

NEW RECORDS AND NAME CHANGES IN CECIDOMYIIDAE (DIPTERA) OF CZECH REPUBLIC AND SLOVAKIA WITH COMMENTS ON THEIR OCCURRENCE

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Abstract: First records of 19 gall midge species from the Czech Republic (from Bohemia and/or from Moravia) and from the Slovakia are presented. Changes in species names, distribution and occurrence of nine gall midge species which were earlier considered to be synonyms or combined with other generic names are given together with comments explaining these changes.

Key words: Diptera, Cecidomyiidae, faunistics, first records, Czech Republic, Slovakia.

INTRODUCTION

This article details new records and changes in the nomenclature of several gall midge species that were not included in the previous version of the checklist of Diptera (JEDLIČKA et al. 2006) and notes changes in occurrence and distribution (SKUHRAVÁ 2006). In addition, several interesting species of the family Cecidomyiidae were recently identified from material gathered in the course of ecological studies in a spruce monoculture in the Dražanská vrchovina Highlands by VAŇHARA (1983), in a floodplain forest at Lednice in southern Moravia (VAŇHARA 1986), during our investigations in the Arboretum Mlýňany (SKUHRAVÁ & SKUHRAVÝ 1986) and from soil samples taken from various parts of Bohemia and Moravia. Several changes in nomenclature result from taxonomical works of HARRIS (2004, 2006, 2009a, 2009b). We also include partial results of our visit to the depository of the Department of Botany of the Moravian Museum in Budišov castle where the collections of galls of the two Moravian phytopathologists and cecidologists, Eduard Baudyš and Emil Bayer, are preserved. We were interested mainly to see the collection of galls caused by gall midge species of the genus *Rabdophaga* Westwood, 1847, which were favourite galls of E. Baudyš.

FAUNISTIC NOTES

Acumyia acericola Harris, 2008

HARRIS (2008) reared adults from malformed fruits of *Acer campestre* L. (Aceraceae) and described this species. At the time when K. M. Harris prepared the description of this species we searched for attacked fruits of various *Acer*-species in Praha and its surroundings but we were not able to find any deformed fruits. Recently, when we searched for other matter, we found that ČERMÁK (1952) discovered malformed maple seed and named its causer as “Cecidomyiidae (sp.)”. Attacked fruits of *Acer platanoides* were found in parks in Praha and in Blansko and the damage was very abundant at that time. He illustrated the larva with characteristic unidentical sternal spatula and published a photograph showing the larva inside a shiny puparium.

Czech Republic, Bohemia: Praha (5952), 260 m a. s. l.; Moravia: Adamov (6766), 550 m (Čermák 1952). First records for Bohemia and Moravia.

Distribution: UK; the same or similar species occur in Japan, China and Russia: attacked maple fruits were found during plant quarantine control at borders of the USA. This species probably occurs throughout continental Europe (HARRIS 2008).

Aprionus miki Kieffer, 1895

Czech Republic, Bohemia: Dobříš (6251), mixed forest, 370 m a. s. l., 1.5.1990, 2 ♂; Moravia: Lednice

– Horní les (7266), 180 m a. s. l., 26.5.1981, 1 ♂; ex stationary collecting emergence traps.

Slovakia: Arboretum Mlyňany (7676), 170 m a. s. l., mixed forest, 7.5.1986, 2 ♂, Möricke dish; leg., det., coll. M. Skuhrová. First records for Bohemia, Moravia and Slovakia.

Distribution: European.

***Aprionus spiniger* Kieffer, 1894**

Czech Republic, Bohemia: Žofínský Prales Nature Reserve in the Novohradské hory Mts, (7354), primeval forest, 750 m a. s. l., 7.6.1980, 1 ♂, soil sample, leg. V. Zumr; Hodkovice nad Mohelkou (5356), 370 m a. s. l., 23.6.1980, 1 ♂, soil sample; Moravia: Kunštát (6465), 465 m a. s. l., soil sample, 1 ♂.

Slovakia: Arboretum Mlyňany (7676), 170 m a. s. l., mixed forest, 7.5.1986, 1 ♂, ex Möricke dishes; leg., det., coll. M. Skuhrová. First records for Bohemia, Moravia and Slovakia.

Distribution: Norway, Sweden, Lithuania, France, UK, Germany and Russia (European part).

