooruzhenyna Zaporozhskom vodokhranilische (Macrofauna of periphyton on hydroengineering construction in Zaporszhskoe reservoir). - Tekhnicheskaya hydrobiologiya (Technical hydrobiology) Dnepropetrovsk: 27-39. (In Russian)

Larvae of *Coenagrion scitulum* and *C. concinnum* were reported as components of the periphyton biocoenosis. The authors probably mis-identified *C. concinnum*.

50. Dziêdzielewicz, J. 1867. - Wykaz owadów siatkoskrzyd³ych (Neuroptera). - Sprawozdanie Komisyi fizyograficznéj 1: 158-165. (in Polish)

Data of insect records from some territories formerly belonging to Poland were presented, including sites situated in modern Ukraine in L'viv, Ivano-Frankivs'k and Volyns'ka administrative regions (W Ukraine). 48 Odonata species were reported for the Ukrainian part. *Nehalennia speciosa, Aeshna viridis, Ae. juncea* were noted as interesting. The author also presented phenological data.

51. Dziêdzielewicz, J. 1877. - Wykaz Prasiatnic i Sieciarec na porzeczach Prutu po Ko³omyjê i Bystrzycy Nadworniañskiej. - Pamiêtnic Towarz. Tatr.: 68-69. (in Polish)

52. Dziêdzielewicz, J. 1883. - Sieciywki (Neuroptera) zebrane v okolicach Ko³omyi i nad Dniestrem w r. 1882. - Sprawozdanie Komisyi fizyograficznéj 17: 244-252. (in Polish)

Annotated list of 13 species from Kolomyya environs, Prut river valley (Ivano-Frankivs'k region, W Ukraine) collected in spring-summer 1882 was reported. Phenology data of these species were also presented.

53. Dziêdzielewicz, J. 1884. - Sieciywki (Neuroptera) i Prasiatnice (Pseudoneuroptera) zebrane na Pokuciu w ciagy lata 1883. - Sprawozdanie Komisyi fizyograficznéj PAU. 18: 225-229. (in Polish)

16 species were collected from Kolomyya environs, Prut river walley (Ivano-Frankivs'k region, W Ukraine) and their flight periods reported.

54. Dziêdzielewicz, J. 1891. - Przegl¹d fauny krajowej owadów siatkoskrzyd³ych (Neuroptera, Pseudoneuroptera). - Sprawozdanie Komisyi fizyograficznéj 26: 26-151.

(in Polish)

Among other insect taxa found in Galicia (formerly Poland) a list of Odonata was provided together with information on morphologically diagnostic features, distribution records and flight periods. Some territories of these investigations belong to present-day Ukraine. 32 species were reported from present-day Volyns'ka region including the rare *Aeshna viridis*, *Ophiogomphus cecilia,* 51 from present-day L'viv region including *Coenagrion armatum*, *Nehalennia speciosa*, *Chalcolestes viridis*, *Aeshna juncea* and *Aeshna viridis*; 43 species from present-day Ivano-Frankivs'k region including the rare *Pyrrhosoma nymphula*, *Cordulagaster bidentata, Ophiogomphus cecilia* and *Somatochlora alpestris*, and 35 species from Ternopil' region.

55. Dziêdzielewicz, J. 1902. - WaŸki Galicyi i przylsg³ych krajyw Polskich (Odonata Haliciae). - Rozprawy i wiadomoœci z Muz. im. Dzieduszyckich Lwowie. 5: 1-176. (in Polish)

This resumptive paper consisted of 12 parts, summarising data on the morphology of adults, larvae and eggs and other biological aspects of Odonata. The ecological situation of former Polish Galitsiya is given. This territory included some present western Ukraine territories in the Volyns'ka, L'viv, Ivano-Frankivs'k, Ternopil' regions. This paper also included a key for adults with figures of some species and a short key for larval identification to the genus. The greatest part of this paper comprised detailed morphology descriptions of adults of 76 Odonata species and information on their distribution in the Palearctic region and Polish territories. More than 50 species were collected in places that belong to present Ukrainian territory. Dziêdzielewicz firstly described the phenotypic morphs of *Libellula quadrimaculata* ab. *ovilacea, L. fulva* ab. *fulvissima, L. f.* ab. *binervosa, Sympetrum depressiusculum* ab. *nubila, S. flaveolum* ab. *interpunctata, Leucorrhinia rubicunda* ab. *rubrodorsalis, Somatochlora metallica* ab. *montana, S. flavomaculata* ab. *flaveolata, Ophiogomphus serpentines* ab. *flavissima, Calopteryx virgo violacea, Sympecma fusca* ab. *aestiva*.

56. Dziêdzielewicz, J. 1905. - Sieciarki (Neuroptera genuina) i Prasiatnice (Archiptera) zebrane w cigu lat 1902 i 1903. - Sprawozdanie Komisyi fizyograficznéj 38: 104-125. (in Polish)

Fifteen Odonata species were collected from places of recent L'viv and Ivano-Frankivs'k regions of W Ukraine in 1902 and 1903. As interesting record concerned *Cordulegaster bidentata* in stream at the flank of Khomiak Mountain (Ivano- Frankivs'k region).

57. Dziêdzielewicz, J. 1919. - Owady siatkoskrzyd³owate ziem Poiski (Insecta neuropteroidea Poloniae terratum). - Rozprawy I wiadomoœci z Muzeum im. Dzieduszyckich 3 (3-4): 105-168 (in Polish)

In this paper data of previous investigations on the distribution of some insects in the territory of former Poland are summarised. Several sites of investigations and their biotopes are described from the Carpathian Mountains, submountains regions and lowlands with waterbodies. 58 Odonata species were reported for present Ukrainian territories (Volyns'ka, L'viv, Ivano-Frankivs'k and Ternopil' regions) including the first record of *Somatochlora alpestris* from the Ukrainian Carpathian Mountains. Phenological data and records of different morphs (variations) of some species were also given.

58. Frantsevich, L. I. 1982. - Vsaimodeyslvie opticheskikh kluchevykh stimulov, vysyvayuschikh u strekoz ataku i begstvo. (Interaction of visual dominant stimuli producing attack and escape in dragonflies) - Zhurnal evolutsionnoy biochimii i phiziologii (Journal of evolutionary biochemistry and physiology) 18 (2): 150-154. (in Russian with English summary)

59. Frantsevich, L. I. & P. A. Mokrushov. 1974. - Otvety neyronov - vysokochastotnykh detektorov dvizheniya u lichinok strekozy na dvizhenie odinichnykh ob'ectov. (Neuronal response of high-frequency detectors of Odonata larvae on movement of single objects. - Neirofisiology (Neurophysiology) 6 (1): 68-74. (in Russian with English summary)

60. Frantsevich, L. I. & P. A. Mokrushov, 1990. - Behavioural choice of conspecific mates in closley related dragonfly species. - In: F. G. Gribakin et al. (Eds.). Sensory systems and communication in arthropodes. Birkhäuser, Basel-Boston-Berlin: 142 - 147. (in English)

61. Fursov, V. N. 1984. - K isucheniyu fauny i biologii khal'tsid (Hymenoptera, Chalcidoidea) - parasitov yaits vodnykh nasekomykh (Towards the study of fauna and biology of Chalcidoidea - parasites of eggs of water insects). - Materialy IX s'ezda Vsesoyuznogo entomologicheskogo obshestva, Kiev. (Proceedings of the IX meeting of All-Union Entomological Society, Kiev) 2: 214. (in Russian)

62. Fursov, V. N. 2005. - Aquatic egg-parasitoids (Hymenoptera) of dragonflies and other arthropods: unique life and flight under water. - Abstracts of the 4th WDA Symposium of Odonatology, Pontevedra (Spain). - 54. (in English).

63. Fursov V. N. & V. V. Kostyukov, 1987. - Novye vidy roda Tetrastichus (Hymenoptera, Eulophidae) - parasity yaits strekoz i zhukov-plavuntsov (New species of the genus Tetrastichus (Hymenoptera, Eulophidae), egg parasites of damselflies and dragonflies and of predaceous diving beetles. - Zoologichesky zhurnal 66 (2): 217-228. (in Russian with English summary)

Four new species are described of *Tetrastichus* wasps parasitising Zygoptera, Anisoptera and diving beetles (Dytiscidae). Ukrainian Odonata are not mentioned but *T. rimskykorsakovi* was collected from Zygoptera eggs found in the Voronesh nature reserve.

64. Fudakowski, J. 1930. - *Sympycna paedisca* Brau. und *Somatochlora arctica* Zett., für Polen neue Libellen-Arten. - Fragmenta faun. Muz. Zool. Podonici (Warszawa) 1: 193-195. (in German)

Sympecma paedisca was found at the Seret river near the village Bilczu Zlotem (Bil'che Zolotoe). Today this place belongs to Borshiv district, Ternopil' region (W Ukraine).

65. Fudakowski, J. 1932a. - Nowe przyczynki do fauny wa¿ek Polski. - Fragmenta faun. Muz. Zool. Podonici (Warszawa) 1 (15): 389-401. (in Polish with German summary)
An annotated list of records of 17 Odonata species from L'viv region, 26 from the Ivano-Frankivs'k and Ternopol' regions and 3 from the Volyns'ka region of W Ukraine.

66. Fudakowski, J. 1932b. - Przyczynek do fauny wa¿ek Wo³ynia. (Beitrag zur Odonaten-Fauna von Wolyn. (Ost-Polen). Notes on Odonata fauna of Wolyn. (Eastern Poland)). - Fragmenta faunistica Muz. Zool. Podonici (Warszawa) 1 (15): 402-403. (in Polish with German subtitle)
Annotated list of 22 species was presented collected from Wolyn Polissya (present Volyn' and Rivne administrative regions of Ukraine) in August 1928.

67. Fudakowski, J. 1935. - Wa¿ki (Odonata). - In: Przyzynek do znajomoœci fauny Czarnohory (Notes on fauna Chornohory). - Rozprawy i Sprawozdania Instytutu Badawczego Lasow Panstwowych w Warszawie 8: 58-62. (in Polish with French summary)
Lestes dryas, Aeschna juncea, Ae. mixta, Somatochlora alpestris, Sympetrum vulgatum, S. flaveolum, Leucorrhinia dubia were revealed as mountain species with places of larval development in waterbodies in Chornohory on highs above 1000 m a.s.l. Their habitats in Chornohory were compared to those in the Tatra Mountains and the Alps.

68. Gnelytsya V. A. & L. A. Khrokalo, 1988. - Zamitky pro faunu babok okolyts' Vakalivs'kogo zoostatsionaru. (Notes on Odonata fauna from Vakalivshyna zoology station). - Vakalivschina. Do 30-richcha biologichnogo statsionaru Sums'kogo pedinstytutu. Zbirnyk naukovykh prats'. (Vakalivschyna. Toward the 30th anniversary of the Biological station of the Sumy Pedagogical Institute. Collection of scientific works): 37-40 (in Ukrainian)
26 Odonata species are reported from the environs of Vakalivschyna village of the Sumy region (NE Ukraine). Comments are made on their abundance and behaviour.

69. Gorb, S. M. 1988. - Morphologia sistemy fiksatsii golovy u ravnokrylykh strekoz (Morphology of head arrester system in damselflies). - Problemy sovremennoy biologii. Trudy 19 nauchnoy conferencii molodykh uchenykh biologicheskogo faculteta MGU (Problems of modern Biology. Transactions of the 19th scientific Conference of young scientists of the the biological faculty of the Moscow State University MSU) Moscow (1988) 1: 133-117. (in Russian) (deposited in the All-Russian Scientific Institute of Scientific and Technical Information 24.08.88 .- N 6710 -Â88)

70. Gorb, S. M. 1989. - Litayuchi drakony (Flying dragons). - Journal "Ridna pryroda" (Native nature) 3: 32+1. (in Ukrainian)
This popular scientific paper presents the morphology, biology and behaviour of dragonflies for a broad audience of readers.

71. Gorb, S. N. 1990a. - Strekozy ozera Supoy i ego okrestnostey (Kievskaya obl.) (The

dragonflies of lake Supoy and its neighbourhood (Kiev distr.)). - Latvijas Entomologs 33: 31-36. (in Russian with English summary)

A list of 27 Odonata species collected in the surroundings of the town Jagotyn (Kyiv region) during 1983-1988. Seven species were rare and 12 massive. The author also presented the data of his observation on the behaviour of some dragonflies.

72. Gorb, S. N. 1990b. - Microscul'ptura sistemy ficsatsii golovy u strekoz v scaniruyuschen elektronnom microscope (Microsculpture of the head arrester system in dragonflies examined by scanning electron microscope). - Zoologichesky Zhurnal 69 (2): 148-154. (in Russian with English summary)

73. Gorb, S. N. 1990c. - Vneshnyaya morphologiya sistemy fiksatsii golovy u strekoz hadsemeystva Calopterygoidea (Odonata, Zygoptera) (External morphology of of the head arrester system in dragonflies of superfamily Calopterygoidea (Odonata, Zygoptera). - Zoologichesky Zhurnal 69 (11): 37-45. (in Russian with English summary)

74. Gorb, S. N. 1990d. - Vnutrennyaya morphologiya sistemy fixsatsii golovy u strekozy *Erythromma najas* Hansemann (Zygoptera, Coenagrionidae) (Internal morphology of the head arrester in the dragonfly *Erythromma najas* Hansemann (Zygoptera, Coenagrionidae). - Vestnik Zoologii 6: 59-62. (in Russian with English summary)

75. Gorb, S. 1991a. - Strekozy Goloseevskikh ozer (Kiev) (The dragonflies of Golosejevskie lakes (Kiev)). - Latvijas Entomologs 34: 96-102. (in Russian with English summary)

Annotated list of 26 species that inhabited the system of ponds in the forestry-park Golosiivo named Goloseevskie lakes in Kyiv. *Leucorrhinia albifrons* were firstly recorded for Kyiv region and Middle Dnieper. The author explained the diversity of species and ecological forms in the city by the diversity of biotopes.

76. Gorb, S. 1991b. - The dragonfly *Cordulegaster boltoni* Donovan, 1807 (Odonata: Cordulegastridae) in the Ukraine. - Acta hydroentomologica latvica 1: 24-27. (in English)

The author collected one male of *Cordulegaster boltoni* in the stream of a pine forest near Irpin' town, village Moshchun (Kyiv region, N Ukraine). This was the second record of this rare species in Ukraine. Descriptions of the site and morphological features (with figures) were given.

77. Gorb, S. N. 1991c. - Strekozy (Odonata) Kanevskogo zapovednika i ego okrestnostey I (Dragonflies (Odonata) of Kaniv Reserve and it's environs). - Problemy obschey i molekulyarnoy biologii (Problems of General and Molecular biology) 9: 48-51. (in Russian)

The author reported preliminary annotated list of 13 Odonata species from Kaniv Natural Reserve (Cherkasy region, central Ukraine). This was the first report of the Odonata fauna for this reserve. The author described habitats, flight seasonality, behaviour and morphological peculiarities of several species.

