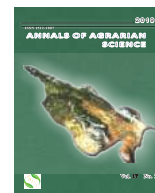




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Third contribution to the sawflies (Hymenoptera: Symphyta) of Kintrishi Nature Reserve (Georgia, Sakartvelo) (Part III)

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ABSTRACT

2 482 specimen belonging to 89 sawflies species are listed from the 1 264 m altitude of Kintrishi National Park. Characteristic species are: *Onycholyda trigaria* (Konow, 1897), *Birka catellata* (Konow, 1900), *Strongylogaster caucasica* Schaposchnikov, 1885, *Euto-mostethus ephippium* ssp. *vopiscus* (Konow, 1899), *Macrophya hamata* ssp. *caucasica* Muche, 1969, *Sciapteryx byzantina* Benson, 1968, *Tenthredo albopicta* Puls, 1870, *Tenthredo purpurea* Puls, 1870, *Tenthredo radoszkowskii* (André, 1881), *Tenthredo shaposhnikovii* (Dovnar-Zapolskij, 1930), *Tenthredo talyshensis* Zhelochovtsev, 1988 and *Tenthredopsis viridis* Zhelochovtsev, 1941. Zoogeographic distributions of sawflies were analyzed and discussed. The known number of sawflies increased up to 142 in Kintrishi National Park. Twenty species are new records for the fauna of Georgia. Six genera *Periclista* Konow, 1886, *Amauronematus* Konow, 1890, *Eupontania* Zinovjev, 1985, *Euura* Newman, 1837, *Phyllocolpa* Benson, 1960 and *Pontania* Costa, 1852.

Key words: Sawflies, Sakartvelo, Georgia, Caucasus, Kintrishi National Park Hymenoptera, Symphyta, nature conservation, new records

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Introduction

Our present paper is the third part [1,2] of a series to investigate the sawfly (Hymenoptera: Symphyta) fauna of Kintrishi National Park. In the first paper [1], we studied the fauna of the lower altitudes, in the second part, the high altitudes [2] and in the present part that altitude of Kintrishi Nat. Res. where the most diverse sawfly fauna was detected.

Methods and material

The sawfly material was collected by using Malaise traps located at 1264 m altitude above sea level, at coordinates: N 41°44'38.8824; E 42°5'0.2904 (approximately 6.03 km E of Didvake village).

These altitudes (1, 264 above sea level) is the zone from the low subalpine Colchis mixed forest belt with dominance of beech (*Fagus orientalis*) and spruce (*Picea orientalis*). Other plants distributed in this altitude are *Castanea sativa*, *Carpinus caucasica*, *Tilia caucasica*, *Rhododendron ponticum*, *Rh. luteum*, *Rh. unguernii*, *Rh. caucasicum*, *Vaccinium arctostaphylos*, *Alnus barbata*, *Rumex* spp., *Polystichum* spp. and others (Figs 1 and 2). The average temperature is 8.5-9 °C. The coldest month is January - with an average temperature of 0.5 °C. The absolute minimum temperature ranges from -16-17 °C. The warmest month is August, with an average temperature of 15-15.5 °C. The annual amount of precipitation is 3 000 mm.

A Malais trap (Fig.3) was used to sample sawflies and was in operation from 20 April to 21 September 2018. The trap were checked in every 12-17 days and insects were removed. The material was preserved in alcohol, later, in 2022, the sawflies were mounted and genitalia were dissected for further identification. The following keys were used for species identification: Zhelochovtsev's work [3] on the sawflies of the European part of the former USSR, Lacourt's manual [4] on the identification of European sawflies, Robert Benson's monograph [5] on the Turkish sawfly fauna, Gussakovsky's monographs [6,7] on the Symphyta of the former USSR and the latest monograph on Czech and Slovakian sawflies [8]. We also used some recent revisions and works to make the identifications and biological data even more accurate [9,10,11,12,13]. Voucher specimens are deposited in the entomological collection of the Institute of Entomology of the Agricultural University of Georgia. For the discussion of the distribution of sawflies, we have consulted Roller and Haris entitled Sawflies of the Carpathian Basin, History and Current Research [14] the most recent European checklist of species [15] and the monograph by Sundukov [16] on the sawflies of Russia. The nomenclature used in this article, follows the latest monograph of the European sawflies [4] with special attention to the subfamily Nematinae and corrects the conclusions of Prous et al. [17]. New country records are indicated with an asterisk. The higher classification of sawflies used in this paper follows the Hymenoptera section of Fauna Europaea [18]. For host plant records books and papers of Macek et al. [8] and Martynov et al. [19] were consulted.

List of species

Family - Argidae

Genus *Arge* Schrank, 1802

1. *Arge berberidis* Schrank, 1802: 01-15. 06. 2018, 1 male. Frequent. Larva on *Berberis* and *Mahonia* spp. Palaearctic.

2. *A. cyanocrocea* (Forster, 1771): 20. 04. - 05. 05. 2016, 7 males, 05-20. 05. 2018, 1 female, 19 males, 01-15. 06. 2018, 7 males, 15-29. 06. 2018, 3 males, 29. 06. - 13. 07. 2018, 2 males, 13-27. 07. 2018, 1 female, 13 males. (This colour variation, formerly classified as *Arge syriaca* (Mocsáry, 1880)). Common, West Palaearctic species. Known host plants: *Rubus idaeus* and *Sanguisorba officinalis*.

