Russian Entomol. J. 22(4): 249–254

Additions to the dragonfly (Odonata) fauna of Armenia, with new records of rare or uncommon species

Дополнения к фауне стрекоз (Odonata) Армении, с новыми регистрациями редких или малочисленных видов

Vasil Yu. Ananian[1] & Marc Tailly[2]
В.Ю. Ананян[1], М. Тайлли[2]

[1] 179 Bashinjaghian Str., apt. 23, Yerevan 0078, Armenia. E-mail: gomphus@gmx.com
[1] Ул. Башинджагяна, д. 179, кв. 23, Ереван 0078, Армения.
[2] Hoonakkerdreef 35, 8791 Waregem, Belgium.

KEY WORDS: new records, novelties, rarities, distribution, Odonata, Armenia.
КЛЮЧЕВЫЕ СЛОВА: новые находки, новые виды, редкие виды, распространение, Odonata, Армения.

ABSTRACT: This review presents the results of the second phase of recent surveys of the dragonfly fauna and its distribution in Armenia, covering the period 2004–2012. Four species — *Coenagrion armatum*, *Cordulegaster vanbrinkae*, *Crocothemis servilia* and *Selysiothemis nigra* — were recorded for the first time in Armenia. Other annotated records deal with rare or uncommon species with sporadic finds in the country, and with rarities rediscovered since their last accounts half a century ago — *Lestes macrostigma*, *Gomphus schneiderii*, *Onychogomphus assimilis* and *Libellula pontica*. A few scarcely recorded commoner species are discussed as well.

РЕЗЮМЕ: В данном обзоре представлены результаты второго этапа современных исследований фауны и распространения стрекоз в Армении, относящиеся к периоду 2004–2012 гг. Четыре вида — *Coenagrion armatum*, *Cordulegaster vanbrinkae*, *Crocothemis servilia* и *Selysiothemis nigra* — были впервые зарегистрированы в фауне Армении. Другие аннотированные регистрации касаются редких или малочисленных видов со спорадичными находками, а так же редких видов, вновь обнаруженных спустя полвека после их последнего упоминания из Армении — *Lestes macrostigma*, *Gomphus schneiderii*, *Onychogomphus assimilis* и *Libellula pontica*. Обсуждаются некоторые не редкие, но нечасто регистрируемые виды.

Introduction

The latest review of the dragonfly fauna of Armenia [Tailly et al., 2004] exposed gaps present in knowledge of modern species diversity and distribution of Odonata in the country. Since that publication, data collection has continued, yet again on an irregular and opportunistic basis. Several hundred records were added to the existing database maintained by the authors, and additional records were submitted by visiting observers (Table 1). The record database and distribution data are accessible online through the Atlas of Armenian dragonflies (www.armenodon.org).

During the period of 2004–2012, surveys have covered the provinces of Armavir, Ararat, Gegharkunik, Vayots Dzor and Syunik better than the provinces of Shirak (except for Lake Arpi National Park), Kotayk, Lori and Tavush. Thus western, northern and northeastern parts of Armenia in general require more future attention of odonatologists, while highland wetlands throughout the country remain the least studied. The present paper summarises the results of the survey period and annotates selected finds.

Materials and methods

From 2004 onwards, over 900 records of 52 taxa were obtained. In the majority of cases the records represent field observations, when a specimen was identified through binoculars or netted, photographed, and released after identification. A small number of contributions were received as dragonfly photographs with dates and location. Dragonfly collections at the Institute of Zoology in Yerevan were reviewed to attempt to find possible unpublished specimen records. This paper deals with species new for the country, rare or uncommon species (with less than 6 previous records from Armenia) and, though not uncommon in the1940s–1960s, were lacking records since that period. Two unpublished records from 2003 are also presented in this paper.

For each record are listed: nearest settlement, habitat description and general locality (where available), geographic coordinates (in decimal degrees with accuracy of 0.1°), date, specimen collector, observer and/or

Table 1. New records of dragonflies from Armenia for the period of 2004–2012.
Таблица 1. Новые находки стрекоз из Армении за период 2004–2012 гг.