78. Gorb, S. N. 1991d. - Sencily v sisteme arretira u strekoz (Odonata) (Sensillae in arrester system in dragonflies (Odonata)). - Vestnik zoologii 1: 61-68. (in Russian with English summary)

79. Gorb, S. N. 1991e. - Reflexy fixatsii golovy pri polete u strekoz (Odonata) (Reflexes of head fixation system on flying in dragonflies). - Jurnal evolyutsionnoy biokhimii I phisiologii (Journal of evolutionary biochemistry and physiology) 27 (4): 472-478.

80. Gorb, S. N. 1991f. - Funkstional'naya morphologiya sistemy arretira u strekoz (Functional morphology of arrester system in dragonflies). - Autoreferat of Ph. D. Thesis of Biological sciences, Kyiv: 1-14. (in Russian with English and Ukrainian summaries)

81. Gorb, S. N. 1991g. - Faunistische Untersuchungen der Libellen (Odonata) eines Kanew-Reservats an der Mitteldnieper.- Abstr. Pap. 4th Europ. Congr. Ent., 13. Internationales Symposium der Entomofaunistik in Mittel-Europa, Gödöllö, published by Hung. Nat. Hist. Mus., Budapest: 68. (in German)

This is a short report about Odonata species occured in Kaniv Natural Reserve (Cherkasy region, central Ukraine). The author stressed the records of such species as *Calopteryx splendens*, *Sympecma fusca*, *Coenagrion ornatum*, *Gomphus vulgatissimus* and *Leucorrhinia pectoralis*.

82. Gorb, S. 1992a. - Strekoza *Hemianax ephippiger* Burmeister (Odonata, Aeshnidae) na Ukraine (The dragonfly *Hemianax ephippiger* Burmeister (Odonata, Aeshnidae) in the Ukraine. - Acta hydroentomologica latvica 2: 18-21. (in Russian with English summary)

The author reported the record of *Anax ephippiger* from a lake near L'viv (W Ukraine) in August 1989. This was the first record of this species for Ukraine. The reasons of its appearance there were discussed. The biotope and dynamics of emergence (altogether 207 exuviae were collected) were described. A list of other 19 dragonfly species inhabiting this lake was added.

83. Gorb, S. M. 1992b. - Babky (Odonata) Kanivs'kogo zapovidnyka ta jogo okolyts'. II (Dragonflies (Odonata) of Kaniv Reserve and it's environs. II). - Problemy zagal'noi ta molekuliarnoi biologii (Problems of General and Molecular Biology) 10: 11-13. (in Ukrainian)

In this resumptive paper (part II) about the Odonata fauna of Kaniv Natural Reserve 16 species belonging to 8 families were reported. Out of those, 8 species were firstly recorded for the Kaniv reserve and 7 for the Cherkasy region. The collection sites, phenology, morphology and behavior features were described.

84. Gorb, S. 1992c. - An experimental study of the refusal display in the damselfly *Platycnemis pennipes* (Pall.) (Zygoptera: Platycnemiidae). - Odonatologica 21 (3): 299-307. (in English)

The behaviour of *Platycnemis pennipes* females in tandem, during oviposition, and of juvenile females was studied in field experiments. The refusal display has several successive

states that depend on the male's persistence. The responses of *P. pennipes* males to the refusal display by females were studied by means of 11 models, which differed in the presence and position of the abdomen. It is concluded that in the natural environment threat refusal display probably decreases the frequency of homosexual contacts and leads to an economy of male time and energy.

85. Gorb, S. 1993a. - Functional morphology of Odonata: brief summary of my research plans. - Selysia 22 (2): 13. (in English)

The author gave the information about his research plans. He studied the functional morphology and sensory projection of sensilles of *Sympecma annulata* endophytic ovipositor complex; the head fixation system (arrester system) in Odonata of different systematic groups. The author reported general results of his work and asked the odonatological community for financial support of his research.

86. Gorb, S. N. 1993b. - The skeleton-muscle organization of the head fixation system in odonates and its evolutionary implications: a comparative study. - Annals of the Journal of the Specialist Group for Systematic and Phylogenetic Odonatology 1: 3-20. (in English).

87. Gorb, S. N. 1994a. - Central progection of Ovipositor Organs in the Damselfly, *Sympecma annulata* (Zygoptera, Lestidae). - Journal of Morphology 220: 139-146. (in English)

88. Gorb, S. 1994b. - Some observations on the behaviour of *Sympecma annulata* Selys (Zygoptera: Lestidae) in autumn in Central Ukraine. - Argia 6 (1-2): 15.

The author observed *Sympecma paedisca* before hibernation near small lakes in Kyiv region (N Ukraine) during warm days in October-November 1992-1993. Peculiarities of camouflage colouration in males and females, behaviour and foraging activity were described. As roosts they prefer *Calamagrostis epigeios.* Neither territoriality, no sexual behaviour in males or females were observed.

89. Gorb, S. N. 1994c. - Female perching behaviour in *Sympetrum sanguineum* (Müller) at feeding places (Anisoptera, Libellulidae). - Odonatologica 23: 341-353. (in English)

In field observations and experiments the sequence of occupation of perches by females, the occupation duration and changes of perches by individuals at feeding sites were studied. The behavioral strategy of *S. sanguineum* females at places of feeding was compared with the behaviour of territorial males at mating sites.

90. Gorb, S. N. 1994d. - Damselfly ovipositor leaves: microsculpture of surfaces moving eggs and neuroanatomy of central projections of sensilla. - Abstracts of Papers of the 1st Odonatological Symposium of the Alps-Adriatic region. Maribor, 3-7 July, Slovenia: 20. (in English)

91. Gorb, S. N. 1995a. - Scanning electron microscopy of pruinosity in Odonata. - Odonatologica 24: 225-228. (in English)

The structure of the supracuticular pigment of *Mnais pruinosa* (Calopterygidae), *Bayadera indica* (Euphaeidae), *Lestes sponsa* (Lestidae), *Libellula depressa*, *Orthetrum albistylum*, *O.*

anceps, *O. cancellatum* and *O. triangulare* (Libellulidae) were examined using scanning electron microscopy. Differences in the microstructure of the pruinescent colouration result from some morphological and (or) biochemical differences between the groups.

92. Gorb, S.N. 1995b. - Precopulatory and tandem directional activity of *Sympetrum sanguineum* (Müller) males at the places of pairing (Anisoptera: Libellulidae). Odonatologica 24 (3): 341-345. (in English)

In the field experiments the directional activities of perching males and males after seizure of females were studied using dry female model specimens attached to fishing-rods. The majority of perching males (46.5%) were directed toward the bank of lake. Males facing toward the bank or parallel to it responded to the female model more often with tandem reaction than males facing away from the bank. 52% of males flew towards the bank after seizure of the female model. Nearly 8% of the males which captured female models tried to oviposit with them, usually after unsuccessful attempts of the male to mate. The author concluded that males of *S. sanguineum* played the leading role in oviposition behaviour.

93. Gorb, S. N. 1995c. - The dragonfly head arrester: A sensory organ connected to flight reflexes.- Proc. 23rd Göttingen Neurobiology Conference, Stuttgart, New York: Georg Thieme Verlag: 193. (in English)

94. Gorb, S. 1996a. - A new record of *Hemianax ephippiger* (Burm.) from central Ukraine (Anisoptera: Aeshnidae). - Notul. odonatol. 4 (7): 123. (in English)

The author revealed the second record of *Anax ephippiger* in Ukraine. In May-June 1995 he observed 2 territorial males and a tandem at a temporary pond near the town of Yagotyn (104 km E of Kyiv). This seems to be the northeasternmost record of this species.

95. Gorb, S. 1996b. - Initial stage of tandem contact in *Platycnemis pennipes* (Pallas) (Zygoptera: Platycnemiidae). - Odonatologica 25 (4): 371-376. (in English)

The behaviour of the males during the initial stage of tandem contact was photo-and video-recorded in experiments with females models in their natural habitats. The male holds the female at the dorso-posterior edge of her head with his mouthparts, and at the lateral walls of the pronotum with the fore legs. The geometrical centre of the triangle of the male points of support is situated along the longitudinal body axis in the region of the female mesostigmal plate. It is suggested that the initial stage of tandem contact provides the tactile orientation for the subsequent tandem formation.

96. Gorb, S. N. 1996c. - Design of the insect unguitractor apparatus. - Journal of Morphology 230: 219-230. (in English)

97. Gorb, S. 1996d. - Odonatology in Ukraine. - Selysia 24(1): 9. (in English)

The author presented information on present scientists and students (Dr. R. Pavlyuk, Dr. V. Fursov, Prof. Dr. Ermolenko, N. Matushkina, V. Nesterova) and the subjects of their odonatological investigation in Ukraine. The results of his own odonatological studies were presented as well.

98. Gorb, S. N. 1997a. - Morphological cues in mate and species recognition by males of coenagrionoid damselflies. - IDF Report 1(2): 6-10. (in English)

The main goal of this project was to investigate the relative role of morphological cues in mate recognition in damselflies with female polymorphism. Experiments with *Ischura elegans* females of different color morphs were revealed, that 1) males were unable to recognize models presented above them; 2) violet and blue female model were more attractive than brown and grey ones; 3) males could distinguish andromorph females from males. The author also reported the refusal display by *Platycnemis pennipes* females on male mating attempts: the abdomen is raised o at angles of 45° and 90°.

99. Gorb, S. N. 1997b. - Ultrastructural architecture of the microtrichia of the insect cuticle. - Journal of Morphology 234: 1-10. (in English)

100. Gorb, S. N. 1997c. - Porous channels in the cuticle of the head-arrester system in dragonflies (Insecta: Odonata). - Microscopy Research and Technology 37 (5/6): 583-591. (in English)

101. Gorb, S. N. 1998a.- Functional morphology of the head-arrester system in Odonata. - Zoologica 148: 1-132. (in English)

102. Gorb, S. N. 1998b. - Visual Cues in Mate Recognition by Males of the Damselfly *Coenagrion puella* (L.) (Odonata: Coenagrionidae). - Journal of Insect Behavior 11: 73-92. (in English)

The role of visual cues in male-female discrimination was studied using four types of model: (1) bodies of intact insects, (2) models of painted males, (3) models of male-female chimerae, and (4) models of female body parts. The results indicated that *C. puella* males could distinguish males from female visually by morphological structures and coloration pattern. Step by step elimination of male colouration pattern led to an increase in the tandem response rate. A female model painted as male repelled males as did intact male models. The absence of either the head or the thorax slightly decreased the number of tandem formations. Models without both the head and the thorax were not recognized as a mate. Abdomen thickness larger than that of a normal female decreased the attractiveness of the model. Using principal component analysis, it was shown that models repelling males usually were those containing an intact male abdomen or a female abdomen painted with blue.

103. Gorb, S. N. 1998c. - Origin and pathway of the epidermal secretion in the damselfly head-arresting system (Insecta: Odo-nata). - Journal of Insect Physiology 44: 1053-1061. (in English)

104. Gorb, S. N. 1999a. - Serial elastic elements in the damselfly wing: mobile vein joints contain resilin. - Naturwissenschaften 86: 552-555. (in English)

105. Gorb, S. N. 1999b. - Visual cues in mate recognition in the damselfly *Ischnura elegans* Vander Linden (Zygoptera: Coenagrionidae). - International Journal of Odonatology 2: 83-93. (in English)

This paper experimentally tested male responses to female and male models. At a lake near Jagotin town (Kyiv region, N Ukraine) the following *I. elegans* female morphs occurred: andromorphs and *violacea* together constituted 99.8% and *infuscans-obsoleta* - 0.2 %. All colour forms of females regularly occurred in copula with males; but males preferred the *violacea* and andromorphs. The role of different visual cues in mate recognition was discussed.

106. Gorb, S. N. 1999c. - Evolution of the dragonfly head-arresting system. - Proceedings of the Royal Society of London B 266: 525-535. (in English)

107. Gorb, S. N. 2000a. - Ultrastructure of the neck membrane in dragonflies (Odonata). - Journal of Zoology, London 250: 479-494. (in English)

108. Gorb, S. N. 2000b. - Resilin-based rubber-like elastic elements in the insect wing: an overview. - Polyurethane Engineering. Automobilbau und Bauwesen, edited by VDI-Gesellschaft Kunststofftechnik Verein Deutscher Ingenieure, Düsseldorf: 21-34. (in English)

The elastic elements of wings structure of freshly killed damselflies, beetles and earwigs were studied using bright-field light microscopy, fluorescence- and scanning electron microscopy. The author hopes that rubber-like wing joints of insects will inspire aircraft engineers as well as material scientists for further studies and mimetics of biological materials.

109. Gorb, S & V. Ermolenko, 1996. - Odonata from “Dunajskie Plavni” nature reserve, Danube delta, Odessa province, SW Ukraine. - Notulae odonatologicae 4 (8): 126-127. (in English)

Twenty five Odonata species were reported. The record of *Anax ephippiger* was the third one for Ukraine. *Chalcolestes parvidens* originally described from Crimea was found here too (second record for Ukraine). The scarce earlier data on the regional occurrence of *Cercion lindenii* were confirmed.

110. Gorb, S. N., W. Frese, & U. Schwarz, 2000. - Was Libellen zu Flugkünstlern macht. Spektrum der Wissenschaft (Juli): 12-13. (in German)

111. Gorb, S. & E. Gorb, 1993. - Mapping of Odonata in the eastern part of Kiev Province (Ukraine): a first trial. - Selysia. 22 (2): 13. (in English)

Preliminary data for mapping the Odonata distribution in Kyiv region were given. The area studied had 4100 km^2 and included four district of the region. One or two sites were selected from each 10 × 10 km of the territory. 25 Odonata species from 50 sites have been found. The finds of *Sympetrum meridionale*, *Aeshna juncea* and *Ae. viridis* were particularly interesting. The authors planned to publish the complete data of this research in journal Acta Hydroentomologica Latvica.

112. Gorb, S., A. Kesel, and J. Berger, 2000. - Microsculpture of the wing surface in Odonata: evidence for cuticular wax covering. - Arthropod Structure and Development 29: 129-135. (in English)

In this paper the nature of the wing covering was studied using acoustic microscopy, scanning- and transmission electron microscopy followed by variety of chemical treatments. It was shown that wing microsculptures are not cuticular outgrowth, but a wax covering, which is similar to pruinosity, which has been previously described in several Odonata taxa. Data from scanning acoustic microscopy revealed that scratches on the wax covering had a different material density from the surrounding material. Various functions of the wax covering were discussed.

113. Gorb, S. N. & M. Lindeboom. 1999. - Functional morphology of Odonata: new information and perspectives. - Proceedings of the First European Dragonfly Workshop. From individual behaviour to population dynamics - dragonflies as models, Anonymous Technische Universität Braunschweig: 14. (in English)

114. Gorb, S. N. & R. S. Pavlyuk [as Pavljuk], 1993. - Periody lyota strekoz v tsentral'nykh i zapadnykh oblastyakh Ukrainy (Periods of Odonata flying in the Central and Western regions of Ukraine). - Vestnik zoologii 3: 50-59. (in Russian with English summary)

In this paper original and literature data of fifty and eighty years of phenological records on the flight seasonality of Odonata were compared for the central and western parts of Ukraine, respectively. All species were divided into six seasonal groups. Data on distribution in the time (by months) of the quantity of species in adult were given.

