

**Czech species of the gall-making sawflies of the genera *Phyllocolpa*,
Tubpontania and *Pontania* (Hymenoptera, Nematinae)**

KAREL BENEŠ

Kreuzmannova 14, CZ-318 00 Plzeň, Czech Republic; e-mail: beneskarel@seznam.cz

BENEŠ K. 2015: Czech species of the gall-making sawflies of the genera *Phyllocolpa*, *Tubpontania* and *Pontania* (Hymenoptera, Tenthredinidae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **100(1): 137–156**. – Galls of the nematine genera *Phyllocolpa* Benson, 1960, *Tubpontania* Vikberg, 2010, and *Pontania* Costa, 1852 from the Prof. Baudyš herbarium and the author's own records were revised and recorded in terms of recent taxonomic developments. The following species and subspecies have thus been recorded as new to the Czech species list: *Ph. plicadaphnoides* Kopelke, 2007, *Ph. polita* (Zaddach, 1883), *Ph. prussica* (Zaddach, 1883), *Ph. rolleri* Liston, 2005, *T. cyrnea* (Liston, 2005), *P. (E.) acufoliae acutifoliae* Zinovjev, 1985 and *P. (E.) collectanea rosmarinifoliae* Vikberg et Zinovjev, 2006.

Key words. *Phyllocolpa*, *Tubpontania*, *Pontania*, new records, galls, distribution, key

Introduction

The first contributions to knowledge of sawfly galls were published about in the early-to-mid 20th century in a number of papers by BAUDYŠ (e.g. 1915, 1916, 1922, 1924, 1925 1926a, b, 1943–4, 1948, 1953, 1954) and BAYER (e. g. 1914, 1928). The first review of species of the subfamily Nematinae known from the Czech Lands was published by GREGOR & BAŤA (1942), who recorded 13 species of the genus *Pontania*. Five of them are now classified as *Phyllocolpa*, and seven as *Pontania*. *P. fibulata* Konow, 1901 has been synonymized with *Ph. anglica* (Cameron, 1877). BENEŠ (1989) listed nine species of *Phyllocolpa* and ten species of *Pontania*, one with two subspecies. Since that time, both genera have been studied in detail by several authors (e.g. KOPELKE (1998, 1999, 2007a, 2007b, 2007c), VIKBERG (2010a, 2010b), VIKBERG & MALINEN (2012), VIKBERG & ZINOVJEV (2006), ZINOVJEV (1985, 1994, 1995, 2010), and ZINOVJEV & VIKBERG (1999) and a number of new species have been described, since species formerly regarded as oligophagous, feeding on a wide range of willow species (*Salix* spp.), were found to be strictly monophagous or associated with two or more related willow species. The morphological characters that discriminate between both adults and larvae are often very subtle and variable, and thus the most reliable character of a species remains its association with its host plant(s). The same problem has also been addressed for the genus *Euura* Newman, 1837 (BENEŠ 2014). Based on a DNA sequence (NYMAN *et al.* 2006) and also supported by morphological characters, VIKBERG (2010a) assigned the species of the *Phyllocolpa crassispina*-group to the new genus *Tubpontania*.

As a result of the revision of galls (predominantly from the Baudyš collection) and adults (partly reared), 13 species of *Phyllocolpa* Benson, 1960, two species of *Tubpontania* Vikberg, 2010, and 12 species of *Pontania* Costa, 1852 with two subgenera (five *Pontania* s. str., seven *Eupontania* Zinovjev, 1985 with four subspecies) are now

recorded from the territory of the Czech Republic. All of the above renders existing keys to the galls and larvae (LORENZ & KRAUS 1957; BENEŠ 1968b; ZEROVA *et al.* 1988) obsolete. The key in ZINOVJEV (1993) goes only as far as genera and species groups, while VIKBERG (2010a) has keyed galls and larvae of the genus *Tubpontania*. A key to the immature stages of species recorded in the Czech Republic is proposed.

New to the fauna of the Czech Republic are: *Ph. plicadaphnoides* Kopelke, 2007, *Ph. polita* (Zaddach, 1883), *Ph. prussica* (Zaddach, 1883), *Ph. rolleri* Liston 2005, *T. cyrnea* (Liston, 2005), *P. (E.) acutifoliae acutifoliae* Zinovjev, 1985 and *P. (E.) collactanea rosmarinifoliae*, Vikberg et Zinovjev, 2006.