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3. *A. fuscipes* (Fallén, 1808): 20. 05. - 01. 06. 2018, 1 female, 01-15. 06. 2018, 1 female. Sporadic, Palaearctic species. Host plants: *Betula* spp. and *Salix caprea*.

Genus *Sterictiphora*

4. *Sterictiphora longicornis* Chevin, 1982: 20. 04. - 05. 05. 2016, 1 female. Sporadic. Host plant: *Carpinus betulus*. Adults associated with *Prunus spinosa*. West Palaearctic species

Family - Cephidae

Genus *Cephus* Latreille, 1803

5. *Cephus spinipes* (Panzer, 1800): 05-20. 05. 2018, 2 females. Frequent. Host plant: *Phleum pratense*. Palaearctic.

Genus *Janus* Stephens, 1829

6. *Janus luteipes* (Lepeletier, 1823): 20. 05. - 01. 06. 2018, 1 female. Host plants: *Salix*, *Populus* and *Viburnum* spp. Sporadic, Palaearctic species.

Family - Orussidae

Genus *Orussus* Latreille, 1797

7. *Orussus abietinus* (Scopoli, 1763): 20. 04. - 05. 05. 2016, 1 male. Sporadic, Palaearctic species. Parasitoid of *Semanotus unduatus* L.

Family - Pamphiliidae

Genus *Onycholyda* Takeuchi, 1938

8. *Onycholyda trigaria* (Konow, 1897): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 female, 7 males, 20. 05. - 01. 06. 2018, 1 female, 2 males. Frequent, Ponto-Caspian-Iranian species. Hostplant unknown.

Genus *Pamphilius* Latreille, 1803

9. *Pamphilius ignymontiensis* Lacourt, 1973: 05-20. 05. 2018, 2 males. Sporadic. Known host plants: *Acer platanoides* and *A. campestre*. West Palaearctic species.

10. *Pamphilius sylvaticus* (Linné, 1758): 20. 04. - 05. 05. 2016, 1 male, 20. 05. - 01. 06. 2018, 2 females. One of the most frequent sawfly species. Host plants: *Sorbus aucupariae*, *Malus* spp., *Prunus* spp. and *Crataegus* spp. West Palaearctic species.

Family - Tenthredinidae

Subfamily - Dolerinae

Genus *Dolerus* Jurine, 1807

11. *Dolerus (Dicrodolerus) vestigialis* (Klug, 1818): 05-20. 05. 2018, 1 female, 20. 05. - 01. 06. 2018, 1 female, 01-15. 06. 2018, 1 female. Common, Palearctic species. Host plants: *Equisetum palustre*, *E. sylvaticum*, *E. arvense* and *E. pratense*.

Subfamily - Selandrinae

Genus *Aneugmenus* Hartig, 1837

12. *Aneugmenus coronatus* (Klug, 1818): 20. 04. - 05. 05. 2016, 1 female, 05-20. 05. 2018, 10 females, 20. 05. - 01. 06. 2018, 5 females, 01-15. 06. 2018, 9 females, 1 male, 15-29. 06. 2018, 8 females, 29. 06. - 13. 07. 2018, 4 males, 13-27. 07. 2018, 4 females, 27. 07. - 20. 08. 2018, 1 female, 20. 08. - 07. 09. 2018, 1 female. Sporadic, Palearctic species. Larva on *Dryopteris filix-mas*, *Aspidium* sp., *Athyrium filix-femina* and *Pteridium aquilinum*.

13. *Aneugmenus padi* (Linné, 1760): 01-15. 06. 2018, 6 females, 69. 15-29. 06. 2018, 1 female. Host plants: *Asplenium* sp. and *Pteridium aquilinum*. Sporadic. West Palearctic species; introduced to North America.

Genus *Birka* Malaise, 1944

14. *Birka (Birka) catellata* (Konow, 1900): 20. 04. - 05. 05. 2016, 1 female, 42 males, 05-20. 05. 2018, 2 females, 47 males, 20. 05. - 01. 06. 2018, 4 males, 01-15. 06. 2018, 14 males, 15-29. 06. 2018, 17 males, 13-27. 07. 2018, 3 females, 23 males, 29. 06. - 13. 07. 2018, 6 females, 20 males, 27. 07. - 20. 08. 2018, 1 female, 4 males, 20. 08. - 07. 09. 2018, 1 female. Ponto-Caspian and Turanian. Common species. Hostplant unknown.

15. *B. (Birka) cinereipes* (Klug, 1816): 20. 04. - 05. 05. 2016, 2 males. Frequent. Host plants: *Brachytecium reflexum*, *Ceratodon purpureus*, *Chenopodium album*, *Dicranum scoparium*, *Fragaria vesca*, *Hedwigia ciliata*, *Myosotis arvensis*, *Plagiomnium cuspidatum*, *Plagiothecium denticulatum*, *Polygonum aviculare*, *Polytrichum commune*, *Pseudobryum cinclidiodes*, *Sanionia uncinata*, *Stellaria media*, *Veronica chamaedrys* and *V. officinalis*. Holarctic.