115. Gorb, S. N., R. S. Pavlyuk [as Pavljuk] & Z. D. Spuris, 2000. - Babky (Odonata) Ukrainy: faunistychniy oglyag (Odonata of Ukraine: a faunistic overview). - Vestnik zoologii, supl. 15: 3-155. (in Ukrainian with English summary)

This monograph summarises the results of study of the Odonata fauna in Ukraine. Using original and literature data the authors created and analysed a database containing 4635 records of 73 species. In adition to a comprehensive list of Odonata species, this paper contains some general information on Odonata morphology, biology, flight periods, and the history of studies of the Odonata fauna and ecology in Ukraine. Identification key and numerous illustrations of morphological details gave the possibility to species identification.

116. Gorb, S. N. and V. L. Popov, 2002. - Probabilistic fasteners with parabolic elements: biological system, artificial model and theoretical considerations. - Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences 360: 221-226. (in English)

117. Grigorovich, I. A. 1995. - Phytophil'nye gruppirovki bespozvonochnych yst'evoy oblasti Dnestra (Phytophilous groups of invertebrates in Dnestr delta). - Disertatsia na soiskanie k.b.n. 03.00.18 (PhD thesis on biology specialization 03.99.18 - hydrobiology). Kyiv: 1-216 (in Russian)

The larvae of 15 Odonata species were found among water vegetation in different parts of Dnestr delta (lower Dnestr, waterbodies in the floodlands, Dnestrovsky liman) SE Ukraine. The author suggested the records of *Coenagrion hastulatum* (it may be mistake in identification) and *Gomphus flavipes* as interesting. These two species were firstly recorded for Odessa region (SW Ukraine).

118. Hrabar, S. [1905-1906]. - Ung és Ugocsa magyék szitakötö faunája. - Rovartani Lapok: 101-103. (in Hungarian)

119. Hrabar, A. 1933. - Vazky Pidkarpats'koi Rusy (Odonata Carpathorossica). - Pidkarpats'ka Rus' (Forecarpathian Russia) 10: 34-38. (in Ukrainian with English subtitle)

120. Ivanov, P. 1876. - Materialy dlya entomologii Kharkovskoy gubernii. Opisanie strekoz okrestnostey g. Kupyanska (Materials for the entomology of Kharkov district. Description of dragonflies of Kupyansk sity). - Trudy obschestva ispytateley prirody Khar'kovskogo Universiteta (Transactions of the Nature investigators society of Kharkov University) 10: 51-168. (in Russian)
This paper was the first identification key of 56 Odonata species published in Russian. The author gave a morphological description of adults with original figures. Beside that, the list of 36 Odonata species was reported from the surroundings of Kupyansk in the Kharkov district (E Ukraine), *Brachytron pratensis*, *Erythromma viridulum*, *Ischnura pumilio* and *Coenagrion ornatum* were firstly recorded for the Russian Empire. The author also gave results of ecology and phenology observation for all recorded species.

121. Jäkle, B., H. Schwarz, U. Schwarz and S. Gorb, 2003. - Resilin in insect flight systems. - Technische Biologie und Bionik. 6. Bionik - Kongress, Saarbrücken 2002, edited by A. Wisser and W. Nachtigall. Biona Report 16. Mainz: Akademie der Wissenschaften und der Literatur: 188-189. (in English)

122. Kaftannikova, O. G. 1975. - Bezpozvonochnye kanalov SSSR (Invertebrates of the canals of the USSR), Naukova Dumka, Kiev: 1-164. (in Russian)
Larval *Platycnemis pennipes* and *Gomphus vulgatissumus* were recorded in the Dnieper - Kryvyy Rih Canal (S Ukraine) in summer 1965-1966.

123. Kapelyukh Ya. I. 1999. - Ridkisni chervonoknyzhni komakhy zapovidnyka "Medobory" Ternopil'skoi oblasti (Rare insects of "Medobory" natural reserve, Ternopil' region). - Vestnik Zoologii 33(3): 20. (in Ukainian)
Calopteryx virgo was reported from the valley of the Zbruch and from others small rivers in "Medobory" natural reserve (Ternopil' region, W Ukraine)

124. Khrokalo, L. A. 1999. - Terra incognita - Komakhy Chervonoi Knygy Ukrainy (Terra incognita - insects of Red Book of Ukraine). - Suchasna ecologiya i problemy stalogo rozvytku suspil'stva. Naukoviy visnyk Ukrains'kogo derzhavnogo lisotekhnichnogo universytetu. (Modern ecology and problems of a stable society development. Scientific news of Ukrainian Forestry engineering University) 9 (8): 124-127. (in Ukrainian with English summary)
The author reported about some problems in estimating the status of insects for their inclusion in the Red Data Book of Ukraine and used some Odonata species included in Red Data Book of Ukraine (1994) as examples.

125. Khrokalo, L. A. 2000. - Faunistychny oglyad babok (Insecta, Odonata) Sumschyny (Faunistic review of dragonflies (Insecta, Odonata) from Sumy region). - Visnyk Kyivs'kogo Natsional'nogo Universytetu imeni Tarasa Shevchenka. (Bulletin of Kyiv National Taras Shevchenko University) 31: 36-37 (in Ukrainian with English summary)

The history of faunistic odonatological investigations of the Sumy region (NE Ukraine) was reported. Thirty six Odonata species were collected by the author of this paper in this region during 1995-1997, 14 of them were first records. Some notes on the abundance and phenology of species were given.

126. Khrokalo, L. A. 2000. - Babky (Insecta, Odonata) Sums'koi oblasti (The dragonflies (Insecta, Odonata) of Sumy region). - Tezy dopovidey. Respublicans'ka entomologichna konferenciya, prisvyachena 50 richnutsi zasnuvannya Ukrains'kogo entomologichnogo tovarystva. (Abstracts of the Republic`s Entomological conference devoted 50 anniversary of foundation of Ukrainian Entomology Society), Nizhyn: 134. (in Ukrainian)

The author reported 44 species of Odonata from different sites in the Sumy region (NE Ukraine). Data on the habitat distribution of Odonata larvae of 17 species were presented as well.

127. Khrokalo, L. A. 2000. - Babky (Insecta, Odonata) Sums'koi oblasti (The dragonflies (Insecta, Odonata) of Sumy region). - Isvestiya Khar'kovskogo entomologicheskogo obschestva (The Kharkov Entomological Society Gazette) 8 (2): 55-56 (in Ukrainian with English summary)

44 Odonata species were collected from different places of Sumy region (NE Ukraine). The odonate fauna of this territory consisted of 45 species according to all literature and original data. The record of *Crocothemis erythraea* was the most northern point in Ukraine. Original data on habitat distribution of Odonata larvae of 17 species were presented as well.

128. Khrokalo, L. A. 2001. - Biotopichny rozpodil lychynok babok (Insecta: Odonata) deyakykh regioniv Ukrainy (The biotopical distribution of dragonflies larvae (Insecta: Odonata) in some region of Ukraine). - Uchenye zapiski TNU. (Scientific reports of Taurichesky National University) 14 (1): 183-186. (in Ukrainian with Russian and English summary)

The distribution of the larvae of 36 Odonata species among 7 types of waterbodies from NE Ukraine was studied. The similarity of biotopes of the larval populations was analysed using the Soerensen coefficient and cluster analysis. Some data on biotopic distribution of Odonata larvae in Carpathian Mountain (Chernivtsi region, W Ukraine) were presented as well.

129. Khrokalo, L. A. 2001. - Special composition and some ecological features of dragonflies from the Northeastern Ukraine. - Abstracts of 2nd WDA International Symposium of Odonatology, Cällivare (Sweden): 28-29. (in English)

Fourty-nine species were recorded from the northeastern part of Ukraine (Sumy, Chernihiv and part of Kyiv administrative region) during 1996-2001, 14 of them were first records for the Sumy region and one species for the Kyiv region. Analysis of the biotopic distribution of

larvae in different kinds of waterbodies was made (lakes, ponds, pools and dystrophic waterbodies). The highest species diversity (17 spp.) was found in lakes formed in old river beds.

130. Khrokalo, L. 2001. - Vid reaktyvnogo rukhu do strimrogo poliotu. (From reactive movement to fast flying). - Magazine “Kraina znan’ ” (Country of knowledges) 1-2: 28-31 (in Ukainian)

This popular paper informs about biology, interesting aspects of behavior and paleontology of dragonflies. This article was written for a broad audience.

131. Khrokalo, L. A. 2004. - Dragonflies (*Odonata*) of Desnyans’ko-Starogutsky National natural park (Ukraine). -Abstracts of the 2nd Krajove Odonatological Symposium, the 29th Symposium of the Coleopterological Section of the Polish Entomological Society, 3rd Trichopterological Seminar, Urszulin (Poland): 2004: 28 (in English)

Twenty two Odonata species was collected in Desnyans’ko-Starogutsky National Nature Park and its environs (NE Ukraine near Russian border). Among them were *Leucorrhinia pectoralis* included in the list of rare and endangered species of the Bern Convention, and *Calopteryx virgo,* entered in the Ukrainian Red Data Book (1994). *Somatochlora metallica, Leucorrhinia dubia, L. rubicunda, Sympetrum pedemontanum* which were quite rare species in the whole of Ukraine were also reported. Places of larval development were small rivers, mesotrophyc bogs, small diggy ponds and puddles.

132. Khrokalo, L. A. 2004. - Dragonflies (Insecta, Odonata) of Desnyans’ko-Starogutsky National Nature Park and its environs. - Zapovidna sprava v Ukraini. (Nature Reserves in Ukraine) 10 (1-2): 84-86. (in English)

Annotated list of 22 Odonata species collected in Desnyans’ko-Starogutsky National Nature Park and its environs (outmost NE Ukraine near Russian border). Five species were quite rare, 6 rare, 8 common and 3 species frequent. The author also found *Leucorrhinia pectoralis,* included in the list of rare and endangered species of Bern conventions, and *Calopteryx virgo,* entered in Ukrainian Red Data Book (1994). *Somatochlora metallica, Leucorrhinia dubia, L. rubicunda, Sympetrum pedemontanum* which were quite rare species in the whole of Ukraine were also reported. Places of larval development were small rivers, mesotrophyc bogs, small diggy ponds and puddles.

133. Khrokalo, L. A. 2004. - Vydovy sklad ta ecologichni osoblyvosti babok pivnichnogo skhodu Ukrainy (Special composition and ecological peculiarities of dragonflies (Insecta, Odonata of the northeastern Ukraine). - Autoreferat of Ph. D. thesis of Biological sciences, Kyiv: 1-19. (in Russian with English and Ukrainian summaries)

This work contained the result of first exhaustive study of the dragonflies of NE Ukraine. Fifty six Odonata species were recorded among them *Chalcolestes parvidens* and *Sympetrum depressiusculum*. The northernmost point of occurrence in the Ukraine was established for *Crocothemis erythraea*, and the easternmost for *Sympetrum pedemontanum*. All species were divided into six seasonal groups by terms of flying periods and peculiarities of life cycles.

More precise definitions of the terms of flying periods in Ukraine were given for 12 species. The habitat distribution of larvae from 43 species on waterbodies of 18 types was studied. Most species were eurytopic, a smaller number stenotopic. Changes to the list of the dragonflies in Red Data book of Ukraine have been proposed.

134. Khrokalo L. A. 2005. - Babky (Insecta, Odonata) Chervonoi knygy Ukrainy. (Dragonflies (Insecta, Odonata) of Ukrainian Red Data book). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Trans. of conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 124-127 (in Ukrainian with Russian and English summary)

The author proposed some changes in the list of the Odonata species in Red Data book of Ukraine (1994). The finding of *Coenagrion mercuriale* in Ukraine was not established and thus this species must been excluded from the Red Data book. *Calopteryx virgo* and *Anax imperator* must be excluded too, because no risk of extinction of these species in the wild now or in the near future is expected. Five new candidates are suggested to be included into the next edition of the Red Data book of Ukraine: *Nehalennia speciosa, Coenagrion lunulatum, Ophiogomphus ñecilia, Cordulegaster bidentata, Leucorrhinia albifrons*.

135. Khrokalo L. A. 2005. - Babky (Insecta, Odonata) vnutrishikh vodoym m. Kyeva (Dragonflies (Insecta, Odonata) of inner waterbodies of Kyiv). - Ecologichny stan vodoym m. Kyeva (Ecological conditions of the Kyiv waterbodies), Kyiv, Fitosotsiocenter: 61-67. (in Ukrainian with Russian summary)

The species compositions and distribution of dragonflies within inner waterbodies of Kyiv subjected SCE "Pleso" (lake Didorivs'ke, lake Synye, lake Verbne, lake Red'kine, lakes of Partisan Gloria Park) was investigated during April - October 2004. 38 species were recorded and their adult phenology and larval habitats reported. Recommendations are made for the preservation and re-establishment of the biodiversity of waterbodies of inner Kyiv.

136. Khrokalo L. A. & E.V. Davydenko, 2002. - Notes on dragonflies (Insecta: Odonata) of Dnipropetrovsk region. - Ecologiya ta noosferologiya. (Ecology and Noospherology) 11 (1-2): 91-93. (in English with Russian and Ukrainian summaries)

The history of odonatological investigation in the Dnipropetrovs'k region (central part of steppe kraine) was described. As a result of collections by the authors in August 2000, 14 species was reported from Andriyvka (Novomoskovs'k district, Dnipropetrovs'k region), 6 for the first time. This increased the number of species of the Dnipropetrovs'k region to 21.

137. Khrokalo, L. A. & N. O. Matushkina, 1999. - Babky (Insecta: Odonata) Kanivs'kogo prydniprov'ya. (Dragonflies (Insecta, Odonata) of Kaniv Dnieper district). - Isvestiya Khar'kovskogo entomologicheskogo obschestva (The Kharkov Entomological society gazette) 7 (2): 27-31(in Ukrainian with English summary)

Thirty dragonfly species was collected from Kaniv Dnieper district (Cherkasy region, central Ukraine) in 1999, 8 for the first time for the Kaniv Nature Reservation and its surroundings, 7 firstly for the Cherkasy region. Data on the larval habitat distribution of 13 species were given.

138. Khrokalo L. & N. Matushkina, 2005. - Expansion of *Crocothemis erythraea* in Ukraine. - Abstracts of the 4th WDA International Symposium of Odonatology, Pontevedra (Spain): 72-73. (in English)

The authors analysed all literature data on distribution *Crocothemis erythraea* in Ukraine. It was found in the S and SW areas in the beginning and middle of XX century. During the last two decades *C. erythraea* was recorded in Ukraine in the SW, in Crimea peninsula and towards to north and east, namely central regions, eastern, northern and northeastern regions. During 2001-2004 new records were made in the Crimea, Odessa, Vinnytsya, Cherkasy, Chernihiv and Kyiv administrative regions. *C. erythraea* reproduced in the northern Ukraine (in Kyiv region).