***Asphondylia calaminthae* Kieffer, 1909**

Larvae develop in swollen flower buds of *Calamintha alpina* Lam. (Lamiaceae).

Czech Republic, Moravia: Kotouč Hill near Štramberk (6474), 529 m a. s. l., galls, leg. E. Baudyš. BAUDYŠ (1960) reported this species as „*Cecidomyidon*“. He found swollen flower buds on *Calamintha clinopodium* (Benth.) Spenser. First records for the Czech Republic and Moravia.

Distribution: France, Italy, Bosnia, Serbia and southern Russia (Volga Region).

***Campylomyza flavipes* (Meigen, 1818)**

Slovakia: TOTH & LUKAS (2004) recorded this species for the first time from Slovakia. Other record: Arboretum Mlyňany (7676), mixed forest, 170 m a. s. l., 7.5.1986, 5 ♂, ex Möricke dishes, leg., det., coll. M. Skuhrová. First records from Slovakia.

Distribution: Holarctic.

***Catocha latipes* Haliday, 1833**

Czech Republic, Moravia: Lednice – Horní les (7266), 180 m a. s. l., 26.5.1981, 1 ♂; ex stationary collecting emergence traps; leg. J. Vaňhara, det., coll. M. Skuhrová; Slovakia: Arboretum Mlyňany (7676), mixed forest, 170 m a. s. l., 20.4.1987, 1 ♂, ex Möricke dishes, leg., det., coll. M. Skuhrová. First records from Moravia and Slovakia.

Distribution: Holarctic.

***Contarinia lonicerearum* (F. Löw, 1877)**

Diplosis lonicerearum Löw, 1877

Larvae cause flower bud galls on *Lonicera xylosteum* L. and other *Lonicera*-species (Caprifoliaceae). Löw (1877) in his original description of *Diplosis lonicerearum* gave as host plants of this species the following four species belonging to three plant genera, viz. *Viburnum lantana* L., *Lonicera xylosteum* L., *Sambucus nigra* L. and *Sambucus ebulus* L. He believed that only one gall midge species develops on all these host plant species, hence he named it “*lonicerearum*”. Later KIEFFER (1912) described another species, *Contarinia viburnorum*, developing in swollen flower buds of *Viburnum lantana*. GAGNÉ (1972) found that KALTENBACH (1873) described the larvae of *Cecidomyia sambuci* developing in swollen flower buds of *Sambucus nigra*, and synonymized *lonicerearum* F. Löw, 1877 with *sambuci* Kaltenbach, 1873. I followed Gagné’s conception in the Catalogue of Palaearctic Diptera (SKUHRVÁ 1986). These two species are not identical. Larvae of *Contarinia sambuci* cause galls on *Sambucus nigra* and *S. ebulus* and larvae of *C. lonicerearum* cause galls on *Lonicera xylosteum*, *L. nigra*, *L. caerulea* and probably other species of the genus *Lonicera*. These two gall midge species differ in morphological characters of larvae and in phenology. Galls of *C. lonicerearum* appear in May, galls of *C. sambuci* in June. Both species are univoltine. *Contarinia lonicerearum* (F. Löw, 1877) is a valid name, not a synonym of *Cecidomyia sambuci* Kaltenbach, 1873, as given in GAGNÉ (2004) (SKUHRVÁ & SKUHRVÁ 2008).

Distribution: European. Because the occurrence of both species was given under the name *Contarinia sambuci*, I revised the occurrence of both species in Europe based on data obtained by earlier authors. Galls of *Contarinia lonicerearum* are known to occur in Sweden, Denmark, Finland, Latvia, France, Switzerland, Germany, Poland, Austria, Hungary, Romania, Russia (European part). There is no evidence of the occurrence of *C. lonicerearum* in Norway, Lithuania, UK, the Netherlands, Italy, former Yugoslavia and Bulgaria.