Genus *Nesoselandria* Rohwer, 1910

16. *Nesoselandria morio* (Fabricius, 1781): 05-20. 05. 2018, 1 female. Frequent. Host plants: *Brachytecium reflexum*, *Ceratodon purpureus*, *Chenopodium album*, *Dicranum scoparium*, *Fragaria vesca*, *Hedwigia ciliata*, *Myosotis arvensis*, *Plagiomnium cuspidatum*, *Plagiothecium denticulatum*, *Polygonum aviculare*, *Polytrichum commune*, *Pseudobryum cinclidiodes*, *Sanionia uncinata*, *Stellaria media*, *Veronica chamaedrys* and *V. officinalis*. Holarctic.

nopodium album, *Dicranum scoparium*, *Fragaria vesca*, *Hedwigia ciliata*, *Myosotis arvensis*, *Plagiomnium cuspidatum*, *Plagiothecium denticulatum*, *Polygonum aviculare*, *Polytrichum commune*, *Pseudobryum cinclidiodes*, *Sanionia uncinata*, *Stellaria media*, *Veronica chamaedrys* and *V. officinalis*. Holarctic.

Genus *Strongylogaster* Dahlbom, 1835

17. *Strongylogaster caucasica* Schaposchnikov, 1885: 20. 04. - 05. 05. 2016, 13 females, 50 males, 05-20. 05. 2018, 3 females, 1 male, 15-29. 06. 2018, 1 female, 1 male, 29. 06. - 13. 07. 2018, 1 female. Sporadic. Hostplants unknown. Ponto-Caspian.

18. *S. multifasciata* (Geoffroy, 1785): 20. 04. - 05. 05. 2016, 8 females, 05-20. 05. 2018, 11 females, 20. 05. - 01. 06. 2018, 1 female, 13-27. 07. 2018, 7 females. Frequent. Hostplants: *Dryopteris* sp., *Matteuccia struthiopteris*, *Aspidium* sp., *Polystichum* sp. and *Pteridium aquilinum*. Palearctic.

Subfamily – Allantinae

Genus *Allantus* Panzer, 1801

19. *Allantus (Emphytus) cinctus* (Linné, 1758): 20. 04. - 05. 05. 2016, 57 males, 05-20. 05. 2018, 23 females, 115 males, 20. 05. - 01. 06. 2018, 11 females, 82 males, 04-15. 06. 2015, 1 254 m, 5 females, 70 males, 15-29. 06. 2018, 5 females, 83 males, 29. 06. - 13. 07. 2018, 7 females, 71 males, 13-27. 07. 2018, 4 females, 18 males, 27. 07. - 20. 08. 2018, 3 females, 9 males, 20. 08. - 07. 09. 2018, 4 females, 29 males, 07-21. 09. 2018, 4 females, 5 males. Common. Host plants: *Rosa* and *Fragaria* spp. Holarctic.

20. *A. (Allantus) togatus* (Panzer, 1801): 01-15. 06. 2018, 1 male. Sporadic, Palearctic species. Larva on *Betula*, *Quercus* and *Salix* spp.

Genus *Ametastegia* Costa, 1882

21. *Ametastegia (Protemphytus) carpini* (Hartig, 1837): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 male, 01-15. 06. 2018, 1 female. Frequent. Holarctic. Host plants: *Geranium* spp.

22. *A. (Ametastegia) equiseti* (Fallén, 1808): 20. 04. - 05. 05. 2016, 1 female, 20. 05. - 01. 06. 2018, 1 male. Frequent. Larva on *Chenopodium album*, *Lythrum salicaria*, *Polygonum persicaria* and *Rumex acetosella*. Holarctic.

23. *A. (Protemphytus) pallipes* (Spinola, 1808): 20. 05. - 01. 06. 2018, 1 female. Frequent. Host plants: *Viola* spp. Holarctic.

Genus *Athalia* Leach, 1817

24. *Athalia bicolor* Serville, 1823: 01-15. 06. 2018, 1 female. Frequent. Host plant: *Ranunculus* spp. Palaearctic.

25. *A. circularis* ssp. *circularis* (Klug, 1815): 20. 04. - 05. 05. 2016, 5 males,

05-20. 05. 2018, 1 female, 14 males, 01-15. 06. 2018, 1 female, 28 males, 15-29. 06. 2018, 2 females, 16 males, 13-27. 07. 2018, 8 females, 25 males, 29. 06. - 13. 07. 2018, 2 females, 9 males, 27. 07. - 20. 08. 2018, 2 males, 20. 08. - 07. 09. 2018, 1 female, 5 males. (This colour variation was formerly classified as *A. cordatoides* Priesner, 1928) Frequent. Host plants: *Arctium lappa*, *Ajuga reptans*, *Veronica beccabunga*, *V. longifolia*, *V. officinalis*, *Alliaria petiolata*, *Glechoma hederacea*, *Melampyrum*, *Capsella* and *Lycopus* spp. Palaearctic.