139. Khrokalo L. & G. Prokopov, 2005. - Notes on Crimean Odonata (Crimea, Ukraine). - Abstracts of the 4th WDA International Symposium of Odonatology, Pontevedra (Spain): 42. (in English)

The authors reported 29 species during 1999-2004 in S and W coastal and mountain parts of Crimea. *Anax ephippiger, Sympetrum flaveolum* and *S. danae* were firstly recorded for Crimea peninsula. The larvae of 10 species were found in rivers, 7 in ponds, 7 in small lakes (including mountain lakes), and one species in brooks and springs. Problems of identifying *Calopteryx taurica* larvae and the distribution of *Orthetrum coerulescens anceps* were discussed.

140. Khrokalo L. A. & P. M. Sheshurak, 2003. - Sesonna dynamika liotu babok (Insecta, Odonata) Pivnichnogo skhodu Ukrainy. (Flight seasonality of dragonflies (Insecta, Odonata) in Northerneastern Ukraine). - Tezy dopovidey IV z'izdu Ukrains'kogo Entomologichnogo towarystva (Abstracts of IV congress of Ukrainian Entomology society), Bila Tserkva: 136. (in Ukrainian)

The phenology of 50 species was investigated in NE Ukraine during 1987-2002. The author analysed the dynamics of adults numbers during seasons for mass and frequent species. One observation of *Sympetrum sanguineum* adult overwintering was reported.

141. Kiseleva, G.A. 1992. - Bentophauna malych rek gornoy i predgornoy zony Kryma (Benthofauna of small rivers in mountane and submontane Crimean zones). - Ratsional'noe ispol'zovanie i okhrana ecosystem Kryma. (Rational use and protection of Crimean ecosystems), Kyiv: 76-81. (in Russian)

General results of ecology and faunistic investigation of macrozoobenthos in 28 small Crimean mountain and submontain rivers during 1975-1990 were given. Odonata larvae were considered as a component of macrozoobenthos.

142. Kiseleva, G. A. & E. V. Ezernytsky, 1985. - Raspredelenie vodnoy enthomofauny v verkhov'yakh basseyna reki Salgir pri antropogennom vozdeystvii. (Distribution of water entomofauna in the uppers of river Salgir basin in the anthropogenic impacting). - Ecologicheskie i prirodookhrannye aspecty izucheniya gornogo Kryma (Ecological and nature-conservative aspects of study of mountain Crimea), Simferopol': 110-119 (in Russian)

Macrozoobenthos of the uppers of river Salgir basin (Crimea Peninsula) was studied during 1980-1984. The author reported 28 Odonata species from different sites.

143. Kiseleva G. A. & A. N. Vasyuta, 1984. - Funktsional'naya rol' i indicatornoe znachenie macrozoobenthosa vodotokov, pitayuschikh Simferopol'skoe vodokhranilische. (Functions and indicator significance of macrozoobenthos of currents feeding Simferopol' reservoir). - Prirodnye compleksy Kryma, ikh optimizatsiya i okhrana. Sbornik nauchnykh trudov. (Natural complexes of Crimea, optimisation and protection of them. Proc. of scientific works), Simferopol': 141-151. (in Russian)

Larvae of 7 Odonata species were reported as components of macrozoobenthos of Salgir and Kurtsy rivers (Crimea).

144. Kiseleva, G. A. & V. I. Vershytsky, 1998. -- Odonatofauna v vodnykh ecosystemakh Kryma (Odonata fauna in water ecosystems of Crimea). - Ecosystemy Kryma ikh optimizatsiya i okhrana (Crimean ecosystems, optimization and protection of them) Simferopol': 38-41. (in Russian)

Data on the habitat distribution of larvae of 36 species in the mountains, the steppe and the south coast of Crimea was reported as results of long-term investigation of macrozoobenthos of different water ecosystems in Crimea.

145. Kolev, E., S. N. Gorb, C. Schilling & D. Riemer, 2001. - Ein Kopf-Kühlsystem bei Libellen (Odonata)? (Head cooling system in dragonflies (Odonata)?). - Technische Biologie und Bionik. 5. Bionik - Kongress, Dessau 2000: 317-322. (in German)

The authors provided a three-dimensional computer reconstruction of the aorta and trachea in thorax-neck-head area in the damselfly *Ischnura elegans*. This study showed that air stream within four tracheae running very closely to the aorta surface in the prothorax-neck area in adult Odonata might serve as an active head cooling system. The principal of handling thermal energy are interesting for the design of technical micro systems, which integrate components directing the flow of heat.

146. Kuntse, R. & J. Noskiewicz, 1938. - Zarys zoogeografii Polskiego Podola. - Prace naukove Wydawnictwo towarzystva naukowego we Lwowie 2 (4): 277-278. (in Polish with German subtitle)

As a result of a literature review *Sympecma paedisca*, *Sympetrum meridionale* and *Orthetrun albistylum* are reported for the some places of former Polish Podolie (now L'viv and Ivano-Frankivs'k regions, W Ukraine)

147. Lavigne, R. J. 1976. - Odonata as prey of robber flies (Diptera: Asilidae). - Cordulia 4: 1-10. (in English)

Aeshna grandis and *Sympetrum flaveolum* were recorded as prey of *Satanas gigas* in Kyiv region (N Ukraine).

148. Lomnicki, M. 1877. - Sprawozdanie z wycieczki zoologicznej odbytej na Podolu w r. 1876 pomiedzu Ceretem, Zbruczem a Dniestrem. Prasiatnoce-Sieciywki.- Sprawozdanie Komisyi Fizyograficznej 11: 128-151. (in Polish)

This paper contained the first list of Odonata species from Western Ukraine. Twelve species were found in some territories of Ternopil' region and one species was found in L'viv region.

149. Lyashenko, A. V, B. B. Makovs'ky, K. E. Zorina-Sakharova & N. M. Leschenko, 2005. - Macrozoobenthos ta fitifil'na fauna deyakykh ozer m. Kyeva (Macrozoobenthos and phytophilic fauna of some Kyiv lakes). - Ecologichny stan vodoym m. Kyeva (Ecological conditions of the Kyiv waterbodies), Kyiv, Fitosotsiocenter: 144-181. (in Ukrainian with Russian summary)

Odonata larvae of 16 species were reported from some inner waterbodies (lakes) of Kyiv (N Ukraine). Some doubts exist whether the authors correctly identified *Coenagrion lunulatum, Nehalennia speciosa, Sympecma fusca*.

150. Mal'tsev, I. V. 1953. - Vrednye i poleznye nasekomye lesonasazhdeniy stepnogo Kryma (Harmful and useful insects of steppe Crimea plantations). - Trudy Krymskogo filiala Akademii Nauk SSSR (Transactions of the Crimean office of the Academy of Sciences of the USSR) 3 (2): 57-64 (in Russian)

In this paper Odonata were considered as an insect group distributed in plantations in the Crimean steppe. Eleven species were reported, *Aeshna viridis* for the first time for Crimea. The significance of Odonata in forestry plantations was discussed.

151. Marisova, I. V., P. M. Sheshurak & N. I. Berezhnyak, 1988. - Bezkhrebetni u zhyvlenni zelenoi zhaby *Rana escuelnta* Synklepton (Amphibia: Anura: Ranidae) v Chernigiv'ky oblasti Ukrainy. (Invertebrates as the food of frog *Rana escuelnta* Synklepton (Amphibia: Anura: Ranidae) from Chernihiv region of Ukraine). - Isvestiya Khar'kovskogo entomologicheskogo obschestva (The Kharkov Entomological Society Gazette) 6 (2): 78-82. (in Ukrainian with English summary)

A list of invertebrates found in the stomach of the frog *Rana esculenta* is presented. The frogs were caught at the end of May in 1994-1995 in the Chernihiv region (NE Ukraine). Adults and larvae of 6 Odonata species were discovered.

152. Martynov, V.V. & A. V. Martynov, 2003. - Interesnye nakhodki strekoz (Odonata) na teritorii yugo-vostoka Ukrainy (Interesting records of dragonflies (Odonata) in the southeast of Ukraine). - Vestnik zoologii 38 (2): 80 (in Russian with English subtitle).

Onychogomphus forcipatus, Anax ephippiger, Sympetrum fonscolombii and *Crocothemis erythraea* were reported for the first time from Donetsk region.

153. Martynov, V.V. & A. V. Martynov, 2004. - Interesnye nakhodki strekoz (Insecta, Odonata) na teritorii Ukrainy (Interesting records of dragonflies (Insecta, Odonata) from Ukraine). - Vestnik zoologii 38 (5): 38 (in Russian with English subtitle).

Somatochlora alpestris and *Aeshna juncea* were recorded in Chornogory ridge in Carpathian Mountain, *Cordulegaster bidentata* in the Ivano-frankivs'ka region (Carpathian Mountain), *Brachytron pratense* for the Odessa region (SW Ukraine) and *Chalcolestes parvidens* for the first time for the E Ukraine (Donets'k region).

154. Martynov, V.V. & A. V. Martynov, 2004. - Materialy k faune strekoz (Insecta, Odonata) Luganskoy oblasti (Materials to dragonflies fauna (Insecta, Odonata) of Lugansk district). - Vestnik zoologii 38 (6): 74 (in Russian with English subtitle).

The authors reported 37 Odonata species from the easternmost Ukraine (Lugans'k region).

155. Martynov, V. V. 2005. - K voprosu o rasprostranenii i sostoyanii populyatsiy nekotorykh krasnoknizhnykh nasekomykh na teritorii Donbassa (On the question of the distribution and population status of some insect species occurring in the Donbass area and listed in the Red Data Book of Ukraine). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 75-79. (in Russian with Ukrainian and English summary).

The author gave more precise information than provided by the Red Data Book of Ukraine (1994) on the distribution and biotope preferences of *Calopteryx virgo* and *Anax imperator* from Donets'k and Lugans'k region (E Ukraine).

156. Martynov, A. V. & B. B. Martynov, 2005. - Predvaritel'ny obzor strekoz (Insecta, Odonata) Vostochnoy Ukrainy (Preliminary review of dragonflies (Insecta, Odonata) of Eastern Ukraine). - Entomologiya v Ukraini. Tezy dopovidey naukovoi entomologichnoi konferentsii prysvyachenoi pam'yati chlena-correspondenta NAN Ukraynu professora V. G. Dolina (Entomology in Ukraine. Transactions of scientific entomology conferences devoted the memory of Prof. V.G. Dolina) L'viv: 136-138. (in Russian)

In this historic review of odonatological investigations of the E Ukraine (Donets'k, Lugans'k and Kharkov region) 59 Odonata species were recorded, comprising 78.6% of the total species number in Ukraine. The species distribution in lotic and lentic waterbodies was given.

157. Matushkina, N. A. 2001. - Stylus kak sensorny element yaytseclada strekoz (The stylus as a sensory element of the dragonfly ovipositor). - Uchenye zapiski TNU. (Transactions of the Taurichesky National University), Series: Biology 14 (1): 116-120 (in Russian with English summary)

The ovipositor styli of *Lestes sponsa* females function as a mechanosensory organ, controlling the precise egg positioning into the substrate.

158. Matushkina, N. A. 2002. - Reorganizatsiya genital'nikh segmentov samok *Anax imperator* (Odonata, Aeshnidae) v khode metamorphosa (Development of females genital segments of *Anax imperator* (Odonata, Aeshnidae) during the metamorphosis). - Abstr. of XII Congress of Russian Entomol. Soc., St-Peterburg, 19-24th August 2002: 231-232. (in Russian with English subtitle)

The changes in ovipositor muscles during metamorphosis and maturation are reported for female *Anax imperator* by comparing F-0 larvae, juvenile (several hours after emergence) and mature adults.

159. Matushkina, N. A. 2002. - Morpho-funktsional'ni kharakterystyky yaytseklada babok (Insecta, Odonata) (Morpho-functional features of ovipositor in Odonata (Insecta). - Autoreferat of Ph. D. Thesis of Biological sciences, Kyiv: 1-19. (in Russian with English and Ukrainian summaries)

This study contained the results of comparative morphology of the ovipositor, the redevelopments of genital segments in different stages of ontogenesis and some aspects of endophytic oviposition in Odonata.

160. Matushkina, N. A. 2004. - Sravnitel'naya morphologia yaytsekladov nekotorykh ravnokryltkh strekoz (Odonata, Zygoptera) (Comparative morphology of ovipositor in some damselflies (Odonata, Zygoptera). - Vestnik zoologii 38 (3): 53-66 (in Russian with English summary)

The author investigated the structural differences in the ovipositors of species belonging to five Zygoptera families: *Bayadera melanopteryx* (Euphaeidae), *Chalcolestes parvidens* (Lestidae), *Heteragrion alianeum* (Megapodagrionidae), *Platycnemis pennipes* (Platycnemidae) and *Palaemnema domina* (Platystictidae). Possible correlations between ovipositor features and oviposition behaviour were discussed.

161. Matushkina, N. A. 2004. - Conservation of Chalcolestes (*Odonata: Lestidae*) in the East Europe: problems and possibility to cooperation - Abstract book of 2th Krajove Symposium Odonatologiczne, 29th Symposium Sekcij Koleopterologicznej PTE, 3th Seminarium Trichopteologiczne, Urszulin (Poland). - 30 (in English).

The nessesary conservation status of damselfly of genus *Chalcolestes* and the need of conservation activity in Eastern European countries was discussed. Unification of the monitoring methods was proposed. Using original and literature data, a list of typical morphological peculiarities of *Chalcolestes* species from different habitats was compiled.

162. Matushkina, N. 2005. - Ovipositor and egg laying behaviour of Odonata: phylogenetic implications. - Abstracts of the 4th WDA Symposium of Odonatology, Pontevedra (Spain). - 25. (in English)

This study aimed to test the phylogenetic value of some oviposition-related characters in Odonata. Twenty nine species from 27 genera representing 13 families of recent suborders of Odonata were included in the data matrix. Anisoptera and Anisozygoptera are represented as separate clades in the phylogenetic tree, each supported by at least one synapomorphy. Monophyly of the family Aeshnidae is supported by 2 synapomorphies. Lestidae are represented by a separate clade with the most strongly supported monophyly among Zygoptera.

163. Matushkina, N. A & S. N. Gorb, 1997. - Skeletno-myshechnaya organizatsia yaytseklada endophytnogo tipa u strekoz (Odonata) (Skeleton-muscle organisation of the endophytic ovipositor in Odonata). - Vestnik zoologii 31 (5-6): 57-70. (in Russian with English summary)

The ovipositors of *Calopteryx splendens, Lestes barbarus, Enallagma cyathigerum* and *Aeshna mixta* were studied. The comparative research aimed to understand the general design of the endophytic ovipositor in the Odonata and to reveal differences between species. Possible evolutionary pathways of the reduction of ovipositor muscles within Odonata were discussed.