Czech Republic, Bohemia: Prácheň (5253), 463 m a. s. l., 12.5.1913, galls on *Lonicera xylosteum*, leg. E. Baudyš (Baudyš 1916); Praha – Vyšehrad (5952), 223 m a. s. l., galls on *L. tatarica*, leg. E. Baudyš (VIMMER 1937); Čeňkova pila (6846), 670 m a. s. l., 10.6.1958, galls on *L. xylosteum*, leg. J. Holman; Koda u Srbska (6050), 320 m a. s. l., 5.6.1958, galls on *L. xylosteum*, leg. B. Starý; Srbsko near Beroun (6050), 225 m a. s. l., 28.5.2005, galls on *L. xylosteum*, leg. J. Kindl; Praha – Krč (5952), 290 m a. s. l., 15.5.2006, galls on *L. xylosteum*, 10 larvae, leg. det., coll. M. Skuhrová; Moravia: Ochoz u Brna (6766), 364 m a. s. l., 26.5.1907, galls on *L. xylosteum*; Adamov (6665), 258 m a. s. l., Pernštejn (6563), 430 m a. s. l., galls on *L. xylosteum*, leg. E. Bayer (BAYER 1914); Milotice

nad Opavou (5971), 509 m a. s. l., 14.6.1950, galls on *L. nigra*, leg. E. Baudyš; Šternberk (6269), 238 m a. s. l., 1949, galls on *L. xylosteum*, leg. J. Otruba (BAUDYŠ 1954); Karlova Studánka (5870), 775 m a. s. l., galls on *L. nigra*, leg. H. Zavřel (BAUDYŠ 1961).

Slovakia: Oravský Podzámok (6782), 511 m a. s. l., 16.6.1954, galls on *L. xylosteum*, leg. E. Baudyš; Dobšinská ľadová jaskyňa (7187), 900 m a. s. l., galls on *L. nigra*, June 1950, leg. V. Zacha (BAUDYŠ 1956).

***Contarinia sambuci* (Kaltenbach, 1873)**

Larvae cause flower bud galls on *Sambucus nigra* L. and other species of *Sambucus* (Caprifoliaceae).

Distribution: European. *Contarinia sambuci* is known to occur in Denmark, the Netherlands, France, Germany, Poland, Austria, Hungary, Russia (European part), Bosnia and Herzegovina, Macedonia, Serbia. There is no evidence of the occurrence of *C. sambuci* is from UK, Sweden, Finland, Lithuania, Switzerland, Italy, Bulgaria, Romania, Croatia, Montenegro and Slovenia.

Czech Republic, Bohemia: *C. sambuci* is known from 12 localities in Bohemia, 25 localities in Moravia and 4 localities in Slovakia (SKUHRVÁ 1991, 1994a, b).

***Coquillettomyia dentata* Felt, 1908**

Picrodiplosis caricis (Möhn, 1955)

HARRIS (2004) drew attention to the fact that the three-dimensional structures of the aedeagus of male terminalia of species belonging in the genus *Coquillettomyia*, the most important characters for distinguishing species of this genus, may change their shape in the course of microscope preparation. On the basis of this fact he synonymized *Picrodiplosis caricis* described by MÖHN (1955) under *Coquillettomyia dentata* Felt, 1908.

Czech Republic, Bohemia: Průhonice Chateau Park (6053), 306 m a. s. l., 7.6.1980, 2 ♂; Moravia: Kunštát (6465), 465 m a. s. l., 5.7.1980, 1 ♂, soil sample; leg., det., coll. M. Skuhrová. First records from Bohemia and Moravia.

Distribution: Holarctic.

***Dasineura aucupariae* (Kieffer, 1909)**

Whitish or slightly orange coloured larvae are inquilines in galls of *Contarinia floriperda* Rübssamen, 1917 on *Sorbus aucuparia* L. (Rosaceae).

Czech Republic, Bohemia: Špindlerův Mlýn (5359), 900 m a. s. l., 10.6.1986, 2 larvae in galls, leg. V. Skuhrový, det., coll. M. Skuhrová. First record from Bohemia.

Distribution: France, Switzerland, northern Italy (SKUHRVÁ et al. 2002).

***Dasineura helianthemii* (Hardy, 1850)**

Cecidomyia helianthemii Hardy, 1850

Contarinia helianthemii (Hardy, 1850)

Larvae cause galls on leaf buds of *Helianthemum nummularium* (Cistaceae). For a long time this species was included in the genus *Contarinia* by many authors. HARRIS (2009b) designated a neotype after analysing morphological characters of reared adults and larvae coming to the conclusion that this species belongs to the genus *Dasineura*. In the Czech Republic this species was found at only one locality, Velká kotlina under the Vysoká hole Mt., 1464 m a. s. l., in the Hrubý Jeseník Mts and is evaluated as subalpine species (SKUHRVÁ 1994a, b), in Slovakia at two localities at altitudes of 1500 to 1900 m in the Belianske Tatry Mts (SKUHRVÁ 1991).