Material and methods

The list of species is largely based on a revision of the galls from the herbarium of the late Professor. Ing. Dr. E. Baudyš (now deposited in the Moravian Museum, Botanical Department, Budišov u Třebíče). All the sheets with sawfly galls, deposited at the time in his Brno house, were revised in October 1960 and have now been revised in accordance with recent taxonomic developments. Each record includes locality with geographical coordinates (in brackets), date of collection (if known), host plant and name of the collector if other than Prof. Baudyš. The author's own records and data about published records from the territory are included to present an up-to-date list of Czech species. Nomenclature and notes on general distribution follow TAEGER & BLANK (2011) where more detailed data on the distribution can be found, and food plants are listed after KOPELKE (2003, 2007a, b, c) unless otherwise cited. Recent synonymies are provided to facilitate identification.

Abbreviations in text:

DEI	Senckenberg Deutsches Entomologisches Institut, Münchenberg
MMB	Moravian Museum, Brno
NMPC	National Museum, Praha
SW	sweeping

Results – list of species occurring in the Czech Republic

Genus *Phyllocolpa* Benson, 1960

Ph. alienata (Förster, 1854)

(= *coriacea* (Benson, 1953), sensu BLANK *et al.*, 2009)

Published records. MACEK (2009) recorded this species for the first time from the Jizerské hory Mts., also galls from further localities in the Czech Republic, as *Ph. alienata*.

Additional material examined. Bohemia: Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'), vii.–viii.1959–1960; galls on *Salix aurita*, lgt. K. Beneš.

Distribution. Central and northern Europe, widely distributed. Recorded from Canada by SMITH (1979).

Food plant. *Salix aurita*; leaf roll (Fig. 4b in KOPELKE 2007b): Both edges of the leaf-blade rolled downwards, wrinkled and more or less twisted along its longitudinal axis.

Comment. According to KOPELKE (2007b), who regarded this species as a member of the *leucapsis*-group, the “inner orbits [are] nearly entirely pubescent”, which is a feature characteristic of the *leucosticta*-group as generally understood by all previous authors (BENSON 1958, 1960, BENEŠ 1968b, MUCHE 1970, ZHELOCHOVTSEV 1988, VIKBERG 2010b, etc.): see also comment under *Ph. leucapsis*. According to BLANK *et al.* (2009) *Ph. alienata* is, in accordance with Article 23.9 (ICZN), *nomen oblitum* and the name *Ph. coriacea* must be used as *nomen protectum*.

***Ph. anglica* (Cameron, 1877)**

(= *fibulata* Konow, 1901)

Published records. KONOW (1901): “Moravia” as *P. fibulata*. BENEŠ (1977) and URBAN (1993) recorded it from Skalička (49°31', 17°48') as a new species for the Czech Republic.

Distribution. Central and northern Europe.

Food plant. *Salix viminalis*, *Salix dasyclados*, *Salix schwerinii*; leaf roll (as in Fig. 6e in KOPELKE 2007c): One or both sides of a leaf are rolled downwards for nearly the whole length of the blade, forming a narrow tunnel, with the mid-rib often remaining visible. One green larva with brownish-yellow head, dark spots on posterior abdominal segments and black pseudocerci (BENANDER 1969, VIKBERG 2010b).

Comment. It is worth of noting that KOPELKE (2007c) erroneously synonymized this species with *Ph. scotaspis* without mentioning the more important morphological characters of the two species. While in *Ph. anglica* the mesoscutellum is flat, smooth and lustrous, in *Ph. scotaspis* it is, as in *Ph. piliserra*, conspicuously convex, punctate and dull. *Pontania fibulata* KONOW 1901, described from France and Moravia, was synonymized with *P. scotaspis* by KOPELKE (2007c), but VIKBERG (2010b) demonstrated that it is identical with *P. anglica*.

***Ph. carinifrons* (Benson, 1940)**

(= *excavata* auct.)

Published records. BENEŠ (1989) as *Pontania excavata* Marlatt 1896.

Additional material examined. Bohemia: Železnice – mlýn (mill) (50°28', 15°23'), 12.vii.1916; Moravia: Bílý potok Stream at Karlova Studánka (50°04', 17°18'), 14.viii.1950; Karlov pod Pradědem (50°01', 17°17'), 29.vii.1950; Malá Morávka (50°01', 17°19'), 10.viii.1950; Velké Dářko (49°38', 15°53'), 23.vii.1922; all galls on *Salix pentandra*; all rev. and det. K. Beneš.