164. Matushkina, N. A. & S. N. Gorb, 2000. - Classifikatsiya endophitnykh kladoc ravnokrylykh strekoz (Odonata, Zygoptera) (Patterns of endophytic egg-sets in damselflies (Odonata, Zygoptera)). - Vestnik zoologii, Supl 14: 152-159. (in Russian with English summary)

The egg clutches of endophytically laying species *Lestes barbarus, L. sponsa, Chalcolestes viridis, Sympecma paedisca* and *Enallagma cyathigerum* were described. Drawings of different types of clutches were used to propose a classification of patterns of damselfly clutches: irregular type, regular simple type, including four subtypes, and a regular complex type, including two subtypes. The authors concluded that different patterns of egg-sets were results of adaptation to the substrate properties.

165. Matushkina, N. & S. Gorb, 2002. - Stylus of the odonate endophytic ovipositor: a mechanosensory organ controlling egg positioning. - Journal of Insect Physiology 48: 213-219. (in English)

Using light and scanning electron microscopy, a sensory field consisting of 15-20 campaniform sensillae was described on the base of the stylus of the endophytic ovipositor of Odonata. The authors hypothesized that two symmetric styli equipped with this number of sensillae can function as a mechanosensory organ responsible to control egg position in plant stems during oviposition. In laboratory experiments on *Lestes sponsa* and *L. barbarus*, it was demonstrated that the distance between laid eggs was not dependent on the present of styli. Removal of styli from both sides did not influence a shift of oviposition to one side. Females with one removed stylus shifted the clutch line in the opposite direction toward the removed stylus. Additionally, removal of styli influenced position of single eggs in egg sets, and disturbed the capacity for complex oviposition.

166. Matushkina, N. A. & S. N. Gorb, 2002 (2003). - Substraty dlya endophytnoy otkladki yaits nekotorykh europeiskikh strekoz (Insecta: Odonata) (Endophytic oviposition substrates used by some European dragonflies (Insecta: Odonata)). - The Kharkov Entomological Society Gazette 10 (1-2): 108-118. (in Russian with English summary)

Using original and literature data the authors drew up the list of materials (plants, soil and others), which were utilized as oviposition substrates by 41 species of European dragonflies. General peculiarities of the selection of substrates for oviposition in different dragonfly species and systematic groups were discussed. This paper may be useful in ecological and faunistic studies in a variety of aquatic ecosystems.

167. Matushkina, N. O. & L. A. Khrokalo, 2002. - Vyznachnyk babok (Odonata) Ukrainy: lychynky ta ekzuvii. (Identification key of dragonflies (Odonata) of Ukraine: larvae and exuviae) Manual for the students of biology specialities, Kyiv, Fitositsiocentr: 1-72 (in Ukrainian)

These are the first identification tables for the larvae and exuviae of the 70 Odonata species recorded in Ukraine. This key contains many figures of morphological structures taken from approved literature sources. Distribution, ecological peculiarities and phenology of species were also given. The authors described the methods of collection, fixation and storing adults, larvae and exuviae and rearing the larvae in laboratory.

168. Mauersberger, R. - 1994 Zur wirklichen Verbreitung von *Orthetrum coerulescens* (Fabricius) und *O. ramburi* (Selys) = *O. anceps* (Schneider) in Europa und die Konsequenzen für deren taxonomischen Rang (Odonata, Libellulidae). - Deutsche entomologische Zeitschrift, Neue Folge 41: 235-256. (in German with English summary)

The author revealed 11 males of *Orthetrum coerulescens anceps* (phenotype 5 - typical form of *O. c. anceps*) collected from Mukachevo (Zakarpats'ka region, W Ukraine) in 1986. The material is kept in the National museum in Prague.

169. Medvedev, S. I. 1963. - Kratkie svedeniya ob entomfaune bolot severo-vostochnoy Ukrainy (Short notes on entomofauna of bogs from northeastern Ukraine). - Trudy biologicheskogo facul'teta Khar'kovskogo gos. universiteta imeny Gor'kogo (Transactions of the Biology department of the Khar'kov National Gor'ky University) 36: 75-81. (in Russian)

The author reported 10 Odonata species as common species for grass bogs, among them *Coenagrion ornatum* and *C. lunulatum* (this data need of confirmation). *Nehalennia speciosa* was registered in a *Sphagnum* bog in the Kharkiv region (E Ukraine).

170. Medvedev, S. I. 1964. - O reliktovykh vidakh nasekomykh i relictovykh uchastkakh na Ukraine (About relic insect species and relic areas in Ukraine). - Voprosy genetiki I zoologii. Kharkovsky gosudarstvenny univesitet. (Question of genetics and zoology. Kharkov National University): 75-78 (in Russian)

The author suggested that *Sphagnum* bogs in the river Merla valley near Kranocutsk (Kharkiv region, E Ukraine) are glacial relics as is *Nehalennia speciosa* found there.

171. Mokrushov, P. A. 1972. - Zritel'nye stimuly v povedenii strekoz. 1. Okhota i posadka y strekozy chetyrekhpyatnistoy (*Libellula quadrimaculata*) (Visual stimuli in behavior of dragonflies. 1. Hunting and perch in *Libellula quadrimaculata*). - Vestnik zoologii 4: 46-51. (in Russian with English summary)
172. Mokrushov, P. A. 1975. - Zritel'nye stimuly v povedenii lichinok i vzroslykh strekoz (Vizual stimuli in behavior of Odonata larvae and adults). - Magazine: Povedenie vodnyukh bezpozvonochnykh. (Behavior of water invertebrates.): 52-53 (in Russian with English summary)

173. Mokrushov, P. A. 1982. - Territorial'noe povedenie chetyrekhpyatnisnoy strekozy *Libellula quadrimaculata* (Odonata, Anisoptera) (Territorial behavior of the Four-spotted dragonfly, *Libellula quadrimaculata* (Odonata, Anisoptera)). - Vestnik zoologii 2: 58-62 (in Russian with English summary)

174. Mokrushov, P. A. & V. V. Zolotov, 1973. - Zritel'nye stimimuly v povedenii strekoz 2. Okhota i begstvo u lichinok koromysla sinego *Aeschna cyanea* Muell. (Vizual stimuli in behaviour of Odonata 2. Hunting and escape in *Aeschna cyanea* Muell. larvae). - Vestnik zoologii 6: 75-77 (in Russian with English summary)

175. Mokrushov, P. A. & L. I. Frantsevich, 1973. - Neyrony, chuvstvitel'nye k dvizheniyu kontrastnykh ob'yektov u lichinok strekozy *Aeschna cyanea* (Neurons sensitived to object moving in larvae *Aeschna cyanea*). - Zhurnal evolutsionnoy biochimii i phiziologii (Journal of evolutionary biochemistry and physiology) 9 (2): 189-194 (in Russian with English summary)

176. Mokrushov, P. A. & L. I. Frantsevich, 1976a. - Zritel'nye interneyrony, chuvstvitel'nye k razmeru ob'yektov i napravleniyu dvizheniya u strekoz roda Sympetrum (Vizual interneurons sensitived to object size and direction of moving in dragonflies of genus *Sympetrum*). - Zhurnal evolutsionnoy biochimii i phiziologii (Journal of evolutionary biochemistry and physiology) 12 (4): 341-346. (in Russian with English summary)

177. Mokrushov, P. A. & L. I. Frantsevich, 1976 b. - Zritel'nye stimimuly v povedenii strekoz 3. Vybor mesta dlya posadki u strekozy-nayady *Erythromma najas* Hansem. (Vizual stimuli in behaviour of Odonata 3. Perch-site selection in *Erythromma najas* Hansem.) - Vestnik zoologii 4: 20-24. (in Russian with English summary).

178. Nadvorny, V.G. 1989. - Nekotorye gruppy nasekomykh poimennykh biotopov r. Teterev. (Some groups of insects from flood-lands biotopes of Teterev River). - Problemy obschey i moleculyarnoy biologii (Problems of general and molecular biology) 8: 72-79. (in Russian)

The author reported 11 Odonata species from the valley of the Teteriv river (Kyiv, Zhytomyr regions, N Ukraine).

179. Nadvorny, V. G. 1996. - Vidovoj sostav, rasprostranenie i zhiznedeyatel'nost' nasekomykh v razlichnykh biotsenozakh Polesskogo gosudarstvennogo zapovednika (Special composition, distribution and vital functions of insects in different biocenoses of Polessky National Reserve). - The Kharkov Entomological Society Gazette 4 (1-2): 19-64. (in Russian).

Fourteen Odonata species were reported from Polessky National Reserve (Zhytomyr region) and their relative frequency and habitat distribution. The author suggested that *Coenagrion lunulatum* and *Sympecma fusca* were common species in region of investigation, but these data were needed of confirmation.

180. Nadvorny, V. G. 2005. - Osobennosti rasprostraneniya redkikh i ischesayuschikh vidov bespozvonochnykh, vnesennykh v Krasnuyu knigu Ukrainy, v poimakh malykh rek srednego pridneprov'ya (The peculiarities of the distribution of rare and declining species of invertebrates in floodplains of small rivers of the Middle Dnieper region). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of conference "Rare end endangered insect species and conceptions of Red Data book of Ukraine"): 90-92. (in Russian with Ukrainian and English summary)

Distribution records, population status and ecology notes are reported of *Calopteryx virgo* and *Anax imperator* from the valleys of the middle Dnieper basin. Both species were common.

181. Oliger, A. I. 1975a. - K voprosy o zarazhennosti strekoz (Odonatoptera) kleschami semeystva Arrhenuridae v Donbasse (On the question of the susceptibility of dragonflies to mites of the family Arrhenuridae in Donbass). - Problemy parasiytologii (Problems of parasitology) 2: 78-80. (in Russian with English summary)

The number of individuals of different Odonata species infested by water mites (*Arrhenuridae*) is given.

182. Oliger, A. I. 1975b. - O faune lichinok strekoz (Odonatoptera) vodoemov Donetskoy oblasti (On the fauna of Odonata larvae from waterbodies of Donets'k region). - Vestnik zoologii 1: 82-84. (in Russian with English summary)

During 1970-1971 collections of Odonata larvae in 24 points of Donets'k region were made. In total 25 Odonata species were found, their distribution and relative abundance were presented in the table.

183. Oliger, A. I. 1975c. - Ecologo-faunisticheskaya kharakteristica strekoz (Odonatoptera) Donbassa (Eco-faunistic characteristic of Odonata from Donbass). - Avtoreferat disertatsii k.b.n. (Autoreferat of PhD thesis of biology) Donetsk: 1-20. (in Russian)

Collections and visual observations of Odonata from Donets'k region were made during 1970-1973. As a result, 41 species were recorded as adults and 31 as larvae. The zoogeographical analysis showed 4 groups (Siberian, European, Pontic and Mediterranean). The relative abundance was calculated for all registered species. The author suggested that *Lestes macrostigma, L. viridis, Erythromma najas, Aeshna affinis, Anaciaeschna isosceles, Somatochlora flavomaculata, Libellula fulva, Crocothemis erythraea, Sympetrum danae, Leucorrhinia dubia, L. caudalis* were rarest species in the region. The habitat distribution of adults and larvae was studied. The author assigned all species to 8 phenological groups, and 5 groups depending on the diurnal flight rhythmn. Optimal temperatures for the flight of most species were 19-22^{0}C. Flight activity depending on illumination, some aspects of behaviour and Odonata species infested by *Arrhenuridae* water mites was studied.

184. Oliger, A. I. 1980. - Fenologiya i sutochnaya activnost' strekoz (Odonata) v uygo-vostochnoy chasti Ukrainy (Phenology and diurnal activity of dragonflies in the southeastern part of Ukraine). - Zoologicheskiy zhurnal 59 (9): 1425-1427. (in Russian with English summary)

The author studied the phenological aspects of flight peculiarities of 47 Odonata species from the SE part of Ukraine. The author assigned all species to 8 seasonal and 5 diurnal groups.

185. Oliger, A. I. 1985. - O biotopicheskom raspredelenii strekoz Donetskoy oblasti (Biotopic distribution of dragonflies in the Donetsk region). - Byulleten' Moskovskogo obschestva ispytateley prirody. Otdel. Biologii (Bull. of Moscow Nature Society. Dep. Biology) 90 (5): 25-33. (in Russian with English summary).

Field observations of 47 Odonata species are reported from the SE part of Ukraine (Donetsk region) during 1971-1974. Behaviour patterns were described of mature and immature adults of *Gomphus flavipes, Brachytron pratense, Aeshna mixta, Ae. affinis, Anaciaeschna isosceles, Anax imperator, Cordulia aenea, Libellula depressa, Orthetrum brunneum, O. albistylum* and *Sympetrum* species.

The habitat distribution was given for feeding immature adults of all species in different steppe and forest-steppe areas. The author suggested that minimum competition for habitats was reached due to differences in season and daily periods of flight, behaviour patterns and close connection with the condition of microlandscapes.

186. Pavlyuk, R. S. 1968. - Ob ectoparasitakh strekoz (Odonata) - lichinkakh vodyanykh kleschey roda *Arrhenus* (About ectoparasits of Odonata - larvae of hydrocarinaes of genus *Arrhenus*). - 5 Vsesoyuznoe soveschanie po boleznyam i parazitam ryb I vodnykh bespozvonochnykh (5th All-union meeting about diseases and parasites of fish and water invertebrates), Leningrad: 91-92 (in Russian).

This paper is note about hydrocarinaes of genus *Arrhenurus*, which infested larvae and adults of *Coenagrion puella, Coenagrion pulchellum, C. hastulatum, Ischnura pumilio* in the W Ukraine.

187. Pavlyuk, R. S. 1970a. - Do pytannya pro okhoronu babok (Odonata, Insecta). (To the question about protection of dragonflies). - Okhorona pryrody ta ratsional'ne vykorystannya pryrodnykh resursiv URSR. Materialy conferentsii molodykh vchenykh. (Nature protection and rational use of nature resourses of USSR (Ukraine). The materials of conferences of young scientists), Kyiv: 192-195. (in Ukrainian)

The author reported about rare Odonata species from the western Ukraine and proposed arrangements of their protections.

188. Pavlyuk, R. S. 1970b. - K voprosy isucheniya parasitofauny strekoz (Towards the question of studing of the Odonata parasites). - Fauna Moldavii i ee okhrana. Materialy dokladov I pespublikanskoy mezhvuzovskoy nauchno-practicheskoy konferentsii (Fauna of Moldova and its protection. Materials of I Republican inter-institutes scientific-practice conferences), Chisinau: 73-74. (in Russian)

The author investigated parasites of Odonata in the western part of Ukraine, including areas, bordering to Moldova (Chernivtsi region). Ectoparasites found in adult Odonata (acarines of genus *Arrhenurus*) and endoparasites (gregarines *Hoplorhynchus oligacanthus*, trematodes *Prosotocus confuses, Plagiorchis elegans* and cestodes *Tatria decanantha*) were recorded.