26. *A. cordata* Serville, 1823: 20. 04. - 05. 05. 2016, 1 female, 7 males, 05-20. 05. 2018, 1 male, 01-15. 06. 2018, 1 female, 29. 06. - 13. 07. 2018, 1 male. Common. Larva on *Misopates orontinum*, *Antirrhinum majus*, *Ajuga reptans*, *Teucrium scorodonia* and *Plantago* spp. West Palaearctic.

27. *A. cornubiae* Benson, 1931: 15-29. 06. 2018, 1 female, 70. 13-27. 07. 2018, 1 female, 29. 06. - 13. 07. 2018, 2 females, 20. 08. - 07. 09. 2018, 1 female, 07-21. 09. 2018, 1 female. Local colour variation: clypeus and labrum light coloured, in European specimens, they are dark, brown. Shape of hypopygium is typical for *A. cornubiae* Bens. Sporadic, West Palaearctic species. Larva on *Sedum album*.

28. *A. liberta* (Klug, 1815): 20. 04. - 05. 05. 2016, 2 males, 05-20. 05. 2018, 3 females, 6 males, 01-15. 06. 2018, 20 males, 15-29. 06. 2018, 3 females, 14 males, 13-27. 07. 2018, 2 females, 4 males, 29. 06. - 13. 07. 2018, 6 males, 20. 08. - 07. 09. 2018, 1 male. Frequent, West Palaearctic species. Feeding on *Alliaria petiolata*, *Arabidopsis thaliana*, *Cardamine hirsuta* and *Sisymbrium officinale*.

29. *A. lugens* (Klug, 1815): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 female, 15 males, 01-15. 06. 2018, 6 females, 87 males, 15-29. 06. 2018, 6 females, 61 males, 29. 06. - 13. 07. 2018, 3 females, 7 males, 13-27. 07. 2018, 4 females, 15 males, 27. 07. - 20. 08. 2018, 1 male, 20. 08. - 07. 09. 2018, 2 males, 07-21. 09. 2018, 1 male. Frequent, Palaearctic species. Hostplants: *Raphanus* spp., *Lepidium sativum*, *Cardamine* spp., *Brassica* spp., *Cruciferae*.

Genus *Empria* Lepeletier & Serville, 1828

30. *Empria longicornis* (Thomson, 1871): 20. 04. - 05. 05. 2016, 113 males, 05-20. 05. 2018, 15

females, 82 males, 20. 05. - 01. 06. 2018, 6 females, 9 males, 01-15. 06. 2018, 2 females, 15-29. 06. 2018, 1 female. Frequent, West Palaearctic species. Larva on *Rubus idaeus*.

31. *E. sexpunctata* (Serville, 1823): 20. 04. - 05. 05. 2016, 1 female, 8 males. Frequent, West Palaearctic species. Larva on *Geum* spp.

32. *E. tridens* (Konow, 1896): 20. 04. - 05. 05. 2016, 1 female, 20. 05. - 01. 06. 2018, 1 female. Frequent, Palaearctic species. Host plants: *Geum* spp. and *Rubus idaeus*.

Genus *Eriocampa* Hartig, 1837

33. *Eriocampa umbratica* (Klug, 1816): 20. 04. - 05. 05. 2016, 1 female, 4 males. Frequent. Larva on *Alnus glutinosa* and *A. incana*. West Palaearctic.

Genus *Monsoma* MacGillivray, 1908

34. *Monsoma pulveratum* (Retzius, 1783): 20. 04. - 05. 05. 2016, 1 female, 05-20. 05. 2018, 1 female. Frequent. Holarctic. Hostplants: *Alnus glutinosa* and *Alnus incana*.

Subfamily - Heterarthrinae**Genus *Caliroa* Costa, 1859**

35. *Caliroa annulipes* (Klug, 1816): 15-29. 06. 2018, 1 male. Sporadic, Palaearctic species; introduced to Canada. Larva on *Betula*, *Salix*, *Quercus*, *Tilia*, *Rosa* spp. and *Vaccinium myrtillus*.

36. *C. cerasi* (Linné, 1758): 27. 07. - 20. 08. 2018, 1 male. Frequent. Larva on *Pyrus*, *Malus*, *Prunus*, *Crataegus*, *Sorbus*, *Rosa*, *Cydonia*, *Mespilus*, *Rubus*, *Amygdalus*, *Cerasus*, *Amelanchier*, *Pyracantha*, *Cotoneaster* rarely *Quercus* and *Salix* spp. Cosmopolita.

37. *C. cinxia* (Klug, 1816): 05-20. 05. 2018, 1 male, 01-15. 06. 2018, 1 male, 15-29. 06. 2018, 7 males. Sporadic, West Palaearctic species. Larva on *Quercus* spp.

38. *C. varipes* (Klug, 1816): 05-20. 05. 2018, 9 males, 20. 05. - 01. 06. 2018, 1 264 m 1 male, 01-15. 06. 2018, 3 males. Sporadic. Palaearctic. Larva on *Quercus*.

Genus *Endelomyia* Ashmead, 1898

39. *Endelomyia aethiops* (Gmelin, 1790): 20. 04. - 05. 05. 2016, 1 female. Sporadic. Larva on *Rosa* spp. Holarctic.