Distribution. Central and northern Europe.

Food plant. *Salix pentandra*; leaf fold (Fig. 12a in KOPELKE 2007a): One side of the leaf blade folded downwards. Larva with dark head, thoracic legs with black markings and two apical abdominal segments with several black spots.

***Ph. erythropyg* (Förster, 1854)**

(= *leucosticta* auct., partim)

Published records. MACEK (2009) recorded it as a new species for the country from several localities in northern Bohemia (Jizerské hory Mts).

Additional material examined. Bohemia: Dobříš (49°47', 14°10'); Hřebečnický (49°59', 13°45'); vii.1959, galls on *Salix aurita*, K. Beneš lgt.; Velichovky (50°21', 15°50'); Moravia: Bystřice pod Hostýnem (49°24', 17°40'); Zábřeh na Moravě (49°53', 16°52'); galls on *S. aurita*; all E. Baudyš lgt.; Slovakia: Tatranská Lomnica 1200 m a. s. l., galls on *Salix aurita*, lgt. Zavřel, coll. E. Baudyš; all K. Beneš det.

Distribution. Central and northern Europe.

Food plant. *Salix aurita*; leaf fold (Fig. 12c in KOPELKE 2007a): One side of the leaf blade freely folded downwards; last instar larva feeds partly outside the gall.

***Ph. leucapsis* (Tischbein, 1846)**

Published records. GREGOR & BAŤA (1942); BENEŠ (1989); MACEK (2009, 2011).

Additional material examined. Bohemia: Hřebečnický (49°59', 13°45'), vii.1959, lgt. K. Beneš; leaf rolls on *Salix cinerea*; Moravia: Brno env. (49°11', 16°39'), coll. E. Baudyš; all K. Beneš rev. and det.

Distribution. Europe.

Food plant. *Salix cinerea*; leaf roll (Fig. 4c in KOPELKE 2007b): Usually both edges of the leaf rolled downwards, wrinkled and twisted along its longitudinal axis.

Comment. KOPELKE (2007b) rather unfortunately designated the neotype on the basis of his own reared material, which fails to agree with *Ph. leucapsis* in the sense of all previous authors, e.g. ENSLIN (1916), BENSON (1958, 1960), MUCHE (1970), ZHELOCHOVTSEV 1988, VIKBERG (2010b), and other recent authors. VIKBERG (2010b) has discussed this matter in detail.

***Ph. leucosticta* (Hartig, 1837)**

Published records. GREGOR & BAŤA (1942); BENEŠ (1989); MACEK (2009, 2011). Numerous records, coll. E. Baudyš.

Additional material examined. Bohemia: Hřebečnický (49°59', 13°45'); Rakovník (50°06', 13°45'), vii.–viii.1959–1961; galls on *Salix caprea*, lgt. K. Beneš.

Distribution. Europe, Algeria.

Food plant. *Salix caprea*; leaf fold (as in Fig. 12c in KOPELKE 2007a) as in *Ph. erythropyg*.

Comment. See also comment under *Ph. leucapsis*.

***Ph. oblita* (Serville, 1823)**

(= *puella* (THOMSON 1871))

Published records. GREGOR & BAŤA (1942); BENEŠ (1989); URBAN (1993) as *Ph. puella*.

Additional material examined. Bohemia: Jičín env. (50°25', 15°21'); Lány (50°08', 13°50'); Skryje (49°58', 13°45'), 1♂, 24.v.1959, SW on *Salix fragilis*; lgt. K. Beneš; Stromovka (50°06', 14°25'), 13.x.1916, leaf folds