189. Pavlyuk, R. S. 1973a. - O neobkhodimosti tschatel'nogo vidovogo opredeleniya lichinok strekoz (On the necessity of precise identification of Odonata larvae). - Gidrobiologichesky zhurnal (Hydrobiological Journal), Kyiv 9 (4): 129-131. (in Russian with English summary)

Several Ukrainian hydrobiological articles are analysed and mistakes are pointed out (for example, records of *Leucorrhinia albifrons* and *Coenagrion mercuriale* in the south of Ukraine and *Oxygastra curtisi* in Dnestr river were doubtful). The author recommended verifying the species identity of larvae by collecting the adults.

190. Pavlyuk, R. S. 1973b. - O tsistitsercoidakh *Tatria decantha* Fuhrmann, 1913 (Cestoda: Amabiliidae) iz strekoz zapadnykh oblastey Ukrainy (On cysticercoids of *Tatria decantha* Fuhrmann, 1913 (Cestoda: Amabiliidae) in dragonflies from the western regions of Ukraine). - Parazitologiya, Moscow 7(4): 353 - 356. (in Russian).

191. Pavlyuk, R. S. 1973c. - Novye dannye o metatsercariyakh *Halipegus ovocaudatus* Vulp., 1858 (Trematoda, Halipegidae) (New data on the metacercariae of *Halipegus ovocaudatus* Vulp., 1858 (Trematoda, Halipegidae)). - Vestnik zoologii 2: 33 - 37. (in Russian)

Four hundred larvae and 13520 adults of 57 Odonata species, collected in western Ukraine during 1965-1971, were investigated for parasitological observations. Seventeen species of Odonata were reported as new hosts of the trematode *Halipegus ovocaudatus*. Lymnophilic dragonfly species were infected more often than rheophilic species.

192. Pavlyuk, R. S. 1974. - Fauna babok (Insecta, Odonata) pivnichno-zakhidnoi chastyny volyns'kogo Polissya (Dragonfly fauna (Insecta, Odonata) of the northwestern part of the Volin Polissya). - Visnyk Univ. Lviv, Ser. biol. 7: 79 - 84. (in Ukrainian)

Thirty-one species reported from the western part of Ukrainian Polissya include *Leucorrhinia albifrons, Orthetrum albistylum* and *Sympetrum depressiusculum*. In the upstream Pryp'yat' River mainly limnophilic species were registered. The lowest odonate diversity was observed at Svityaz' Lake.

193. Pavlyuk, R. S. 1975a. - K vyyavleniyu novykh dopolnitel'nykh khozyaev trematody *Plagiorchis elegans* Rud., 1802 (New hosts of the trematode *Plagiorchis elegans* Rud., 1802). - Problemy Parasitololii. Materialy 8 nauchnoy konferentsii parasitologov UkrSSR (Problems of Parasitology. Materials of the 8th scientific conference of parasitologists from Ukrainian SSR), Kiev, Naukova Dumka: 88 - 89. (in Russian)

194. Pavlyuk, R. S. 1975b. - Strekozy (Insecta, Odonata) zapadnykh oblastey USSR, ikh parasity i vragi. (Dragonflies (Insecta, Odonata) from the western regions of USSR (Ukraine) and their parasites and predators). Avtoreferat disertatsii kand. biol naukii. (Autoreferat of PhD thesis of biology), L'viv: 1-29. (in Russian)

This literature review of faunistic investigations of dragonflies in the W Ukraine and about parasitological investigations of dragonflies in Soviet Union is based on original material collected during 1965-1971. He investigated the contents of intestines of predators (fish, amphibians, and wetland birds) during 1957-1970. As a result, 65 Odonata species was reported from this area, 20 of them were first recorded for Polesie in W Ukraine, 1 for the western forest-steppe, 5 for the pre-carpathian, 4 for the Carpathian Mountains and 2 for the Transcarpathian region. *Leucorrhinia albifrons* was first recorded for the Ukraine. The author also studied the phenology of flight periods, described behavioural aspectss of several Odonata species and provided morphological and ecological descriptions of ecto- and endoparasites of dragonflies.

195. Pavlyuk, R. S. 1980. - K fenologii strekoz zapadnoy lesostepi (Towards the phenology of dragonflies from western forest-steppe). - Issledovanija po entomologii i acarologii na Ukraine. Tez. docladov. 2 c'ezda YEO. (Investigation on entomology and acarology in Ukraine. Abstracts of the 2nd meeting of the Uktaininan Entomological Society, Uzhhorod: 51-52 (In Russian)

The author reported changes in the adult phenology in the western forest-steppe part of Ukraine in different years. In 1970 the emergence of Odonata was delayed by two weeks. In optimal conditions 10 species flew in the first, 30 in the last decade of May, 45 in the last

decade of June and a maximum of 48 in the first ten-day period of July. A gradual decline in the number of flying species was dependent on a decrease of nocturnal air temperatures. Thus, 20 species were recorded in the end of September, 13 in the first decade of October and 3-5 remained until the first snow cover.

196. Pavlyuk, R. S. 1981a. - K isucheniju fauny strekoz (Insecta, Odonata) del'ty Dunaya (On the study of Odonata fauna of the Danube delta). - Vestnik zoologii 3: 94-95. (in Russian)

Between 1976 and 1978 about 700 individuals belonging to 22 species were collected the vicinity of the village Vilcovo (Odessa region, SW Ukraine). The most abundant species were *Crocothemis erythraea* and *Ischnura elegans*. *Lestes macrostigma* was first recorded from the Danube delta and *Cercion lindeni* first for Ukraine.

197. Pavlyuk, R. S. 1981b. - Parasitologicheskie issledovaniya strekoz (Insecta, Odonata), khranyacshikhsya v entomologicheskikh kollektsiyakh (A parasitological study of dragonflies (Insecta, Odonata) kept in entomological collections). - Vestnik zoologii 2: 90 - 95. (in Russian)

Fixated and dry Odonata specimens from entomological collections were investigated for parasites, among them 525 adults of 43 Odonata species collected from different places of USSR (including Ukraine) kept at L'viv University educational collection. The larvae of water mites and some endoparasites were observed. Methods of extraction of parasites were described. Helminths *Prosthogonimus* were extracted from 130 years old bodies of *Cordulia aenea* and *Libellula quadrimaculata*. As a result, 8 Odonata species were recorded as new hosts for larvae of water mites of the genus *Arrhenurus*, 10 species as new hosts for the trematod genus *Prosthogonimus* and one species for a nematode.

198. Pavlyuk, R. S. 1981. - Do vyvchennya fauny babok (Insecta, Odonata) Chornohory ta sumizhnykh girs'kykh terytoriy (Towards a fauna of the Odonata (Insecta, Odonata) of Chornohory and neighbouring mountain territories). - Visnyk Univ. L'viv, Ser. biol. - 12: 113-115. (in Ukrainian)

History review of odonatology investigation in Chornohory - the highest part of Ukrainian Carpathian Mts - was reported with list of registered species. Above 1000 m a s.l. were found *Lestes barbara, Cordulegaster bidentata, Sympetrum striolatum*. Original data of founds 4 species in different places of Chornohory mountains were reported as well.

199. Pavlyuk, R. S. 1989. - O sostoyanii isuchennosti fauny strekoz na Ukraine (About status of study Odonata fauna in Ukraine). - Problemy ecologii gornykh regionov. Tez. docladov vsesoyusnoy nauchno-practicheskoy conferentsii. Sectsiya odonatologii (Problems of ecology of mountain regions. Book of abstracts of All-Union scientific-practical conference. Section Odonatology): 10-17. (in Russian)

The author concluded that Ukraine was investigated heterogenously and data for most of the regions, especially the NE and S, need updating.

200. Pavlyuk [as Pavliuk], R. S. 1989. - Redkie vidy strekoz fauny Ukrainy (Rare dragonflies in the fauna of Ukraine). - Latvijas Entomologs 32: 101-105. (in Russian with English summary)

The author suggested that *Cordulegaster boltonii, C. bidentata, Somatochlora arctica, S. alpestris, Coenagrion armatum, C. ornatum, Nehalennia speciosa* and some others were the rarest species in the Ukraine. Data on the fluctuation of the abundance and distribution of some species were presented as were considerations on the protection of dragonflies.

201. Pavlyuk [as Pavliuk], R. S. 1990. - Strekozy zapadnykh oblastey Ukrainy (The dragonflies of the western districts of Ukraine). - Latvijas Entomologs 33: 37-80. (in Russian with English summary)

This detailed faunistic survey from seven western administrative regions during 1965-1986 revealed 65 species.

202. Pavlyuk R. S. 1990. - O proschlom i nastoyaschem sostoyanii odonatofauny Rostoch'ya (On the past and present composition of the odonatofauna of Rostocze). - Badania biologiczne ekosystemow l¹dowych i wodnych Rostocza i Karpat Wschodnich w warunkach antropopresji. Lubelsko-Lwowska Sesja naukowa, Instytut biologii Uniwersytetu marii Curie-Sklodowskiej, Lublin: 107-109. (in Russian)

Comparison of species composition of Odonata from southeastern Rostocze and nothernwestern Rostocze (W Ukraine) is given. The present and past condition and quantity of different dragonfly species presented as well. Author revealed as rare species from Rostocze such ones: *Sympecma paedisca, Lestes viridis, Epitheca bimaculata, Libellula fulva.*

203. Pavlyuk [as Pavliuk], R. S. 1992. - Istoriya isucheniya i sostav fauny strekoz (Odonata) Ukrainy (The history of investigation and the composition of the Odonata fauna of Ukraine). - Acta hydroentomologica latvica, 2: 27-51. (in Russian with English summary)

The first information about the species composition of Ukrainian Odonata is from the end of the 19th century. Extensive publications appeared in the second half of the 19th century (Belke, 1858; Ivanov, 1876; Lomnicki, 1877; Yaroshevsky, 1882). At the end of the 19th and the beginning of the 20th century important works were published by Dziedzielewicz (1877-1919), Rodzyanko (1887-1914), Brauner (1902-1910) and Bartenev (1912). Detailed faunistic research was carried out by Artobolevsky who published 13 papers between 1915 and 1929. Before the Second World War important papers were published by Solodovnikov (1927-1929), Fudakowsky (1932-1935), Hrabar (1933) and St. Quentin (1933). The author of this paper had investigated dragonflies for more than 20 years (Pavlyuk 1970-1990) with particular emphasis on its parasites, but also accumulating information on Odonata fauna. During the post-war period Ukrainian dragonflies were also investigated by Oliger (1975-1985), Polischuk (1974), Gorb (1990-1992) and others. Unfortunately, some doubtful information appeared in several hydrobiological publications, obviously as a result of misidentified larvae.

The second part of this paper included an annotated list of all 70 Odonata species found in Ukraine. The author provided information on the abundance and distribution of the species in different parts of Ukraine.

204. Pavlyuk, R. 1998. - Eine Bestandsaufnahme der Parasitenfauna der Odonaten in der Ukraine (Odonata, Sporozoa, Trematoda, Cestoda, Nematoda, Acari) (A review of odonate parasites in the Ukraine (Odonata;- Sprozoa, Trematoda, Cstoda, Nematoda,

Acari). - Opuscula zoologica fluminensia 164: 1-23. (in German with English summary).

During the investigation of 18160 adult and 500 larval Odonata 2 species of water mite, 8 species of gregarines, 8 species of trematods, 2 cestods and 5 nematods were found. These are listed by odonate species and geographic origin. A total of 54 odonate species were mentioned from Ukraine, among them *Nehalennia speciosa*, *Coenagrion armatum*, *C. ornatum*, *Orthetrum albistylum* and *Leucorrhinia caudalis*.

205. Pavlyuk, R. S. & C. V. Golovachov, 1999. - Persha znakhidka *Orthetrum anceps* (Odonata, Libellulidae) v Ukraini (The first record of *Orthetrum anceps* (Odonata, Libellulidae) in the fauna of Ukraine). - Vestnik zoologii 33(4-5): 44. (in Ukrainian)

Three male and one female of *Orthetrum anceps* were found in the environs of Alupka (south coast of Crimea) on 8.07.1998.

206. Pavlyuk R. S. & L. G. Kuz'movich, 1976. - Strekozy (Insecta, Odonata) okrestnostey g. Krementsa Ternopol'skoy oblasti (Dragonflies ((Insecta, Odonata) of environs of Kremenets' town, Ternopil' region). - Vestnik zoologii 3: 82-84. (in Russian)

Twenty eight Odonata species were reported as a result of long-term collections it the environs of Kremenets' (Ternopil' region, W Ukraine) mainly in early summer periods. Abundance indexes for every species were calculated; original phenological data were summarized and compared with literature data.

207. Pavlyuk [as Pavliuk], R. S. & A. Yu. Kharitonov, 1982. - Nomenklatura strekoz (Insecta, Odonata) SSSR (Nomenclature of dragonflies (Insecta, Odonata) USSR). - Poleznye I vrednye nasekomye Sibiri (Useful and pest insects from Siberia), Novosibirsk: 12-42. (in Russian)

The authors proposed Russian names of the 162 Odonata species and 77 subspecies inhabiting the territory of the USSR. These names were derived from the translation of Latin and Greek names of species.

208. Pligin, Yu. V. 1989. - Macrozoobentos. (Macrozoobenthos). - Book "Bezpozvonochnye i ryby Dnepra i ego vodokhranilisch" (Invertebrates and fish of Dnieper and its reservoirs) Kiev "Naukova dumka": 95-117. (in Russian)

The author reported 16 Odonata species as components of zoobenthos in Dnieper River and several of its reservoirs. The records of larval *Coenagrion armatum* and *Sympetrum striolatum* from Kyiv reservoir and *Onychogomphus forcipatus* from the upper Dnieper may need confirmation.

209. Polischuk, V. V. 1964. - Donne tvarynne naselennya Desny i jogo zminy pid vplyvom zabrudnen' (Desna benthos and changes in it under the influence of pollutions). - Book "Desna v mezhakh Ukrainy" (Desna river within the bounds of Ukraine), Kyiv, Naukova dumka: 102-124. (in Ukrainian)

The benthic fauna of the Desna River (NE Ukraine) was investigated during 1960-1962. Larvae of 14 Odonata species were found in different parts of river. The data on *Coenagrion scitulum* could be the result of mis-identification.

210. Polischuk, V. V. 1974 - Book “Gidrofauna ponyzzya Dunayu v mezhakh Ukrainy” (Hydrofauna of low Danube within the bounds of Ukraine), Kyiv, Naukova Dumka: 1-290.
The author reported 44 Odonata species from different part of the Danube delta as result of collection of larvae and adults.

211. Prokopov, G. A. 2001. - Ecologo-geographichesky analis reki Guva (Yuzhny bereg Kryma) na osnove prodol’nogo raspredeleniya organizmov macrozoobentosa (Ecology-geography analyse of river Guva (south coast of Crimea) on the base of longitudinal distribution of macrozoobenthos). - Uchenye zapiski Tavricheskogo Natsional’nogo universiteta im. Vernadkogo. Ser. Geographiya (Scientific notes of Taurichesky State University Vernadsky, Ser. Geography) 14 (1): 102-107. (in Russian)
Larvae of *Calopteryx splendens* were found in one station of the river Guva (south coast of Crimea).