Genus *Heterarthrus* Stephens, 1835

40. *Heterarthrus vagans* (Fallén, 1808): 15-29.

06. 2018, 1 female. Sporadic, Palaearctic species. Host plants: *Alnus* spp.

Genus *Metallus* Forbes, 1885

41. *Metallus pumilus* (Klug, 1816): 05-20. 05. 2018, 3 males, 68. 01-15. 06. 2018, 22 males, 69. 15-29. 06. 2018, 3 males, 29. 06. - 13. 07. 2018, 2 males, 13-27. 07. 2018, 9 males, 29. 06. - 13. 07. 2018, 3 males, 27. 07. - 20. 08. 2018, 3 males, 20. 08. - 07. 09. 2018, 2 males. Common, Palaearctic species. Larva inside the leaves of *Rubus caesius* and *Rubus idaeus*.

Genus *Parna* Benson, 1936

42. *Parna tenella* (Klug, 1816): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 2 females. Sporadic, West Palaearctic species. Larva inside the leaves of *Tilia* spp.

Subfamily - Blennocampinae

Genus *Claremontia* Rohwer, 1909

43. *Claremontia alternipes* (Klug, 1816): 20. 04. - 05. 05. 2016, 11 females, 42 males, 05-20. 05. 2018, 3 females, 7 males. Sporadic. Hostplant: *Rubus idaeus*. West Palaearctic.

Genus *Eurhadinoceraea* Enslin, 1920

44. *Eurhadinoceraea fulviventrifera* (Scopoli, 1763): 20. 04. - 05. 05. 2016, 76 males, 4 females, 05-20. 05. 2018, 9 females, 39 males, 20. 05. - 01. 06. 2018, 1 males, 01-15. 06. 2018, 8 males. Common. Hostplant unknown. Southern part of the Palaearctic region.

Genus *Eutomostethus* Enslin, 1914

45. *Eutomostethus ephippium* (Konow, 1899): 20. 04. - 05. 05. 2016, 13 males, 05-20. 05. 2018, 7 females, 4 males, 68. 01-15. 06. 2018, 1 female, 3 males, 13-27. 07. 2018, 1 female. Common. Hostplants: Poaceae. Ponto-Caspian subspecies.

Genus *Periclista* Konow, 1886

46. *Periclista (Periclista) lenta* Konow, 1903: 20. 05. - 01. 06. 2018, 1 male. Sporadic, West Palaearctic species. Larva on *Quercus* sp.

Subfamily – Nematinae

Genus *Amauronematus* Konow, 1890

47. *Amauronematus humeralis* (Serville, 1823): 20. 04. - 05. 05. 2016, 1 male. Sporadic, Palaearctic

species. Larva on various *Salix* species like *Salix caprea*, *S. cinerea*, *S. aurita*, *S. fragilis* and *S. alba*.

Genus *Cladius* Illiger, 1807

48. *Cladius pectinicornis* (Geoffroy, 1785): 01-15. 06. 2018, 1 female. Common. Host plants: *Alchemilla*, *Filipendula*, *Fragaria*, *Potentilla*, *Sanguisorba*, *Rosa* and *Rubus* spp. Holarctic.

Genus *Eupontania* Zinovjev, 1985

49. *Eupontania pedunculi* (Hartig, 1837): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 female, 01-15. 06. 2018, 1 male. Sporadic, Palaearctic species. Larva on *Salix aurita*, *S. caprea*, *S. starkeana* and *S. silesiaca*.

Genus *Euura* Newman, 1837

50. *Euura mucronata* (Hartig, 1837): 20. 04. - 05. 05. 2016, 1 male. Sporadic, West Palaearctic species. Host plants: *Salix aurita*, *S. caprea* and *S. cinerea*.

Genus *Hoplocampa* Hartig, 1837

51. *Hoplocampa plagiata* (Klug, 1816): 20. 04. - 05. 05. 2016, 13 females. West Palaearctic species. Sporadic. Larva on *Amelanchier ovalis*.

Genus *Nematinus* Rohwer, 1911

52. *Nematinus acuminatus* (Thomson, 1871): 15-29. 06. 2018, 1 female, 1 male. Sporadic, Palaearctic species. Larva on *Betula* spp.

Genus *Nematus* Panzer, 1801

53. *Nematus lucidus* (Panzer, 1801): 20. 05. - 01. 06. 2018, 7 males, 01-15. 06. 2018, 1 male, 01-15. 06. 2018, 5 males, 15-29. 06. 2018, 2 males. Frequent. Larva on *Crataegus* and *Prunus spinosa*. Palaearctic.

Genus *Pachynematus* Konow, 1890

54. *Pachynematus clitellatus* (Serville, 1823): 05-20. 05. 2018, 1 male. Frequent, Holarctic species. Larva on various Graminae.

55. *P. fallax* (Serville, 1823): 05-20. 05. 2018, 1 male. Frequent, West Palaearctic species. Host plants: various Poaceae and *Carex* spp.