Contributor	Year(s)	Number of records	Number of species recorded
Ananian V.	2004–2012	663	50
Ferreira S.	2010, 2011	33	19
Vanermen N., Hantson S. & Verhelst B.	2004	24	20
Tabarroni A.	2004	20	15
Tailly M.*	2004, 2006, 2010	166	38

* including Tailly M. & Ananian V. in 2004 and 2010, and Tailly M. & Anselin A. in 2006.
* включая М. Тайлли и В. Ананян в 2004 и 2010, а так же М. Тайлли и А. Анселин в 2006.

photographer (leg.), specimen identifier (det., if different from leg.), collection and deposition of a specimen(s) of new, rare or uncommon species (coll., mostly in the authors' private collections).

Identification guides used included Askew [2004], Dijkstra and Lewington [2006], and Kalkman [2006]. Species' scientific names follow Kalkman [2006].

Results and discussion

Both of the *Sympecma* species were found to be common within their known ranges, which conforms to historical data on their relative abundance and distribution in Armenia [Akramowski, 1948]. The same applies to *Onychogomphus flexuosus*, *O. forcipatus* and *Caliaeshna microstigma*. The latter species was additionally recorded in the north-eastern and, in good numbers, in extreme south-eastern Armenia. In contrast, *Coenagrion lunulatum, Sympetrum pedemontanum* and *S. sanguineum* have been scarcely found, including in regions where they were documented to be common in the mid 20th century [Akramowski, 1948]. New locations quite remote from the known populations in the country were found for *Coenagrion pulchellum*, *C. scitulum*, *Platycnemis pennipes* and *Aeshna affinis*. No new finds of *A. serrata*, *Gomphus flavipes*, *Leucorrhinia pectoralis*, *Sympetrum danae* and *S. depressiusculum* have been made since the last records in Akramowski [1948, 1964].

Lestes macrostigma (Eversmann, 1836)

MATERIAL. Sis, flooded meadows near fish farming ponds (40.05N, 44.39E) 13.V.2006 leg. Ananian V.

New site for the species, where more than 40, mostly teneral, individuals were recorded.

Rare damselfly with only three old records from two locations in southern and south-eastern Armenia [Akramowski, 1948, 1964].

Lestes virens (Charpentier, 1825)

MATERIAL. Khndzoresk (39.51N, 46.44E) 08.V.year unknown; leg. unknown; det. Ananian V.; Stepanavan (41.01N, 44.38E) 21.VII.10 leg. Kalashian M.; det. Ananian V.

This damselfly still remains rarely recorded, despite being listed by N.N. Akramowski as a "common species in northern Armenia, decreasing in numbers towards the south". Only three previous records were available from the country, with one modern [Akramowski, 1948 Tailly et al., 2004].

Sympecma fusca (Vander Linden, 1820)

MATERIAL. Karmrakar, mature broadleaf woodland (39.31N, 46.47E) 9.VII.2006 leg. Ananian V.; Geghanush (39.17N, 46.42E) 28.VI.2007 leg. Kalashian M.; det. Ananian V.; Shahumyan (40.78N, 44.55E) 1.VIII.2007 leg. Kalashian M.; det. Ananian V.; Jujevan, broadleaf woodland (41.14N, 44.99E) 3.VI.2008 leg. Aghababyan K.; det. Ananian V.; Alvank, bushes along rivulet in an arid gorge (38.95N, 46.35E) 13.VI.2009, 15.VII.2009, 10.VII.2010 leg. Ananian V.; Meghri, orchards (38.90N, 46.25E) 15.VI.2009, 15–17.VII.2009 leg. Ananian V.; Lehvaz, shallow river in a broadleaf woodland (38.94N, 46.20E) 15.VI.2009 leg. Ananian V.; Acharkut, broadleaf woodland c.3km SW of the village (41.03N, 45.05E) 22.VI.2009 leg. Ananian V.; Vorotan, broadleaf woodland c.2,5km south of the village (39.41N, 46.38E) 04.VI.2010, 14.VII.2010 leg. Ananian V.; Kuris, degraded woodland (38.93N, 46.18E) 07.VII.2010 leg. Ananian V.; Vank, broadleaf woodland (39.05N, 46.25E) 10.VII.2010 leg. Ananian V.; Gyumorants, broadleaf woodland (38.99N, 46.38E) 11.VII.2010 leg. Ananian V.; Hamletavan, broadleaf woodland (39.22N, 46.31E) 12.VII.2010 leg. Ananian V.; Verin Khotanan, broadleaf woodland (39.33N, 46.36E) 13.VII.2010 leg. Ananian V.; Antarashat, broadleaf woodland (39.31N, 46.34E) 13.VII.2010 leg. Ananian V.; Vanek, broadleaf woodland (39.29N, 46.34E) 13.VII.2010 leg. Ananian V.; Lichk, Syunik province (39.06N, 46.17E) 14.VIII.2010 leg. Tailly M.; Alvank, small rivulet (38.95N, 46.35E) 14.VIII.2010 leg. Tailly M.; Davit Bek (39.32N, 46.49E) 15.VIII.2010 leg. Tailly M.; Tsav (39.05N, 46.42E) 15.VIII.2010 leg. Tailly M.; Gudemnis (38.94N, 46.18E) 4.X.2011 leg. Dantchenko A.; det. Ananian V.; Tsav (39.05N, 46.42E) 4.X.2011 leg. Dantchenko A.; det. Ananian V.