212. Prokopov, G. A. 2003. - Presnovodnaya fauna basseyna r. Chernoy (Freshwater fauna of river Chernaya basin). - Voprosy razvitiya Kryma. Nauchno-practichesky diskusionno-analitichesky sbornik. Problemy inventarisatsii krymskoy bioty (Problems of development of Crimea. Scientific-practice & discussian-analitic transaction. Problems of inventory of Crimean biota) 15: 151-174. (in Russian)
Data on habitat distribution of Odonata larvae of 19 species are given from different water bodies in the basin of the Chernaya River (Crimea).

213. Pyshkin V. B., G. A. Prokopov, B. M. Gromenko, T. S. Rybka & Yu. E. Tarasov, 2003. - K Faune raznokrylykh strekoz Kryma (Odonata, Zygoptera). - Tezy dopovidey IV z’izdu Ukrains’kogo Entomologichnogo towarystva (Abstracts of IV congress of Ukrainian Entomology society), Bila Tserkva: 101-102. (in Ukrainian)
An analysis of the distribution of some damselflies species in Crimea and Europe using literature and original data.

214. Rahmel, U. & A. Ruf, 1994. - Eine Feldmethode zum Nachweis von anthropogenem Streß auf natürliche Tierpopulationen: "Fluctuating asymmetry”. - Natur und Landschaft 69 (3): 104-107. (in German with English summary)
The authors studied fluctuating asymmetry in venation of *Coenagrion puella* wings at the open field place near Odessa (SW Ukraine) in 1991 and at the place near chemical plant in environs of St. Petersburg (Russia) in 1992 as assessments of the condition of natural population. An impact of pollution near the plant only was suggested from the high degree of asymmetry observed in that population.

215.Rodzyanko, V. N. 1987. - Spisok strekoz, vodyaschikhsya v Poltavskoy gubernii (List of Odonata species inhabited Povtava district). - Trudy obschestva ispytateley prirody pri Khar’kovskom universitete (Transact. of Naturalists’ Society in Khar’kov University) 20: 97-104 (in Russian)

Thirty-one species are reported from former Poltava district, in particular the surroundings of Romny and Lubny towns (modern Sumy and Poltava regions, NE Ukraine).

216. Rodzyanko, V. N. 1989 [1988]. - K svedeniyam ob odonatologicheskoy faune Khar'kovskoy i Poltavskoy guberniy (On the data of Odonata fauna of Khar'kov and Poltava districts). - Trudy obschestva ispytateley prirody pri Khar'kovskom universitete (Transactions of the Naturalists' Society of Khar'kov University) 22: 209-223. (in Russian)

The author reviewed the history and results of investigations on the Odonata fauna in the Khar'kov and Poltava districts. He reported own records of 22 Odonata species from Khar'kov and Poltava districts (situated in modern Kharkiv, Poltava and Sumy regions), 6 species were first recorded for these districts. Notes on the distribution in Europe, behaviour patterns and morphological peculiarities of some species were given as well.

217. Rodzyanko, V. N. 1895. - Novye soobscheniya o faune strekoz Poltavskoy i Khar'kovskoy guberniy. (New data on Odonata fauna of Poltava and Khar'kov districts). - Byulenen'Moskovskogo obschestva ispytateley prirody (Bulletin de la Societe Imperiale des Naturalistes de Moscou) 9: 119-127. (in Russian)

Distribution records, behaviour and morphological peculiarities of 14 Odonata species are presented from Khar'kov and Poltava. *Lestes macrostigma* was first recorded for the Khar'kov district, *Nehalennia speciosa*, *Sympetrum flavipes* and *Sympetrum pedemontanum* for Poltava district.

218. Rodzyanko, V. N. 1913. - Dneprovskie strekozy (Libellula borysthenica). - Russkoe entomologicheskoe obozrenie (Russian Entomological Review) 2: 393. (in Russian)

16 Odonata species were collected around the Dnieper hydrobiological station at Trukhanov Island, Kyiv, N Ukraine) in 1912.

219. Ryazanova, G. I. 2001. - One of the reproduction tactics in the males of *Lestes sponsa* (Hansemann) (Zygoptera: Lestidae). - Notulae odonatologicae 5(7): 92-93. (in English)

The behaviour at the water of individually marked males of *Lestes sponsa* was observed in the Trans-Carpathian regions of Ukraine in the floodplain of Borzhava River (the basin of Tissa River). Elements of territoriality and conservatism of individual reproductive tactics, despite a lasting absence of reproductive success, were demonstrated.

220. Ryazantsevà, A. E. & E. N. Pushkar', 1987. - Redkie i ischesayuschie vidy nasekomykh Donetskoy oblasti (Rare and endangered insects species from Donetsk region). - Tesisy dokladov III s'ezda Ukrainskogo Entomologicheskogo obschestva (Abstracts of III congress of Ukrainian Entomological society), Kiev: 171-172. (in Russian)

The authors reported 7 species (*Calopteryx splendens*, *C. virgo*, *Gomphus flavipes*, *Aeshna grandis*, *Anax imperator*) as rare in the Donets'k region (E Ukraine).

221.Schmidt, E. 2004. - Klimaerwärmung und Libellenfauna in Nordrhein-Westfalen - divergente Fallbeispiele. - Entomologie heute 16: 71- 82. (in German)

The author reported his records of *Sympetrum depressiusculum* at the Dniepr in Kyiv on 1-2. Oct. 1988.

222. Sergeev A. I. & N. S. Severenchuk, 1992. - Spisok vidov macrozoobentosa Dnestra i ego vodoemov (List of species of macrozoobenthos in Dniestr river and its tributaries). - In book "Gidrobiologichesky rezhym Dnestra i ego vodoemov" (Hydrobiological regime of Dniestr river and its waterbodies), Kyiv, Naukova Dumka: 263-267. (in Russian)

Coenagrion hastulatum was found as food of mature fish in Dniestr River (SW Ukraine).

223. Sherstyuk, V. V. & N. S. Severenchuk, 1989. - Bespozvonochnye kak kormovye ob'ecty ryb. (Invertebrates as forage object of fish). - Book "Bezpozvonochnye i ryby Dnepra i ego vodokhranilisch" (Invertebrates and fish of Dnieper and its reservoirs) Kiev, Naukova dumka: 117-135. (in Russian)

Larvae of 6 Odonata species were found as prey of different fish species in the Dnieper River. The identification of *Coenagrion concinnum* is doubtful as adults of this species have never been found in Ukraine.

224. Sheshurak, P. N., 2005a. - O redkikh i trebuyuschikh okhrany vidakh nasecomykh Chernigovschiny (About rare and endangered insects species from Chernihiv region). - Materialy mezhdunarodnoy nauchno-practicheskoy konferencii "Problemy ekologii i ecologicheskogo obrasovaniya Poles'ya v postchernobylsky period" (Materials of international scientific conference "Problems of ecology and ecological education in Poles'e in the post-Chernobyl' accident period"): 287-296. (in Russian)

The author analysed the distribution and abundance of 17 Odonata species included in Ukrainian and Byelorussia Red Data Book which were encountered in Chernihiv region (NE Ukraine).

225. Sheshurak, P. M. 2005b. - Ob okhrane nasekomykh na Chernigovschine (About the protection of the insects of Chernihiv region). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 134-145. (in Russian with Ukrainian and English summary)

The author reports the list of 18 Odonata species found in the Chernihiv region (NE Ukraine) which are rare and endangered and hence need protection.

226. Sheshurak, P. M. 2005c. - Trebuyuschie okhrany nasekomye biostatsionara "Lesnoe ozero" i ego okrestnostey (Chernigovskaya obl., Ukraina) (The insects of the biostation "Lisove ozero" and its environs (Chernihiv region, Ukraine)). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 146-150. (in Russian with Ukrainian and English summary)

Twelve Odonata species included in Red Data Book of Ukraine, Bern Convention and IUCN or are rare in NE Ukraine have been recorded at a lake and meadow in Desna river valley from the Chernihiv region.

227. Sheshurak, P. N. & Z. L. Berest, 2003. - Redkie nasekomye planiruemogo Pridesnyanskogo natsional'nogo prirodnogo parka. (Rare insects from protected Pridesnyansky National Nature Park). - Materialy konferntsii, prisvyachenoi 80-richchu Kanivs'kogo pryrodnogo zapovidnyka "Rol' pryrodno-zapovidnykh terytoriy u pidtrymanni bioriznomanittya". (Materials of conferences devoted to the 80-anniversary of the Kaniv National Nature Reserve " Role of natural protected areas in the maintenance of biodiversity"): 308-309. (in Russian)

The Pridesnyansky National Nature Park, situated in the Desna river valley (NE Ukraine) was investigated. A list of rare and endangered insect species (included in Red Lists and Red Data Books) is presented. *Brachytron pratense*, *Cordulegaster annulatus*, *Gomphus flavipes*, *Leucorrhinia pectoralis* were reported as rare.

228. Sheshurak, P. M. & L. A. Khrokalo, 2004. - K isucheniyu entomophauny doliny Desny. Strekozy (Odonata) biostatsionara NGPU "Lesnoe ozero" i ego okrestnostey (Chernigovskaya oblast', Ukraina). Materialy naukovo-praktychnoi konferentsii. (Toward the study of entomofauna of Desna river valley. Dragonflies (Odonata) of biology station NPU "Forest Lake" and its environs (Chernihiv region, Ukraine). Transactions of the scientific-practical conference), Nizhin: 115-117. (in Russian)

The authors reported a list of 43 species, collected at the Biological station of Nizhyn Pedagogical Institute in the surroundings of lakes in the Desna River valley (Chernihiv region, NE Ukraine). For some species, data on the relative abundance and ecology are presented.

229. Sheshurak, P. M. & T. V. Padalko, 1995. - Babky (Odonata) Chernigivschyny. (Dragonflies (Odonata) of Chernigiv region). - Aktual'ni putannya pryrodoznavstva (Present questions of natural history), Nizhyn: 166-169. (in Ukrainian)

Odonata collected during entomological expeditions in the Chernihiv region (NE Ukraine) from 1987 to 1994 resulted in the records of 59 species and the relative abundance, behaviours patterns and places of larval development of some species. Probably there is a mistake the identification of *Lestes marcostigma* and *Coenagrion scitulum*, because this species are distributed in more southern areas.

230. Sheshurak, P. M. & T. V. Padalko, 1996. - Ecologo-faunistychny oglyad babok (Odonatoptera) Chernigivchiny. (Ecological-faunistic review of Odonata of the Chernigiv region). - Materialy naukovo-practychnoi konferencii "Suchasny stan ta shlyakhy vyrishennya ecologichnykh problem Chernigivs'koi oblasti" (Materials of scientific-practical conference "Current status and solutions of ecological problems in Chernihiv region"), Nizhyn: 127-129. (in Ukrainian)

The list of 60 Odonata species collected in different places of Chernigiv region (NE Ukraine) was presented. Ecological data of some species (by analyses of literature and the authors' own investigation) were given as well. Comments: The records of *Lestes macrostigma*, *Coenagrion scitulum* and *Sympetrum depressiusculum* in this area need to be confirmed.

231. Sheshurak, P. N. & A. S. Voblenko, 1998. - Necotorye itogi i perspectivy entomologicheskikh issledovaniy na Chernogovschine. (Some results and perspective of entomological research in Chernigov region). - Naukovi zapysky Nizhyns'kogo derzhavnogo pedagogichnogo universytetu imeni Mykoly Gogolya. (Scientific notes of Nizhin State Gogol' Pedagogical University): 113-153. (in Russian with English summary)

The authors provided a literature review of odonatological investigations as well as investigations of other insects of 17 orders in the Chernihiv region. They suggested that the fauna of this territory included 60 Odonata species.

232. Sheshurak, P. N. & V. V. Parkhomenko, 2005. - Nakhodka *Cordulegaster annulatus* (Odonata, Cordulegastridae) v Sumskoy oblasti (Ukraina) (Finds of *Cordulegaster annulatus* (Odonata, Cordulegastridae) from the Sumy region (Ukraine)). - Vestnik zoologii 39 (4): 48. (in Russian)

This is a note about the record of one female of *Cordulegaster boltonii* from Sumy town (NE Ukraine) in September 1975.

233. Shugurov, A. 1903. - Kratky ocherk fauny i flory bolotsa u istochnica "Bol'shoy fontan" (Short notes on fauna and flora of bog near spring "Big fountain"). - Estestvoznanie i geographiya (Science and geography) 3: 87-90. (in Russian)

The larvae of 6 Odonata species were found in a small basin of one spring near Odessa (SW Ukraine): *Calopteryx splendens*, *Coenagrion puella*, *Pyrrhosoma nymphula*, *Gomphus vulgatissimus*, *Ephitheca bimaculata* were first recorded for Kherson district (SW Ukraine).

234. Shugurov, A. 1903. - Biologicheskie zamenki o strekozakh (Biological notes on dragonflies) Estestvoznanie i geographiya (Natural science and geography) 9: 86-87. (in Russian)

The reasons of mass flight of dragonflies at some places in the surroundings of Odessa (SW Ukraine) were discussed. The main flight direction was from NE to SW. The author explained this phenomenon by mowing of reed in some places in Dnieper valley.

235. Sinitsa, T. I. 1929. - Necotorye dannye o zhyzny odnogo ozero-podobnogo wodoema basseyna r. Dontsa (Some data on life of one lake-typical waterbodies from Donets river basin). - Trudy Khar'kokogo obschestva ispytateley pryrody (Transactions of the Kharkiv Naturalists Society) 52: 249-268. (in Russian)

In one pond in the Seversky Donets River basin situated in Kharkiv environs (E Ukraine) the larvae of 8 species of Odonata were collected.

236. Schaitter, H. J. 1880a. - Libellenschwärme. - Entomol. Nachrichten 6(12): 133. (in German)

The mass flight of *Libellula quadrimaculata* from east to west directions in Galicia (recent L'viv region, W Ukraine) was registered. Author also compared this occurrence with such other ones in East Europe.

237. Schaitter, H. 1880b. - Libellenschwärme in Galizien. - Entomologische Nachrichten 6(15): 167. (in German)

The case of mass flight of *Libellula quadrimaculata* on 27th of May in Galicia (recent L'viv region, W Ukraine) in direction from east to west was described.

238. Schweig, C. 1925. - Die Orthopteren und Odonaten Ostgaliziens. Ausbeute 1924. - Inauguraldissertation zur Erlangung der Doktorwürde der philosophischen Fakultät der Universität zu Wien: 1-112. (in German)

This thesis includes Odonata records from East Galicia (present Volyns'ka, L'viv, Ivano-Frankivs'k and Ternopol' regions of Ukraine and eastern Poland territories). A literature review (after Dziêdzielewicz 1891, 1892, 1894, 1896, 1910; and Lomninski 1887) revealed 52 Odonata species for the Ukrainian area. The geographic records, the phenology and distribution in the world is also given. The result of the author's own investigation is a list of 26 Odonata species collected from July to September 1924. Some biological and ecological notes were also reported: distribution by biotopes of several species and attempts of interspecific copulation between *Coenagrion puella* and *C. pulchellum* and between *Lestes* species.