Distribution: Europe to North Africa (SKUHRVÁ 1997).

***Dasineura trailii* (Kieffer, 1909)**

Larvae cause flower bud galls on *Ranunculus* sp. (Ranunculaceae). Galls of this species are known to occur rarely in Bohemia and Moravia. This species is included in the red list of threatened species of the Czech Republic (SKUHRVÁ 2005).

Czech Republic, Bohemia: Cunkov, north of Jistebnice (6553), 580 m a. s. l., 10.6.2009, galls; leg. J. Máca.

Slovakia: Bardejov (6793), 350 m a. s. l., 6.6.1986, galls; leg. Jan Máca. First record from Slovakia.

Distribution: UK (Scotland), Poland, the Netherlands, Sweden, Romania.

***Dasineura tubularis* (Kieffer, 1909)**

Larvae cause galls on leaves of *Quercus cerris* L. (Fagaceae). The gall is hemispherical on the upper side and tubular on the lower side of the leaf. This species is known from two localities in Slovakia.

Czech Republic, Moravia: Brno: Medlánky – Řečkovice (6765), 310 m a. s. l., 15.9.2009, galls; leg. F. Gregor, det., coll. M. Skuhrová. First record from Moravia.

Distribution: south-European species, reaching to southern Slovakia and Moravia, the most northern boundary of its distribution area.

***Janetia szepligetii* (Kieffer, 1896)**

Larvae cause small pustule galls on leaves of *Quercus cerris* L. (Fagaceae).

Czech Republic, Moravia: Brno: Medlánky – Řečkovice, (6765), 310 m a. s. l., 15.9.2009, galls, leg. F. Gregor, det., coll. M. Skuhrová. First record from Moravia.

Distribution: south-European species, reaching into southern Bohemia, Moravia and Slovakia, the most northern boundary of its distribution area.

***Lestremia cinerea* Macquart, 1826**

Slovakia: Arboretum Mlyňany (7676), mixed forest, 170 m.a. s. l., 7.5.1986, 1 ♂, ex Möricke dishes, leg., det., coll. M. Skuhrová. First record from Slovakia.

Distribution: Holarctic.

***Lestremia leucophaea* (Meigen, 1818)**

Czech Republic, Moravia: Kuničky (6566), spruce monoculture, 570 m a. s. l., 11.6.1973, 2 ♂, ex stationary collecting emergence traps; Lednice – Horní les, 180 m a. s. l., 26.5.1981, 1 ♂; 6.10.1981, 1 ♂, same method, leg. J. Vaňhara, det., coll. M. Skuhrová.

Slovakia: Arboretum Mlyňany (7676), mixed forest, 170 m.a. s. l., 18.4.1987, 2 ♂, Möricke dish, leg., det., coll. M. Skuhrová. First records from Moravia and Slovakia.

Distribution: Holarctic.

***Macrolabis brunellae* Tavares, 1907**

Macrolabis brunellae Rübsaamen, 1921; *Macrolabis ruebsaameni* Hedicke, 1938

Larvae cause galls at the growing points of *Prunella vulgaris* L. (Lamiaceae). On the basis of comparison of the description of *Macrolabis brunellae* with the description of *M. brunellae* Rübsaamen, 1921, it is clear that both species are identical. Therefore the name *Macrolabis heraclei* given by Hedicke to the species *M. brunellae* is superfluous (SKUHRVÁ et al. 2006).

Distribution: European. In the Czech Republic and Slovak Republic this species occurs scarcely (SKUHRVÁ 1991, 1994a, b).

***Micromya lucorum* Rondani, 1840**

Czech Republic, Moravia: Kuničky (6566), spruce monoculture, 570 m a. s. l., 20.6.1973, 2 ♂, ex stationary collecting emergence traps, leg. J. Vaňhara;

Slovakia: Arboretum Mlyňany (7676), mixed forest, 170 m.a. s. l., 28.4.1987, 1 ♂, Möricke dish, leg., det., coll. M. Skuhrová. First records from Moravia and Slovakia.