on *Salix vitellina*; Volanice, near Jičín (50°19', 15°27'), leaf folds on *Salix triandra*; Moravia: Bludov (49°56', 16°56'); Bruntál env. (49°59', 16°55'); Bystřice pod Hostýnem (49°24', 17°40'); Bystřička, near Dřevohostice (49°25', 17°38'); Hostýn env. (49°24', 17°39'), lgt. Zavřel; Karlov, near Malá Morávka (50°01', 17°17'); Lipník (49°31', 17°15'); Morávka (49°36', 18°31'); Nová Říše, (49°08', 15°34'); Rýmařov (49°56', 17°16'); Staré Město na Moravě (49°48', 16°40'); Staré Město pod Sněžníkem (50°10', 16°57'); Tlumačov (49°15', 17°30'); Zlaté Hory (50°16', 17°24'), all lgt. an coll. E. Baudyš (as *P. leucapsis*, *P. puella*), galls on *Salix fragilis*; Bludov (49°56', 16°55'); Brno env. (49°11', 16°39'); Hranice na Moravě (49°33', 17°44'); Javorník, Silesia (50°23', 17°00'); Kroměříž (49°12', 17°24'), lgt. Zavřel; Lipník (49°31', 17°15'); Morávka (49°36', 18°31'); Trnávka (49°41', 18°11'), leaf folds on *Salix alba*; Zlín (49°14', 17°40'); 13.vii.1950, lgt. Zavřel, leaf folds on *Salix babylonica*; all. coll. E. Baudyš, rev. and det. K. Beneš in 1960 as *Ph. puella*;

Distribution. Europe.

Food plant. *Salix alba*, *S. fragilis*, *S. triandra*, *S. vitellina*; leaf fold (Fig. 12d in KOPELKE 2007a): Short, narrow, one-sided, smooth, flat leaf-fold, in basal or central part of leaf blade, which is often distinctly arched.

Ph. piliserra (Thomson, 1863)

Published records. GREGOR & BAŤA (1942): Bohemia: Srubec u Českých Budějovic (48°57', 14°32'), 1♀ 20.vi.1941, lgt. L. Baťa, not found in NMPC; Moravia: Nový Jičín (49°35', 18°02'), 1♀, 8.vii.1930, lgt. and det F. Gregor, coll. NMPC; URBAN (1993): Skalička (49°31', 17°48'), 2♂♂; BENEŠ (1968b, 1989).

Additional material examined. Bohemia: Hřebečnický (49°59', 13°45'), 1♀, 10.v.1959; 1♂, 24.v.1959; 4♀♀2♂♂, ex larva 31.vii.1959; Lašovice (50°03', 13°47'); Rakovník (50°06', 13°45'); Skřiván (50°01', 13°46'); Zvíkovec (49°57', 13°41'), vii.1959, lgt. K. Beneš; Velichovky (50°21', 15°50'); leaf folds and larvae on *Salix viminalis*; Moravia: Biskupice u Jevíčka (49°39', 16°45'), 19.viii.1946; Červený Hrádek – Nová Říše (49°08', 15°34'), 19.viii.1927; all leaf folds on *Salix viminalis*, all lgt. et coll. E. Baudyš; all rev. and det. K. Beneš.

Distribution. Europe.

Food plant. *Salix viminalis*, *Salix dasyclados*; leaf fold (Fig. 1a,b in BENEŠ (1968b), Figs. 110, 1, 2 in ZHELOCHOVTSEV (1988)): Both sides of leaf wrinkled and folded beneath and across mid-rib before the larvae hatch. Folded edges of the leaf form a long cavity in which are several (3–5, rarely up to 8) green, dorsally greyish-green larvae without pseudocerci; claws of thoracic legs with conspicuous basal lobes. Young larvae start to feed on lower epidermis and parenchyma, mature larvae feed outside the leaf-fold on all the unrolled apical part of the leaf, leaving only the thicker veins intact. Two broods. Infested willows are easily recognizable, since nearly all the terminal leaves on a twig are rolled and become yellowish to brown as intact upper epidermis dries. Heavily infested shoots are retarded in their growth. These often ramify and lose their value for basketry.

Comment. BAUDYŠ (1953) also gives the following localities: Dolní Těšice, nr. Kelč, Kroměříž, Morkovice, Prostějov and Turovice, near Dřevohostice (not seen).

Ph. plicadaphnoides Kopelke, 2007

Material examined. Moravia: Bludov (49°56', 16°56'); Jeseník (50°13', 17°13'); leaf folds on *Salix daphnoides*, coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Europe.

Food plant. *Salix daphnoides*; leaf fold (Fig. 12c in KOPELKE 2007a): One or both sides of the leaf-blade narrowly folded downwards along nearly its entire length.

Comment. New species for the Czech Republic.