This damselfly was surprisingly missed by Tailly *et al*. [2004], despite being very common and locally abundant at all localities above.

Sympecma paedisca (Brauer, 1887)

MATERIAL. Armash, reed beds on solonchaks in a fish farm (39.75N, 44.78E) 25.III.2004, 27.IV.2004, 17.IV.2006 leg. Ananian V.; Arpi (39.74N, 45.26E), 17.VII.2004 leg. Tailly M. & Ananian V.; Surenavan, xerophytic shrubs near Uranots place (39.82N, 44.84E) 3.XI.2005 leg. Ananian V.; Gorovan, sandy semi-desert (39.90N, 44.74E) 04.XI.2005 leg. Ananian V.; Khosrov State Reserve, arid rocky gorge in juniper woodland (40.00N, 44.91E) 1.VIII.2006 leg. Ananian V.; Agarakadzor, c.4km south of the village (39.70N, 45.35E) 6.X.2011 leg. Khanamiryan, G; det. Ananian V.

This damselfly was not recorded during 1998–2003 surveys [Tailly *et al*., 2004]. New records show that the species is on the wing from late March until early November.

Coenagrion armatum (Charpentier, 1840)

MATERIAL. Garnarich (41.08N, 43.60E) 14.VII.2006 leg. Tailly M. & Anselin, A.; coll: Tailly M.

New to Armenia. The species was long expected to be found in highland steppes of north-western Armenia, as it was known from the same general area on the Georgian side of the border [Akramowski, 1948 Bartenev, 1909]. In 2006 a single

male was collected on the western shore of Lake Arpi [Tailly *et al*., in prep.]. A number of subsequent visits by V. Ananian to the site and other wetlands in the area (June 2007, July 2008 July 2011) have not produced any additional records.

Coenagrion lunulatum (Charpentier, 1840)

MATERIAL. Hankavan, ponds and marshes in the Marmarik River valley (40.64N, 44.48E) 16.VI.2003 leg. Tailly M. & Ananian V.; Tsovagyugh, meadows in the Dzknaget River valley (40.62N, 44.94E) 3.VII.2005 leg. Ananian V.; Garnarich (41.08N, 43.60E) 14.VII.2006 leg. Tailly M. & Anselin A.; coll: Tailly M.

Stated to be "very common" in the highland steppes of Armenia [Akramowski, 1948]. However, since then, we have found this damselfly only on three occasions. All of the new records come from the known range of the species in the country.

Coenagrion pulchellum (Vander Linden, 1825)

MATERIAL. Lichk, à river, Lake Sevan basin (40.17N, 45.25E) 17.VII.2004 leg. Tailly M & Ananian V.; Tsovazard, north-western shore of Lake Sevan (40.48N, 45.05E) 17.VII.2004 leg. Tailly, M & Ananian V.; Garnarich (41.08N, 43.60E) 14.VII.2006 leg. Tailly M. & Anselin, A.; coll: Tailly M.; Nerkin Getashen, flooded woodland in Argichi River delta, Lake Sevan basin (40.17N, 45.28E) 22.VI.2008 leg. Ananian V.; Hayravank (40.43N, 45.11E) 1.VII.2010 leg. Ferreira, S.; Garnarich, flooded meadows at the shore of Lake Arpi (41.08N, 43.60E) 4.VII.2008, 16.VII.2011 leg. Ananian V.; Shaghik, wet meadows at the shore of Lake Arpi (41.05N, 43.59E) 16.VII.2011 leg. Ananian V.; Gosh, stand of Horsetail at the Gosh Lake shore (40.72N, 45.02E) 30.VIII.2012 leg. Ananian V.