Distribution: Holarctic.

***Mycodiplosis coniphaga* (Winnertz, 1853)**

Mycophagous larvae develop in growths of the rusts *Phragmidium cf mucronatum* on branches of various species of *Rosa* (Rosaceae).

Czech Republic, Bohemia: Praha – Krč (5953), 300 m a. s. l., 25.8.2008, 2 larvae; Moravia: locality Morávka (6477), in the Moravskoslezské Beskydy Mts, 425 m a. s. l., 11.8.2008, 2 larvae, leg. M. Deml.

Slovakia: Košice, Botanical Garden of the University of P. J. Šafárik (7293), 230 m a. s. l., 7.11.2006, 4 larvae, leg. M. Suvák, det., coll. M. Skuhrová. First records from Czech Republic and Slovakia.

Distribution: European.

***Obolodiplosis robiniae* (Haldeman, 1847)**

Larvae cause rolled galls on margins of leaflets of *Robinia pseudoacacia* L. (Fabaceae). In Europe it is alien species and immigrant from the Nearctic Region. It quickly spread throughout Europe (SKUHRVÁ et al. 2007).

Distribution: Nearctic, unintentionally introduced into Europe and into Korea and Japan.

This species was first recorded in 2004 in Bohemia (SKUHRVÁ & SKUHRVÝ 2004), in 2006 in Moravia and Slovakia (ZÚBRIK et al. 2007). Since that time it quickly spread over all of Slovakia (TÓTH et al. 2009).

***Oligotrophus gemmarum* (Rübsaamen, 1914)**

Schmidtella gemmarum Rübsaamen, 1914

Larvae cause small bud galls on branches of *Juniperus communis* L. (Cupressaceae). HARRIS et al. (2006) demonstrated on the basis of morphological characters and molecular analyses that the species *Schmidtella gemmarum* belongs to the genus *Oligotrophus*.

Distribution: This species was discovered in Poland and found in UK, the Netherlands and Germany. In the Czech Republic and Slovak Republic it occurs very scarcely (SKUHRVÁ 1991; SKUHRVÁ 1994a, b).

***Rabdophaga degeerii* (Bremi, 1847)**

Rabdophaga ramicola Rübsaamen, 1915

Larvae cause swellings on branches of *Salix purpurea* L. (Salicaceae).

Slovakia: Poprad (6987), 670 m a. s. l., Tatranská Lomnica (6887), 860 m a. s. l., 1923, galls, leg. E. Baudyš (BAUDYŠ 1924, as *R. salicis*). In the previous version of the Checklist of Diptera (JEDLIČKA et al. 2006) the occurrence in Slovakia was not given.

Distribution: widespread in Europe; in many articles it is given under the name *Rabdophaga salicis*

on *Salix purpurea*. This species is known from Bohemia and Moravia. First record from Slovakia.

***Rabdophaga insignis* (Kieffer, 1906)**

Larvae cause conspicuous bud galls on branches of *Salix purpurea* L. (Salicaceae).

Slovakia: Vrátná dolina (6879), 580 m a. s. l. in the Malá Fatra Mts, 20.7.1972, galls, leg., det., coll. M. Skuhrová. First record from Slovakia. This species is known to occur in the Czech Republic (SKUHRVÁ 1994a, b, as *Dasineura insignis*).

Distribution: Germany, Poland, Italy, Austria (galls in my collection).

***Rabdophaga karschi* (Kieffer, 1892)**

Larvae cause weak cylindrical or spindle swellings on thin branches of *Salix aurita* and *S. cinerea*. This species is given in the Catalogue of Palaearctic Diptera, Vol. 4 (SKUHRVÁ 1986) as a synonym of *Rabdophaga salicis* (Schrank, 1803) on the basis of synonymization of NIJVELDT (1977). STELTER (1978) did not agree with Nijveldt, considered it as an independent species and gave its redescription (STELTER 1980, 1993) which is accepted at present (GAGNÉ 2004).

Distribution: European species, recorded from UK, France, the Netherlands, Sweden, Latvia, Lithuania, Germany, Poland, Romania, Bulgaria, Slovenia, Ukraine.