***Ph. polita* (Zaddach, 1883)**

(= *leucapsis* auct., partim)

Material examined. Bohemia: Dobříš (49°47', 14°10'); Jičín env.(50°25', 15°21'); Špindlerův Mlýn (50°44', 15°36'), leaf folds on *Salix purpurea* x *silesiaca*; all coll. E. Baudyš, Zvíkovec (49°57', 13°41'), vii.1959, galls and larvae on *S. purpurea*, lgt. K. Beneš. Moravia: Bludov (49°56', 16°56'); Horní Heřmanice (49°58', 16°42'); Hostýn env. (49°23', 17°38'), Karlov (50°01', 17°17'); Kroměříž (49°12', 17°24'); Malá Morávka (50°01', 15°53'); Rožná nad Pernštejnem (49°29', 16°14'); Šumperk env. (49°59', 16°18'); Trnávka (49°41', 18°11'); leaf folds on *Salix purpurea*; all rev. and det. K. Beneš.

Distribution. Central, southern (Greece, Italy) and northern Europe.

Food plant. *Salix purpurea*, *Salix purpurea* x *silesiaca*; leaf fold (Fig. 12g in KOPELKE 2007a, Fig. 1 in MOL 2013): Flat one-sided fold of a leaf blade.

Comment. New species for the Czech Republic.

***Ph. prussica* (Zaddach, 1883)**

(= *leucosticta* auct., partim)

Material examined. Bohemia: Hřebečnický (49°59', 13°45'), vii.1960, lgt. K. Beneš; Moravia: Heřmanice (49°53', 18°18'), lgt. and coll. E. Baudyš; all leaf folds on *Salix cinerea*.

Distribution. Central Europe.

Food plant. *Salix cinerea*; leaf fold (Fig. 12b in KOPELKE 2007a): Spacious, one-sided, wrinkled fold of a leaf-blade.

Comment. New species for the Czech Republic.

***Ph. rolleri* Liston, 2005**

Material examined. Bohemia: Krkonoše Mts: Bílé Labe 1100 m a.s.l. (50°44', 15°38'), Labský důl Valley (50°45', 15°32'), Kotel (50°45', 15°31') coll. Baudyš, No.868; Mumlava 1200 m (50°46', 15°30'), viii.1980 lgt. K.Beneš.

Distribution. Slovakia, Czech Republic.

Food plant. *Salix silesiaca*, twisted leaf roll.

Comment. New species for the Czech Republic. The species was described from specimens initially associated with *S. hastata* (LISTON 2005), later identified as *S. silesiaca* (LISTON 2011). BENEŠ (2013) recorded it as *Ph. leucosticta*.

***Ph. scotaspis* (Förster, 1854)**

Published records. Moravia: GREGOR & BAŤA (1942): Ubušín (49°38', 16°16'), 1♀, vii, lgt. F. Gregor, not found in NMPC; URBAN (1993): Prosenice (49°30', 17°29'); Skalička (49°31', 17°48'); Vyškov (49°17', 17°00'); leaf rolls on *Salix viminalis*.

Distribution. Over all Europe from Romania to Sweden, and according to VIKBERG (2010b) also Siberia: Yakutsk, Jenisseisk.

Food plant. *Salix viminalis*, *Salix dasyclados*, *Salix schwerinii*; leaf roll (Fig. 6e in KOPELKE 2007c): One or both sides of the leaf-blade rolled downwards for nearly its entire length; in a thin tunnel, one pale green larva with brown head, abdomen without blackish spots and pseudocerci pale (BENANDER 1969; VIKBERG 2010b).

Comment. Gall records of this species on *Salix purpurea* (BAUDYŠ 1953) probably apply in part to *Tubpontania purpureae*. BAUDYŠ (l.c.) writes that the infested shoots remain undeveloped and are more susceptible to frost.

Genus *Tubpontania* Vikberg, 2010

***T. cyrnea* (Liston, 2005)**

(= *P. joergenseni* Enslin, 1916)

Published records: BENEŠ (1989) as *Pontania joergenseni* ("Moravia").

Additional material examined. Bohemia: Hřebečnický (49°59', 13°45'), vii.–viii.1959–1960; Rakovník (50°06', 13°45'), vii.1959; leaf rolls on *Salix caprea*, lgt. K. Beneš.

Distribution. Central and northern Europe.

Food plant. *Salix caprea*; leaf roll (as in Fig. 6a in KOPELKE 2007c): narrow edge of the leaf blade tightly rolled downwards, forming a smooth, narrow tube; often two galls per leaf; older larvae feed outside the gall on leaf edge.