This damselfly was missed during 1998–2003 surveys [Tailly *et al*., 2004]. Now known from north-western Armenia and the Lake Sevan basin. Usually found in small numbers of up to15–20 individuals. A rare species previously known from a few old records from one location in the north-east of the country [Akramowski, 1948].

Coenagrion scitulum (Rambur, 1842)

MATERIAL. Shvanidzor, a shallow seasonal pool in an arid gorge (38.94N, 46.37E) 28.V.2010 leg. Ananian V.; Vernashen, small dam in an arid gorge (39.80N, 45.36E) 21.VII.2011 leg. Ananian V.

The species was discovered in Armenia only in 2003 and was known from a single site in the extreme south-east of the country [Tailly et al., 2004]. Found in small temporary to permanent standing water bodies in arid gorges at elevations between 610m and 1610m a.s.l. (Fig. 1).

Erythromma lindenii (Selys, 1840)

MATERIAL. Noramarg, Hrazdan River (40.02N, 44.34E) 11.VI.2012 leg. Ananian V.

New location for this rare damselfly. Was first recorded in 2003 and only known from a single specimen [Tailly *et al*., 2004] (Fig. 2).

Platycnemis pennipes (Pallas, 1771)

MATERIAL. Sarigyugh (41.03N, 45.14E) 3.VI.2008 leg. Aghababyan K.; det. Ananian V.; Apnagyugh, pond and rivulet on Apnaget River (40.44N, 44.39E) 19.VIII.2010 leg. Tailly M. & Ananian V.

Rare species with localized distribution. Was previously known from two localities on Hrazdan River in central Armenia [Akramowski, 1964 Tailly *et al*., 2004]. Now known also from Kasakh and Aghstev rivers' basins.

Aeshna affinis Vander Linden, 1820

MATERIAL. Vorotan, broadleaf woodland (39.41N, 46.38E) 5.VI.2010 leg. Ananian V.

Mentioned as "rare" by Akramowski [1948] and previously known from only five records (including one recent) from four localities, all of them north of 40°N. Now also known from south-eastern Armenia and was recently also recorded from Nagorno-Karabakh (M. Tailly and A. Anselin, pers. obs. 2006).

Aeshna cyanea (Müller, 1764)

MATERIAL. Dsegh, Tsover Lake (40.95N, 44.68E) 13.X.2002 leg. Pipoyan, S.; det. Ananian V.; Gosh, stand of Bullrush and Willow at the Gosh Lake shore (40.72N, 45.02E) 30.VIII.2012 leg. Ananian V.

In Armenia *A. cyanea* was previously known from a single old record at a lake in broadleaf forest in the north-east of the country [Akramowski 1964]. An egg depositing female was photographed at Lake Tsover in 2010, and one or two individuals were observed two years later at another lake *c*.6km south-east from the historical location.

Caliaeshna microstigma (Schneider, 1845)

MATERIAL. Goght, river valley (40.14N, 44.78E) 16.VII.2004 leg. Vanermen N., Hantson S. & Verhelst B.; Nrnadzor, small spring in an arid gorge (39.91N, 46.46E) 10.VII.2005 leg. Ananian V.; Amaghu, Zangazur gorge (39.72N, 45.20E) 18.VI.2006 leg. Ana-

Fig. 1. *Coenagrion scitulum* pair, 14 June 2003, Alvank, Syunik province, Armenia. © Marc Tailly.

Рис. 1. Пара *Coenagrion scitulum*, 14 июня 2003 г., с. Алванк, Сюникская область, Армения. © Марк Тайлли.

Fig. 2. *Erythromma lindenii* male, 11 June 2012, Noramarg, Ararat province, Armenia. © Vasil Ananian.