239. Solodovnikov, S. V. 1927. - Babky (strekavky) Volyni. (Dragonflies of Volyn'). - Visti Kharkivs'kogo sils'kogospodars'kogo instytutu. (News of Kharkiv Agricultural Institute) 8-9: 55-62. (in Ukrainian with German summary)

The author reported the annotated list of 27 Odonata species from environs of Novograd-Volynsky (Zhytomyr region, N Ukraine). Interestingly, *Somatochlora arctica* was reported. The author suggested that it could be result of an incidental immigration from northern territory. Morphological descriptions of the aberrations (phenotypic morphs) of some species were given.

240. Solodovnikov, S. V. 1929. - Materialy k faune i biologii lichinok strekoz r. Dontsa i necotorykh ego pritokov (Materials to the fauna and biology of river Donets and some its tributaries). - Trudy Khar'kovskogo obschestva ispytateley pryrody (Transactions of the Kharkiv Naturalists Society) 52: 249-268 (in Russian)

Solodovnikov was one of first odonatologists in Ukraine who studied both adults and larvae. He collected larvae in the surroundings environs of Kharkiv and Zmiiv. He also investigated the material collected by Committee of sanitation service of Sivers'ky Donets River and its tributaries in the Kharkiv region (E Ukraine). He reported 35 Odonata species from this territory. *Epitheca bimaculata* was first recorded for the Kharkiv region. The author reared larvae in the laboratory to adulthood and identified them. Larvae of 19 species were collected in rivers, 27 in stagnant waterbodies, 14 in both types of water bodies. He also analysed the larval distibution according to the saprogenity and reported ecological characteristics for all registered species. Flight periods of 20 species were reported as well.

241. St. Quentin, D. 1932-1933. - Beitrag zur Odonatenfauna der Bukowina. - Bull. Facultãtii de Stiinte din Cernãuti. 6 (1-2): 39-62. (in German)

The author reported 38 Odonata species from different points (in general from Jadova and Migovo of Storozhinets' district) of Chernivtsi region of W Ukraine. Among them there were the rare species *Ophiogomphus cecilia*, *Cordulegaster bidentata*, *Crocothemis erythraea*. A zoogeographic analysis of the species composition was made. The author also gave some data on ecology peculiarities and distribution of registered species.

242. Temirova S. I., Partalokha I. V. & A. L. Turobov, 1984. - Zooplankton i macrozoobenthos verkhnego techeniya reki Biyuk-Karasu v svyasi s problemoy okhrany malykh rek (Zooplankton and macrozoobenthos upstream of Biyuk-Karasu river in connection with problem of small rivers protection). - Prirodnye compleksy Kryma, ikh optimizatsiya i okhrana. Sbornik nauchnykh trudov. (Natural complexes of Crimea, their optimisation and protection. Proceedings of scientific works), Simferopol': 135-141 (in Russian)

Larvae of *Chalcolestes viridis* were reported as a component of the macrozoobenthos upstream of Biyuk-Karasu River in Crimea.

243. Tseeb, Ya. Ya. 1947. - Zoogeographichesky ocherk i istoriya krymskoy gidrofauny (Zoogeography note and history of Crimean hydrofauna). - Uchenye zapiski Orlovskogo gosudarstvennogo pedinstituta. Seria estestvosnania i khimii. (Scientific notes of Orlovsky state pedagogical institute. Series Natural science and chemistry) 2: 67-112. (in Russian)

The list of Odonata species from Crimea was supplemented by two new species *Aeshna grandis* and *Sympetrum depressiusculum*.he list of Odonata species from Crimea was supplemented by two new species *Aeshna grandis* and *Sympetrum depressiusculum*.

244. Trylis, V. V. 1988. - Bentofauna reki Tal' kak pokazatel' ee sanitarnogo sostoyaniya (Benthofauna of the Tal' river as index of its sanitary conditions). - Voprosy gydrobiologii vodoemov Ukrainy (Questions of hydrobiology of Ukrainian waterbodies), Kiev: 101-106. (in Russian)

Larvae of *Gomphus vulgatissimus*, *Stylurus flavipes* and *Cordulegaster boltonii* were recorded in Tal' River (Kyiv region, N Ukraine).

245. Tymochko, V. B & O. I. Kyselyuk, 2005. - Suchasny stan ridkisnykh vydiv komakh na terytorii Karpats'kogo Natsional'nogo pryrodnogo parku (Recent status of rare insect species in the Carpathian National Nature Park). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insect species and conceptions of Red Data book of Ukraine"): 108-110. (in Ukrainian with Russian and English summary).

Recent records of *Cordulegaster boltoni* from the Ivano-Frankivs'k region (W Ukraine, Carpathian) are reported.

246. Tytar, V. M. 2003. - Babky (Odonata) ostrova Trukhaniv: Zminy za mayzhe stolittya. (Dragonflies (Odonata) of Trukhaniv Island. Changes during about century). - Tezy dopovidey IV z'izdu Ukrains'kogo Entomologichnogo towarystva (Abstracts of IV congress of Ukrainian Entomology society), Bila Tserkva: 101-102. (in Ukrainian).

The author compared literature (Charleman & Artobolevsky, 1915) and original data on the species composition of Odonata from Trukhaniv Island (Kiyv, Dnieper River, N Ukraine). He did not observe 10 species mentioned by previous researchers but reported 13 new species for the island. The author concluded that the presence of southern elements such as *Erythromma viridulum, Anax parthenope, Crocothemis erythraea* might be explained by global climatic changes.

247. Tytar, V. M. 2003. - Analiz morphologicheskoy ismenchivosti model'nykh vidov dlya otsenki geneticheskogo i epigeneticheskogo sostoyaniya prirodnykh populyatsiy v zone otchuzhdeniya Chernobyl'skoy AES. (Analysis of morphological variability of model species for assessing the genetic and epigenetic condition of natural populations in the Chernobyl exclusion zone). - In book: Zoologichesky monitoring antropogennykh vozdeystvy. (Zoological monitoring of anthropogenic impacts): 33-58. (in Russian with English summary)

The author investigated the fluctuating asymmetry of veins in wings of *Sympetrum flaveolum* collected before and after the Chernobyl radiation accident. The result showed only a slight (statistically insignificant) shift.

248. Verves, Yu. G., Khrokalo, L. A, Pavlyuk R. S. & P. G. Balan, 2000 (1999). - Do pryntsipiv doboru bezkhrebetnykh tvaryn u Chervonu Knugu Ukrainy (Criteria of estimating species of invertebrate animals for including in the "Red Book of Ukraine"). - Zapovidna sprava v Ukraini. (Nature Reserves in Ukraine) 5 (2): 48-58. (in Ukrainian with English summary)

The authors of this paper analysed the data on invertebrate species including in Red Data Book of Ukraine (1994) and concluded that the majority of species were included without any scientific basis. Status, relevance and all information about Odonata species from Red Data Book of Ukraine (1994) - *Calopteryx virgo, Coenagrion mercuriale, Anax imperator, Cordulegaster boltonii* - is analysed and discussed.

249. Verves, Yu. G., Serga O. I, Khrokalo, L. A & O. V. Bezkrovna, 2005. - Ecologo-faunistychny oglyad deyakykh grup bezkhrebetnykh Kyeva ta ocolyts (Eco-faunistic overview of some groups of invertebrate from Kyiv and environs). - Zagal'na i prykladna entomologiya v Ukraini. Tezy dopovidey naukovoi entomologichnoi konferentsii prysvyachenoi pam'yati chlena-correspondenta NAN Ukrainy professora V. G. Dolina (General and applied entomology in Ukraine. Transact. of scientific entomology conferences devoted the memory of Prof. V. G. Dolin) L'viv: 50-51. (in Russian)

Thirty-five Odonata species were recorded in Kyiv and its surroundings during 1999-2004. An analysis of the dragonfly distribution among different structural elements of this big city was made. The second record of *Crocothemis erythraea* from Kyiv (lake Red'kine) was reported.

250. Vizslán, T. & A. Huber, 2001. - Odonate records from sub-Carpathia, southwestern Ukraine. - Notul. odonatol. 5 (8): 103-105. (in English)

The annotated list of 24 Odonata species collected from 21 localities in the floodplain of Latorycia and Uzh Rivers (Zakarpats'ka region, W Ukraine) was reported.

251. Volkova, A. A., Grigor'ev, B. F. & L. I. Gur'evskaya, 1970. - Lichinki strekoz Dneprovsko-Bugskoy ust'evoy oblasti. (Odonata larvae of Dnieper-Bug delta region). - Voprosy rybokhozyaystvennogo osvoenia i sanitarno-biologicheskogo rezhima vodoemov Ukrainy (Questions of fish industry development and water quality of waterbodies of Ukraine) (Kyiv) 1: 65-67. (in Russian)

Larvae of 23 Odonata species were collected in the Dnieper-Bug delta region in S Ukraine during 1966-1969 and their habitat distribution reported. The distribution of the larvae depends on the depth, type of sediment, salinity and extent of water and submerged vegetation. Some doubts exist regarding the identification of *Coenagrion mercuriale*, *Leucorrhinia albifrons* and *L. dubia.*

252. Vorobyov, Ye. O. 2005. - Komakhy Poliss'kogo pryrodnogo zapovidnyka, scho potrebuyut' okhorony (Endangered insects of the Polissya Nature Reserve) - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 16-21. (in Ukrainian with English summary)

Thirty-two insect species included in Ukrainian Red Data Book were collected in the Polissya Nature Reserve (N Ukraine). *Calopteryx virgo* was recorded from and suggested to be common at lotic waters.

253. Yaroshevsky, V. A. 1881. - Perechen' setchatokrylykh (Neuroptera), vstrechauschikhsya v Khar'kovskoy gubernii (List of Neuroptera which found in Khar'kov district). - Trudy obschesva ispytateley prirody pri Khar'kovskom universitete (Trans. of Naturalistic Society in Kharkov University) 15: 95-106. (in Russian)

A list of 37 Odonata species collected in different places of Kharkivs'ka district was reported. The collection sites are situated in present-day Sumy, Kharkiv and Donets'k region (NE and E Ukraine). The author also reported records of some Odonata species from other parts of Ukraine and Russia.

254. Wierzejski, A. 1883. - Dodatec do fauny sieciówek (Neuroptera). (Additions to the fauna of Neuroptera) - Sprawozdanie Komisyi fizyograficznéj 17: 253-255. (in Polish)

The author revealed four Odonata spesies for present Ukrainian territories (W Ukraine): *Platycnemis pennipes* at the environs of Ivano-Frankivsk'k, *Lestes barbara*, *Nehalennia speciosa* from Angeliv (Pereginske district, Ivano-Frankivs'k region) and *Coenagrion puella* in Buchach (Ternopil' region).

255. Zakharenko, V. B. 1955. - Nasekomye prudov i vremennykh vodoemov severo-vostochnoy chasti levoberezhnoy Ukrainy (Insects of ponds and temporary waterbodies in the northeastern part of left-bank Ukraine). - Avtoreferat disertatsii k.b.n. (Autoreferat of PhD thesis of biology) Kharkov: 1-14. (in Russian)

The author investigated communities of insect larvae in different waterbodies in Kharkov and Poltava regions (NE Ukraine). Ten Odonata species were recorded in small temporary waterbodies, 19 in small permanent waterbodies, 12 in lakes of former river-beds and 24 in fish ponds. *Pyrrhosoma nymphula* larvae were recorded from a large oligotrophic fish pond, but could be a mis-identification.

256. Zdun, V. J. & R. S. Pavljuk 1976. - Ob ismenemii granits arealov nekotorykh vidov strekoz (Odonata) (About shifting range limits of some Odonata species). - Materials VII. Intern. Symp. Odonatofauna Middle Europe. - 367-369. (in Russian)

The authors reported about the expansion of *Sympetrum depressiusculum* in Ukraine and Europe during several decades. Its range limit moved several hundred kilometres to the north. The species occupied new biotopes in the W and NW Ukraine. Expansions of *Orthetrum albistylum* and *Ischnura pumilio* towards north were noted but to alesser extent.

257. Zamoroka, A. M., P. M. Zhyrak & V. S. Pushkar, 2005. - Ridkisni ta znykayuchi vydy komakh Ivano-Frankivs'koi oblasti u kolektsiyakh students'kogo naukovogo entomologichnogo tovarystva "Tenax-17" (Rare and declining species of insects from Ivano-Frankivs'k region in the collection of the Students Research Entomological Society "Tenax-17"). - Zbirnyk naukovykh prats' za materialamy konferentsii "Ridkisni ta znykayuchi vydy komakh i kontseptsii Chervonoi Knygy Ukrainy" (Transactions of the conference "Rare end endangered insects species and conceptions of Red Data book of Ukraine"): 34-37. (in Ukrainian with Russian and English summaries)

Sixteen rare and declining insect species from the Ivano-Frankivs'k region (W Ukraine, Carpathian) were reported. Literature and original records of *Calopteryx virgo, Anax imperator, Cordulegaster boltoni* were presented as well.

258. Zerova, T. E. & V. N. Fursov, 1995. - The study of European Chalcidoidea parasitizing the eggs of aquatic insects. - In: Wajnberg, E. (Ed.). Colloques de l'INRA, No. 73. Trichogramma and other egg parasitoids (4th. Int. Symp., Cairo, Egypt, Oct. 4-7, 1994): 47-49.

259. Zimbalevskaya, L. N. 1989a. - Protection of aquatic invertebrates in the Ukraine. - Hydrobiological Journal, Washington 24 (5): 7-11. (in English)

The reasons of necessary and immediate protection of floodplain of Ukrainian rivers basins were discussed, which included species of boreal and Caspian faunal complexes. The author suggested that the limnophilic fresh water fauna typically consisted of phylogenetically young groups like Libellulidae among dragonflies. *Lestes barbara* was a relict species of Mediterranean origin.

260. Zimbalevskaya, L. N. 1989b. - Zoophytos. - Book "Bezpozvonochnye i ryby Dnepra i ego vodokhranilisch" (Invertebrates and fish of Dnieper and its reservoirs) Kiev, Naukova dumka: 54-73. (in Russian)

Phytophilous communities of invertebrates in the littoral of the Dnieper River and its reservoirs were studied. Odonata larvae of 18 species were found. Some doubts are cast upon the right identifications of *Coenagrion concinnum* from Kyiv reservoir (N Ukraine) and *C. scitulum* from Kyiv, Kanev reservoirs and middle Dnieper (N and central Ukraine).

261. Zograf, Yu. N. 1909. - K faune Odonata Donskoy oblasti (To Odonata fauna of Donskaya region). - Trudy stud. kruzhka issled. Russkoy prirody pri Moskovskom Universitete (Trans. stud. group of invest. of Russian nature of Moscow University) 4: 94-96. (in Russian)

This paper reviewed dragonflies collected by V. Trotsky in the Proval'sky army plant situated at the border of E Ukraine (Donets'k region) and Russia. Twenty Odonata species were found.

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