Genus *Phyllocolpa* Benson, 1960

56. *Phyllocolpa leucapsis* (Tischbein, 1846): 05-20. 05. 2018, 1 female. Frequent, Holarctic species. Larva on *Salix cinerea*, *S. aurita* and *S. silesiaca*.

Genus *Pontania* Costa, 1852

57. *Pontania (Tubpontania) nudipectus* Vikberg, 1965: 05-20. 05. 2018, 1 female. Sporadic, West Palaearctic species. The gall on *Salix phylicifolia*.

Genus *Priophorus* Latreille, 1810

58. *Priophorus brullei* Dahlbom, 1835: 05-20. 05. 2018, 16 males, 20. 05. - 01. 06. 2018, 10 males, 01-15. 06. 2018, 1 female, 4 males, 15-29. 06. 2018, 1 264, 2 females, 4 males, 13-27. 07. 2018, 12 males, 29. 06. - 13. 07. 2018, 5 females, 12 males, 27. 07. - 20. 08. 2018, 6 males, 20. 08. - 07. 09. 2018, 2 males, 07-21. 09. 2018, 1 female. Frequent. Larva on *Rubus* spp. Cosmopolitan.

59. *P. compressicornis* (Fabricius, 1804): 20. 04. - 05. 05. 2016, 1 female, 3 males, 05-20. 05. 2018, 1 female, 13-27. 07. 2018, 1 female, 27. 07. - 20. 08. 2018, 1 female, 07-21. 09. 2018, 1 female. Frequent pest. Hostplants: *Betula*, *Cotoneaster*, *Prunus*, *Rubus*, *Sorbus*, *Fragaria*, *Crataegus*, *Corylus* and *Rosa* spp. Holarctic.

60. *P. rufipes* (Serville, 1823): 20. 04. - 05. 05. 2016, 1 female, 13-27. 07. 2018, 1 male. Sporadic, West Palaearctic species. Larva on *Ulmus* spp.

Genus *Pristiphora* Latreille, 1810

61. *Pristiphora (Pristiphora) aphantoneura* (Förster, 1854): 01-15. 06. 2018, 1 female. Sporadic, Palaearctic species. Host plant: *Lathyrus pratensis*.

62. *P. (Pristiphora) armata* (Thomson, 1863): 05-20. 05. 2018, 1 male, 13-27. 07. 2018, 1 male, 29. 06. - 13. 07. 2018, 1 male. Frequent, Palaearctic species. Host plants: *Crataegus* spp. and *Prunus avium*.

63. *P. (Pristiphora) leucopus* (Hellén, 1948): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 male, 15-29. 06. 2018, 1 male, 20. 05. - 01. 06. 2018, 1 male, 01-15. 06. 2018, 1 female, 1 male, 27. 07. - 20. 08. 2018, 1 male. Frequent, West-Palaearctic species. Larva on *Tilia* spp.

64. *P. (Pristiphora) melanocarpa* (Hartig, 1840): 3-27. 07. 2018, 1 female. Sporadic, Holarctic sawfly. Host plant: *Betula* spp.

65. *P. (Pristiphora) pallidiventris* (Fallén, 1808): 20. 04. - 05. 05. 2016, 2 males, 20. 04. - 05. 05. 2016, 1 male. Frequent. Larva on *Geum*, *Potentilla*, *Rubus* and *Filipendula* spp. Holarctic.

66. *P. (Lygaeonematus) paralella* (Hartig, 1840): 05-20. 05. 2018, 1 female. Sporadic, West Palaearctic species. Larva on *Picea abies*.

Genus *Pteronidea* Rohwer, 1911

67. *Pteronidea (Pteronidea) dispar* (Zaddach, 1876): 13-27. 07. 2018, 1 male, 27. 07. - 20. 08. 2018, 1 male. Sporadic, Palaearctic species. Larva on *Betula* spp.

68. *P. (Pteronidea) fuscomaculata* (Förster, 1854): 13-27. 07. 2018, 1 male. Sporadic, West Palaearctic species. Host plants: *Populus tremula* and *Salix* spp.

69. *P. (Pteronidea) hypoxantha* (Förster, 1854): 15-29. 06. 2018, 1 male. Sporadic, Palaearctic species. Larva on *Salix fragilis*, *S. viminalis*, *S. aurita*, *S. cinerea*, *S. caprea*, *S. purpurea* and *Populus* spp.

70. *P. (Pteronidea) poecilonota* (Zaddach, 1876): 20. 04. - 05. 05. 2016 1 female. Sporadic, Holarctic species. Larva on *Betula* spp.

71. *P. (Pteronidea) sylvestris* (Cameron, 1884): 01-15. 06. 2018, 1 male, 15-29. 06. 2018, 1 male. Sporadic, Palaearctic species. Larva on *Salix caprea*, *S. pentandra* and *S. phylicifolia*.

Genus *Sharliphora* Wong, 1969

72. *Sharliphora nigella* (Förster, 1854): 20. 04. - 05. 05. 2016, 30 females, 27 males. Frequent, West Palaearctic species. Larva on *Picea* spp.