Рис. 2. Самец *Erythromma lindenii*, 11 июня 2012 г., с. Норамарг, Араратская область, Армения. © Василь Ананян.

nian V.; Lehvaz, shallow river in a broadleaf woodland (38.94N, 46.20E) 9.VI.2009, 15.VI.2009 leg. Ananian V.; Meghri, orchards with small brooks (38.90N, 46.25E) 10.VI.2009 leg. Ananian V.; Alvank, rivulet in an arid gorge (38.95N, 46.35E) 12.VI.2009, 10.VII.2010 leg. Ananian V.; Shvanidzor, dry river bed in orchards (38.93N, 46.37E) 14.VI.2009 leg. Ananian V.; Acharkut, river in a broadleaf woodland c.3km SW of the village (41.03N, 45.05E) 22.VI.2009 leg. Ananian V.; Vardanidzor, juniper woodland (38.97N, 46.21E) 15.VII.2009 leg. Ananian V.; Areni, shallow stream in an arid valley (39.73N, 45.18E) 21.VII.2011 leg. Ananian V.; Vernashen, brook in an arid gorge (39.80N, 45.36E) 21.VII.2011 leg. Ananian V.; Agarakadzor, Grav River (39.71N, 45.35E) 21.VII.2011 leg. Ananian V.

Apparently not uncommon, especially in arid gorges of south-eastern Armenia, but was somehow missed during the 1998–2003 surveys [Tailly et al., 2004]. Associations of *c*.15 or more individuals were recorded on shaded paths in Alvank village (Syunik province) and along the Grav River (Vayots Dzor province).

Gomphus schneiderii Selys, 1850

MATERIAL. Meghri, orchards (38.90N, 46.25E) 07.VII.2006 leg. Kalashian M.; det. Ananian V.; Meghri, orchards with small brooks (38.90N, 46.25E) 10.VI.2009, 15.VI.2009, 14.VII.2009, 17.VII.2009, 29.V.2010, 30.V.2010, 8.VII.2010 leg. Ananian V.; Shvanidzor, orchards (38.93N, 46.37E) 14.VI.2009 leg. Ananian V.; Lehvaz, shallow river in a broadleaf woodland (38.94N, 46.20E) 15.VI.2009 leg. Ananian V.; Alvank, rivulet in an arid gorge (38.95N, 46.35E) 15.VII.2009, 10.VII.2010 leg. Ananian V.; Yenokavan, Khachaghbyur River gorge (40.90N, 45.12E) 06.VII.2011 leg. Ananian V.

Latest records of this dragonfly from Armenia were by Akramowski [1948], who presented only four July findings and listed the species as "rare". Now also known from north-eastern Armenia.

Onychogomphus assimilis (Schneider, 1845)

MATERIAL. Shvanidzor, seasonal rivulet in orchards (38.93N, 46.37E) 31.V.2010 leg. Ananian V.; Meghri, orchards with small brooks (38.90N, 46.25E) 31.V.2010 leg. Ananian V.; Kapan, rivulet in orchards (39.21N, 46.41E) 03.VI.2010 leg. Ananian V.; Yenokavan, Khachaghbyur River gorge (40.90N, 45.12E) 6.VII.2011 leg. Ananian V.

Latest records of *O. assimilis* from Armenia were by Akramowski [1948, 1958]. This rare and localized species was found at four new sites in north-eastern and south-eastern Armenia [Ananian, 2012]. Was recently also claimed from Nagorno-Karabakh [Sónia Ferreira, pers. comm. 2012].

Onychogomphus flexuosus (Schneider, 1845)

MATERIAL. Meghri railway station, arid rocky gorge (38.90N, 46.27E) 9.VI.2004, 9.VII.2010 leg. Ananian V.; Meghri (38.90N, 46.25E) 7.VI.2006 leg. Kalashian M.; det. Ananian V.; Nerkin Hand, Platanus nursery near river (39.06N, 46.52E) 31.V.2006 leg. Ananian V.; Alvank, arid rocky slope (38.95N, 46.35E) 12.VI.2009, 15.VII.2009, 11.VII.2010 leg. Ananian V.; Shvanidzor, along dirt and asphalt roads (38.93N, 46.37E) 13.VI.2009, 15.VII.2009 leg. Ananian V.; Meghri, orchards (38.90N, 46.25E) 14–17.VII.2009 leg. Ananian V.; Karchevan, arid rocky slopes (38.90N, 46.18E) 15.VII.2009 leg. Ananian V.; Meghri (38.90N, 46.25E) 26.VI.2010. leg. Aghababyan K.; det. Ananian V.

The species is not uncommon in Armenia [Akramowski, 1948], but had been missed during the 1998–2003 surveys [Tailly et al., 2004]. All recent records are from south-eastern Armenia only.