This species is known to occur solitarily in Bohemia and Moravia (SKUHRVÁ 1994a, b where it is given under the name *Dasineura karschi*). In Slovakia the galls of *R. karschi* were found at Dobšiná (7188), 860 m a. s. l. (BAUDYŠ 1956). SKUHRVÁ (1991) gave this species under the name *Dasineura salicis*.

***Rabdophaga pulvini* (Kieffer, 1891)**

Larvae cause swellings of the leaf bases and adjacent parts of the stem on *Salix aurita* and *S. cinerea* L. (Salicaceae). STELTER (1977) redescribed this species, established a neotype and gave two species, *Bertiera rosariella* Kieffer, 1896, and *B. superna* Kieffer, 1896, as its synonyms. NIJVELDT (1979) and NIJVELDT & YUKAWA (1982) considered *R. pulvini* to be a synonym of *R. clavifex* whereas Stelter (1982, 1993) gave *R. pulvini* as a valid species. This species is given in the Catalogue of Palaearctic Diptera by SKUHRVÁ (1986) as a synonym of *R. clavifex*. HARRIS (2009a) recently examined galls and larvae and demonstrated that *R. rosariella* is a good valid species and it is not identical with *R. pulvini* or with *R. clavifex*.

Distribution: Sweden, Denmark, Latvia, UK, France, Germany, Poland, Austria, Russia (European part), Portugal, Italy, Romania, Croatia, Bosnia and

Herzegovina; Czech Republic, Slovakia. In the previous version of the checklist of Diptera (JEDLIČKA et al. 2006) this species is not given as a distinct species and, therefore, I mention here shortly its occurrence. In the Czech Republic galls of this species were found at 114 localities (SKUHRVÁ 1994a, b under *Dasineura pulvini*) and in Slovakia at 9 localities (SKUHRVÁ 1991 as a synonym of *Dasineura clavifex*).

***Rabdophaga rosariella* (Kieffer, 1897)**

Larvae cause very small leaf rosette galls on branches of *Salix aurita* L. and *S. cinerea* L. (Salicaceae). STELTER (1977) considered *R. rosariella* to be a synonym of *R. pulvini*, and NIJVELDT (1979) considered it to be a synonym of *R. clavifex*. I followed in the Catalogue of Palaearctic Diptera Nijveldt's conception. HARRIS (2009a) recently examined galls and larvae and demonstrated that *R. rosariella* is a good valid species that is not identical with *R. pulvini*, nor with *R. clavifex*. *Rabdophaga rosariella* was not given in the previous version of the Checklist of Diptera (JEDLIČKA et al. 2006) and, therefore, here are given the missing data.

In the Czech Republic the galls of this species were found at 36 localities of which 18 were in Bohemia and 18 in Moravia (SKUHRVÁ 1994a, b under *Dasineura pulvini*), in Slovakia at one locality (SKUHRVÁ 1991 under *Dasineura clavifex*).

Distribution: Latvia, Lithuania, France, England, Germany, Austria, Italy, Bosnia and Herzegovina.

***Xylodiplosis nigratarsis* (Zetterstedt, 1850)**

Larvae are xylophilous and develop in xylem vessels of fresh cut wood, mainly *Quercus* spp. (Fagaceae).

Czech Republic, Moravia: Lednice – Horní les (7266), 180 m a. s. l., 26.5.1981, 1 ♀; ex stationary collecting emergence traps; leg. J. Vaňhara, det., coll. M. Skuhrová.

Slovakia: Partizánske (7376), 195 m a. s. l., 5.5.1984, 2 ♀, reared from larvae developing in oak wood, leg. M. Čapek, det., coll. M. Skuhrová. First records from Moravia and Slovakia.

Distribution: European. Species is known from Bohemia.

***Xylopriona atra* (Meigen, 1804)**

Czech Republic, Moravia: Kuničky (6566), spruce monoculture, 570 m a. s. l., 11.6.1973, 2 ♂, ex stationary collecting emergence traps; leg. J. Vaňhara, det., coll. M. Skuhrová.

Slovakia: Arboretum Mlyňany (7676), mixed forest, 170 m a. s. l., 18.4.1987, 1 ♂, Möricke dish, leg., det.,

coll. M. Skuhrová. First records from Moravia and Slovakia.

Distribution: Holarctic.

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