Subfamily - Tenthredininae**Genus *Macrophya* Dahlbom, 1835**

73. *Macrophya (Macrophya) alboannulata* Costa, 1859: 20. 04. - 05. 05. 2016, 18 males, 05-20. 05. 2018, 1 female, 1 male, 20. 05. - 01. 06. 2018, 11 females, 16 males, 01-15. 06. 2018, 10 females, 7 males, 15-29. 06. 2018, 7 females, 6 males, 29. 06. - 13. 07. 2018, 1 female. Frequent, West Palaearctic species. Larva on *Sambucus nigra*, *S. racemosa* and *S. ebulus*.

74. *Macrophya (Macrophya) caucasicola* Muche, 1969: 20. 04. - 05. 05. 2018, 59 males, 05-20. 05. 2018, 6 females, 24 males, 01-15. 06. 2018, 16 females, 37 males, 15-29. 06. 2018, 1 female, 6 males, 29. 06. - 13. 07. 2018, 1 female. Frequent. Ponto-Caspian. Hostplant unknown.

Genus *Pachyprotasis* Hartig, 1837

75. *Pachyprotasis rapae* (Linné, 1767): 20. 04. - 05. 05. 2016, 1 male, 05-20. 05. 2018, 1 female, 35 males, 20. 05. - 01. 06. 2018, 5 males, 01-15. 06. 2018, 2 males, 15-29. 06. 2018, 2 females, 29. 06. - 13. 07. 2018, 3 females, 13-27. 07. 2018, 2 females, 3 males. Common Holarctic species. Host-

plants: *Solanum tuberosum*, *Pedicularis palustris*, *Angelica sylvestris*, *Veronica beccabunga*, *Betonica officinalis*, *Corylus avellana*, *Salix caprea*, *Fraxinus excelsior*, *Tussilago farfara*, *Symphoricarpos albus*, *Scrophularia*, *Solanum*, *Solidago virgaurea*, *Verbascum*, *Origanum vulgare*, *Atropa belladonna*, *Sarothamnus*, *Senecio*, *Polygonum*, *Lamium*, *Aspidium*, *Epilobium*, *Hypericum*, *Galeopsis*, *Glechoma*, *Mentha*, *Polystichum*, *Plantago*, *Misopates*, *Veronica*, *Quercus* and *Stachys* spp.

Genus *Rhogogaster* Konow, 1884

76. *Rhogogaster* (*Rhogogaster*) *chlorosoma* (Benson, 1943): 05-20. 05. 2018, 1 female, 29. 06. - 13. 07. 2018, 1 female. Frequent. Host plants: *Salix alba*, *S. purpurea*, *Salix* spp. Palaearctic.

77. *R. (Rhogogaster) punctulata* (Klug, 1817): 01-15. 06. 2018, 1 female. Host plants: *Salix*, *Sorbus*, *Rosa*, *Betula*, *Alnus*, *Fraxinus*, *Prunus* and *Corylus* spp. Sporadic, Palaearctic species.

78. *R. (Rhogogaster) scalaris* (Klug, 1817): 20. 04. - 05. 05. 2016, 1 female. Frequent, Holarctic species. Polyphagous, larva mainly on Rosaceae, such as *Agrimonia eupatoria*, *Sanguisorba minor*, *Fragaria*, *Filipendula*, *Rosa* and *Rubus* spp.; further confirmed host plants are *Ranunculus repens* and *Alnus* spp.

Genus *Sciapteryx* Stephens, 1835

79. *Sciapteryx byzantina* Benson, 1968: 20. 04. - 05. 05. 2016, 1 female, 4 males, 05-20. 05. 2018, 2 females. Sporadic, Ponto Caspian – East Mediterranean species. Host plant unknown.

Genus *Tenthredo* Linnaeus, 1758

80. *Tenthredo* (*Tenthredella*) *albopicta* Puls, 1870: 05-20. 05. 2018, 1 female, 20. 05. - 01. 06. 2018, 1 male, 01-15. 06. 2018, 1 female, 15-29. 06. 2018, 1 female. Sporadic, Ponto-Caspian species. Host plant unknown.

81. *T. (Tenthredella) livida* Linné, 1758: 15-29. 06. 2018, 2 females, 13-27. 07. 2018, 2 female, 27. 07. - 20. 08. 2018, 1 female, 07-21. 09. 2018, 1 female. Sporadic, locally frequent. Larva on *Salix* spp., *Corylus avellana*; *Epilobium* spp.; *Lonicera* spp.; *Pteridium aquilinum*; *Rosa* spp., *Sorbus aucuparia*, *Symphoricarpos albus*, *Viburnum opulus*, *Arctium lappa* and *Athyrium filix-femina*. Palaearctic.

82. *T. (Tenthredella) procera* Klug, 1817: 05-20. 05. 2018, 1 male. West Palaearctic, sporadic species. Hostplants: *Petasites* and *Symphytum* spp.

83. *Tenthredo* (*Tenthredella*) *purpurea* Puls, 1870: 20. 05. - 01. 06. 2018, 1 female, 01-15. 06.

2018, 1 female, 15-29. 06. 2018, 1 264 m 1 female. Sporadic, Ponto-Caspian. Hostplant unknown.