Onychogomphus forcipatus (Linnaeus, 1758)

MATERIAL. Khosrov State Reserve (40.00N, 44.91E) 08.VII.2004 leg. Dantchenko A.; det. Ananian V.; Arpi, irrigation canal near the Arpa River (39.74N, 45.26E), 08.VII.2006 leg. Tailly M. & Anselin, A.; Meghri, orchards with small brooks (38.90N, 46.25E) 10.VI.2009, 16.VII.2009, 7.VII.2010 leg. Ananian V.; Shvanidzor, dry river bed in orchards (38.93N, 46.37E) 15.VII.2009 leg. Ananian V.; Lehvaz, river in broadleaf woodland (38.94N, 46.20E) 15.VI.2009 leg. Ananian V.; Alvank, arid rocky slope (38.95N, 46.35E) 10.VII.2010 leg. Ananian V.; Shatin, Yeghegis River (39.82N, 45.30E) 21.VII.2011 leg. Ananian V.; Vernashen, brook in an arid gorge (39.80N, 45.36E) 21.VII.2011 leg. Ananian V.; Agarakadzor, Grav River (39.71N, 45.35E) 21.VII.2011 leg. Ananian V.; Vaik, river near crossroad to Zaritap (39.67N, 45.51E) 21.VII.2011 leg. Ananian V.; Vaik, c.5km east near the confluence of Herher and Arpa rivers (39.69N, 45.52E) leg. Ananian V.

The species is not uncommon in southern and south-eastern Armenia [Akramowski, 1948], but was missed during the 1998–2003 surveys [Tailly et al., 2004]. Found in good numbers, 25 males per 500m transect and 8 males per 250m transect respectively, in Vayots Dzor province near Agarakadzor and Vernashen [V. Ananian, pers. obs. 2011]. Akramowski [1948] stated that in "Armenia and neighboring countries" two subspecies of *O. forcipatus* occur — nominate *O. f. forcipatus* (Linnaeus, 1758) distributed to the north of Kura River, and *O. f. unguiculatus* (Vander Linden, 1820) to the south of that river. Recent studies [Boudot et al., 1990 Dumont et al., 1992] showed that *O. f. unguiculatus* is confined to the western Mediterranean basin, while Asia Minor and south-west Turkmenistan are inhabited by *O. f. albotibialis* Schmidt, 1954. Our specimens from south-eastern Armenia exhibit field characteristics of the latter race as detailed in Dijkstra and Lewington [2006].

Cordulegaster vanbrinkae Lohmann, 1993

MATERIAL. Verin Khotanan, brook in broadleaf woodland (39.33N. 46.37E) 13.VII.2010 leg. Ananian V.; det. Boudot, J-P.; coll: Naturalis museum (3 ex.), Tailly M. (1 ex), Ananian V. (1 ex.).; Vorotan, broadleaf woodland (39.41N, 46.38E) 14.VII.2010 leg. Ananian V.

Discovered in Armenia in 2010 at two neighboring localities in the south-east of the country [Ananian & Tailly, 2012]. No new records available since.

Crocothemis servilia (Drury, 1773)

MATERIAL. Meghri, pond near the Araks River (38.89N, 46.26E) 18.VIII.2004 leg. Tabarroni, A.; coll: Tabarroni, A.; Meghri, pond near the Araks River (38.89N, 46.26E) 14.VIII.2010 leg. Tailly M.; coll: Tailly M.

Single males captured in 2004 [Tailly & Tabarroni, 2006] and 2010 on a pond near the town of Meghri represent the only records of the species from Armenia (Fig. 3). Remains overlooked due to the similarity with *C. erythraea* with which

Fig. 3. *Crocothemis servilia* male, 14 August 2010, Meghri, Syunik province, Armenia. © Marc Tailly.

Рис. 3. Самец *Crocothemis servilia*, 14 августа 2010 г., Мегри, Сюникская область, Армения. © Марк Тайлли.

it is found sympatrically in extreme south-eastern Armenia. Sympatric occurrence of the two species was also reported from southern Turkey [Dijkstra & Kalkman, 2001].

Libellula pontica Selys, 1887

MATERIAL. Arevik, flooded meadows around drainage ponds (40.10N, 44.09E) 3.VI.2011 leg. Ananian V.; Janfida, flooded meadows around drainage ponds (40.04N, 44.02E) 3.VI.2011 leg. Ananian V.

Only one, old, record of this rare dragonfly existed previously [Akramowski, 1964]. Two specimens were recorded at two new sites in the Arax River valley [Ananian, 2012].