84. *T. (Elinora) radoszkowskii* (André, 1881): 01-15. 06. 2018, 3 females, 15-29. 06. 2018, 3 females, 2 males, 29. 06. - 13. 07. 2018, 1 female, 07-21. 09. 2018, 1 female. Sporadic, Ponto Caspian – Anatolian species. Host plant unknown.

85. *T. (Tenthredo) scrophulariae* Linné, 1758: 29. 06. - 13. 07. 2018, 1 female. Sporadic. Larva on *Scrophularia* spp., *Buddleja alternifolia*, *Buddleja davidi* and *Verbascum* spp. West Palaearctic.

86. *T. (Paratenthredo) shaposhnikovii* (Dovnar-Zapolskij, 1930): 20. 05. - 01. 06. 2018, 1 female, 01-15. 06. 2018, 3 females, 1 male, 13-27. 07. 2018, 1 female. Sporadic, Ponto-Caspian species. Hostplant unknown.

87. *T. (Paratenthredo) talyshensis* Zhelochovtsev, 1988: 20. 04. - 05. 05. 2016, 11 females, 9 males, 05-20. 05. 2018, 9 females, 20. 05. - 01. 06. 2018, 1 female, 1 male. Sporadic, Ponto Caspian – East Mediterranean – Persian species. Host plants: *Paeonia lactiflora*, *P. × suffruticosa*, *P. daurica*, *P. lutea* and *P. peregrina*.

Genus *Tenthredopsis* Costa, 1859

88. *Tenthredopsis litterata* (Geoffroy, 1785): 01-15. 06. 2018, 6 males, 15-29. 06. 2018, 5 females, 19 males, 13-27. 07. 2018, 1 female. (Local colour variation It was originally described as *T. ligata* Knw. Its special genitalia structures (penial valve and hypopygium, completely agree with *T. litterata* Geoffr., although, their colour patterns are completely different from the Central European specimens). Frequent. Larva on *Agrostis*, *Dactylis* and *Calamagrostis* spp. West Palaearctic.

89. *T. viridis* Zhelochovtsev, 1941: 05-20. 05. 2018, 8 males, 01-15. 06. 2018, 2 females. Sporadic, Ponto-Caspian species. Host plant unknown.

Discussion

Species richness

Eighty-nine sawfly species were identified from a total of 2482 specimens collected in Kintrishi National Park at 1264 m altitude by Malaise traps. Twenty species are new records for the fauna of Georgia. Six genera *Periclista* Konow, 1886, *Amauronematus* Konow, 1890, *Eupontania* Zinovjev, 1985, *Euura* Newman, 1837, *Phyllocolpa* Benson, 1960 and *Pontania* Costa, 1852. This brings the number of Symphyta species recorded in Georgia to 250. We believe that this number will at least double in our future studies.

Frequent species

The most frequent species is *Allantus cinctus* (Linné, 1758) with 604 specimens. Other frequent

species are *Empria longicornis* (Thomson, 1871) with 228 and *Athalia lugens* (Klug, 1815) with 210 specimens. These 3 species make 42% of the total collected material.

Table 1. Zoogeographic distribution of the collected sawfly material

Zoogeographical area	Number of species	%
Ponto-Caspian-Persian	1	1.1%
Ponto-Caspian	7	7.9%
Ponto-Caspian-Anatolian	1	1.1%
Ponto-Caspian-East Mediterranean	1	1.1%
Persian - East Mediterranean	1	1.1%
Ponto-Caspian-Turanian	1	1.1%
West-Palaeartic	28	31.5%
Palaeartic	29	32.7%
Southern Palaeartic	1	1.1%
Holarctic	17	19.1%
Cosmopolitan	2	2.2%

The zoogeographic origin of the collected sawflies was evaluated in Table 1. Most of the species have wide geographic distribution, i.e. Holarctic, Palaeartic, West Palaeartic, South Palaeartic, Cosmopolitan; their proportion is 87%. The so-called characteristic components are the species with limited distribution areas: Ponto-Caspian, Ponto-Caspian-Turanian, Ponto-Caspian-Central Asian. These species are: *Onycholyda trigaria* (Konow, 1897), *Birka catellata* (Konow, 1900), *Strongylogaster caucasica* Schaposchnikov, 1885, *Eutomostethus ephippium* ssp. *vopiscus* (Konow, 1899), *Macrophya hamata* ssp. *caucasicola* Muche, 1969, *Sciapteryx byzantina* Benson, 1968, *Tenthredo albopicta* Puls, 1870, *Tenthredo purpurea* Puls, 1870, *Tenthredo radoszkowskii* (André, 1881), *Tenthredo shaposhnikovii* (Dovnar-Zapolskij, 1930), *Tenthredo talyshensis* Zhelochovtsev, 1988 and *Tenthredopsis viridis* Zhelochovtsev, 1941. Their proportion is 13%. Similar proportions (13%) were experienced one year before in the other regions of the Caucasus [20,21].

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Fig 1. *Colchis mixed forest close to the Malaise trap*



Fig 2: *Landscape nest to the Malaise trap*



Fig 3: Malaise trap at 1 264 m at Kintrishi Nature Reserve