Orthetrum sabina (Drury, 1773)

MATERIAL. Meghri, pond near the Araks River (38.89N, 46.26E) 18.VIII.2004 leg. Tabarroni, A.; Meghri railway station, artificial pool in an arid rocky gorge (38.90N, 46.27E) 10.VII.2010 leg. Ananian V.; Meghri, pond near the Araks River (38.89N, 46.26E) 14.VIII.2010 leg. Tailly M.

Discovered in Armenia only in 2003 and was known by two records [Tailly et al., 2004]. The new records come from the same general locality in the extreme south-east of the country (Fig. 4).

Selysiothemis nigra (Vander Linden, 1825)

MATERIAL. Jrarat, semidesert near artificial drainage lake (40.08N, 44.25E) 7.VI.2006 leg. Ananian V.; Meghri, pond near the Araks River (38.89N, 46.26E) 31.VII.2006 leg. Ananian V.; Yeraskhahun, pepper field (40.07N, 44.21E) 31.V.2012 leg. Ananian V.

New to Armenia. Near the villages of Jrarat and Yeraskhahun single males were collected, an adult and a teneral respectively (Fig. 5). At the Meghri pond, adult individuals were present with *c*.4–6 males and *c*.2–4 females. All records come from semidesert transformed into agricultural land or badlands. In Armenia found between 520m and 840m a.s.l.

Sympetrum pedemontanum (Müller in Allioni, 1766)

MATERIAL. Arazap, irrigation canal (40.04N, 44.14E) 20.VI.2003 leg. Tailly M. & Ananian V.; Yeraskhahun, drainage pools in arable land (40.07N, 44.21E) 11.VI.2011, 4.VII.2012 leg. Ananian V.

Previously recorded from various locations in northern, east central and south-eastern provinces of Armenia, where said to be not uncommon [Akramowski, 1948]. Since that report, we have found the species only in one general locality, in southern Armenia.

Sympetrum sanguineum (Müller, 1764)

MATERIAL. Arpi (39.74N, 45.26E), 17.VII.2004 leg. Tailly M. & Ananian V.; Tkhkut (38.99N, 46.21E), 18.VIII.2004 leg. Tabarroni, A.; Meghri, small pond in orchards (38.90N, 46.25E) 17.VII.2009 leg. Ananian V.; Kuchak (40.52N, 44.39E) 19.VIII.2010 leg. Tailly M. & Ananian V., coll: Tailly M.; Ijevan, near Ijevan reservoir (40.85N, 45.12E) 6.VII.2011 leg. Ananian V.; Yenokavan, lake in broadleaf woodland (40.91N, 45.10E) 06.VII.2011 leg. Ananian V.; Pkhrut, grassy field near broadleaf woodland (39.13N, 46.23E) 19.VII.2011 leg. Kalashian M.; det. Ananian V.; Gosh, stand of Bulrush at the Gosh Lake shore (40.72N, 45.02E) 30.VIII.2012 leg. Ananian V.

According to Akramowski [1948], common throughout most of central, southern and eastern Armenia. However, the dragonfly was not found by Tailly et al. [2004], and the few recent records (with the exception of two) all come from north-eastern and south-eastern provinces. Akramowski [1948] lists two subspecies occurring in Armenia — the nominate *S. s. sanguineum* (Müller, 1764) and *S. s. armeniacum* (Selys, 1884). The subspecific identity of our specimens was not assessed.

ACKNOWLEDGEMENTS. We would like to thank all who contributed their records, photographs or collected specimens for our study — Anny Anselin, Acopian Center for the Environment (American University of Armenia), Sonia Ferreira, Mark Kalashian, Samvel Pipoyan, Alessandro Tabarroni, Nicolas Vanermen, Stijn Hantson and Brecht Verhelst. M. Kalashian and Andrei Kandaurov helped to locate some hard-to-find publications on the Odonatofauna of the Caucasus. Margarita Marjanyan and Laura Harutyunyan kindly arranged our access to the dragonfly collections of N.N. Akramowski at the Institute of Zoology in Yerevan. Zhanna Galyan kindly invited V. Ananian on her trips and tolerated excessive dragonfly stops. M. Tailly would like to thank Arsen Hovhanisian for accompanying him on many of his trips. We thank Stijn Tailly and Peter Cowan for improving the English of this paper.

References

Akramowski N.N. 1948. [The dragonfly fauna of Soviet Armenia]. // Zoologicheskij Sbornik Akademii Nauk Armyanskoj SSR. Vol.5. P.117–188 [in Russian].

Fig. 4. *Orthetrum sabina* male, 14 August 2010, Meghri, Syunik province, Armenia. © Marc Tailly.

Рис. 4. Самец *Orthetrum sabina*, 14 августа 2010 г., г. Мегри, Сюникская область, Армения. © Марк Тайлли.

Fig. 5. *Selysiothemis nigra* male, 7 June 2006, Jrarat, Armavir province, Armenia. © Vasil Ananian.

Рис. 5. Самец *Selysiothemis nigra*, 7 июня 2006 г., с. Джрарат, Армавирская область, Армения. © Василь Ананян.

Akramowski N.N. 1958. [Larva of the dragonfly *Onychogomphus flexuosus* (Schneider (Ins. Odonata Gomphidae)] // Izvestiya Akademii Nauk Armyanskoj SSR. Vol.11. No.5. P.87–90 [in Russian].

Akramowski N.N. 1964. [Additions to the dragonfly fauna of eastern Transcaucasus (Insecta, Odonata)] // Izvestiya Akademii Nauk Armyanskoj SSR. Vol.17. No.10. P.99–101 [in Russian].

Ananian V. 2012. New finds of 'critical' species of Odonata in Armenia — *Onychogomphus assimilis* and *Libellula pontica* // Brachytron. Vol.15. No.1. P.36–42.

Ananian V. & Tailly M. 2012. *Cordulegaster vanbrinkae* Lohmann, 1993 (Odonata: Anisoptera) discovered in Armenia // International Dragonfly Fund. Rep.46. P.1–11.

Askew R.R. 2004. The Dragonflies of Europe (revised edition) // Colchester: Harley Books. 308 p.

Bartenef A.N. 1909. [Odonata from the Kars excursion] // Trudy studencheskogo kruzhka dlya issledovaniya Russkoj prirody, sostoyaschego pri Moskovskom Imperatorskom Universitete. No.4. P.63–75 [in Russian].

Boudot J.-P., Jacquemin G. & Dumont H.J. 1990. Revision of the subspecies of *Onychogomphus forcipatus* (Linnaeus, 1758) in Europa and Asia Minor, and the distribution of *Onychogomphus forcipatus unguiculatus* (Vander Linden, 1823) (Odonata: Gomphidae) // Bulletin et Annales de la Société Royale Belge d´Entomologie. Vol.126. P.95–111.

Dijkstra K.-D.B. & Kalkman V.J. 2001. Early spring records of dragonflies from southern Turkey, with special reference to the sympatric occurrence of *Crocothemis erythraea* (Brullé, 1832) and *C. servilia* (Drury, 1773) (Anisoptera: Libellulidae) // Notulae odonatologicae. Vol.5. No.7. P.85–88.

Dijkstra K.-D.B. & Lewington R. 2006. Field Guide to the Dragonflies of Britain and Europe // Gillingham: British Wildlife Publishing. 320 p.

Dumont H.J., Haritinov A.Y. & Borisov S.N. 1992. Larval morphology and range of three West Asiatic species of the genus *Onychogomphus* Selys, 1854 (Insecta: Odonata) // Hydrobiologia. No.245. P.169–177.

Kalkman V.J. 2006. Key to the dragonflies of Turkey, including species known from Greece, Bulgaria, Lebanon, Syria, the Trans-Caucasus and Iran // Brachytron. Vol.10. No.1. P.3–82.

Tailly M. & Ananian V. (ver.2004). "Preliminary Checklist and Atlas of Armenian dragonflies". http://www.armenodon.org/

Tailly M., Ananian V. & Dumont H.J. 2004. Recent dragonfly observations in Armenia, with an updated checklist // Zoology in the Middle East. Vol.31. P.93–102.

Tailly M., Anselin A. & Ananian V. (in prep). *Coenagrion armatum* (Charpentier 1840) new to Armenia.

Tailly M. & Tabarroni A. 2006. *Crocothemis servilia* (Dru.) added to the Armenian fauna and new records of *Lindenia tetraphylla* (Vander L.) and *Selysiothemis nigra* (Vander L.) from Azerbaijan (Anisoptera: Gomphidae, Libellulidae) // Notulae Odonatologicae. Vol.6. No.8. P.81–96.