Comment. *Tubpontania cyrnea* (Liston, 2005) was listed from the Czech Republic in ECatSym 2011 (TAEGER & BLANK 2011), based on the type locality "Moravia" of *P. joergenseni* auct. nec Enslin, 1916, although ZINOVJEV & VIKBERG (1999) noted that both paralectotypes of *P. joergenseni* from Moravia belong to *T. purpureae* (Vikberg, 2010), and listed it again from the Czech Republic without giving any particular data. KOPELKE (2007c) synonymized both *P. joergenseni* and *Ph. cyrnea* with *Ph. anomaloptera* (Förster, 1854); however VIKBERG (2010a) demonstrated that both *T. anomaloptera* and *T. cyrnea* are valid species.

***T. purpureae* (Cameron, 1884)**

Published records. BENEŠ (1989); URBAN (1993); ZINOVJEV & VIKBERG (1999): ♀♂, "Moravia", coll. Konow, DEI; MACEK (2009): Jizerské hory Mts; VIKBERG (2010a): Kolín (50°02', 15°12'), 1?, 9.v.1963, lgt. A. Hoffer, coll. NMPC.

Additional material examined. Bohemia: Hřebečnický (49°59', 13°45'), 1♀, 24.v.1959, SW *Salix purpurea*; Hřebečnický (49°59', 13°45'), vii.1960, leaf rolls on *Salix purpurea*, all lgt. and det. K. Beneš; Moravia: Bludov env. (49°56', 16°56'); Horní Heřmanice (49°58', 16°42'), coll. E. Baudyš; Moravia, sine loc, 2♀♀, 2.vi.1896, lgt. A. Slaviček, coll. MMB.

Distribution. Central and southern Europe.

Food plant. *Salix purpurea*; leaf roll (Fig. 3 in BENEŠ 1968b, Fig. 6d in KOPELKE 2007c): Both sides of the leaf blade rolled downwards and spirally twisted for the entire length. The tissue of the gall thickens and becomes fleshy and fragile, the leaves become yellowish and drop early, when the larva stops feeding. Young larvae feed on lower epidermis and parenchyma, leaving only the upper epidermis intact; mature larvae make holes. The leaves in the apical part of the shoot are often infested, thus very conspicuous. Two broods a year.

Comment. ZINOVJEV & VIKBERG (1999) demonstrated that paralectotypes of *P. joergenseni* Enslin, 1916 from Moravia belong to *T. purpureae* (Cameron, 1884).

Genus *Pontania* A. Costa, 1859

Subgenus *Pontania* s. str.

Small, coffee-bean-shaped galls transected by the leaf blade (*proxima*-group) or elongate sausage-shaped, galls, mostly paired, projecting only above the leaf blade (*dolichura*-group)

P. (P.) bridgmanii (Cameron, 1883)

Published records. BENEŠ (1968a,b, 1989, 2013), MACEK (2009, 2011).

Additional material examined. Bohemia: Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'); Skryje (49°58', 13°45'), lgt. Beneš; Kopidlno (50°20', 15°16'), lgt. E. Baudyš; galls on *Salix caprea*; Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'); Skryje, (49°58', 13°45'), lgt. K. Beneš, galls on *Salix aurita*; Velichovky (50°21', 15°50'); Dvůr Králové nad Labem (50°26', 15°49'); Jičín (50°25', 15°21'), all lgt. and coll. E. Baudyš; Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'); Skryje (49°58', 13°45'), lgt. K. Beneš; galls on *Salix cinerea*; Moravia: Brno (49°11', 16°39'); Heřmanice (49°53', 18°18'); Karlova Studánka (50°04', 17°18'); Nová Říše (49°08', 15°34'); Rožná nad Pernštejnem (49°29', 16°14'); Šumperk (49°59', 16°58'); Bystřice nad Pernštejnem (49°31', 16°16'); Malá Morávka (50°01', 17°17'); Bludov (49°56', 16°55'); Kojetín (49°21', 17°18'); Mikulov (48°48', 16°38'); Olomouc (49°36', 17°15'); Podivín, (48°49', 16°51'); Šakvice (48°54', 16°43'); Tišnov (49°21', 16°25'), galls on *Salix cinerea*; Kouty nad Desnou (50°01', 17°07'), galls on *Salix silesiaca*; Lipník (49°32', 17°35'), 1♀, 24.iv.1942, all lgt. and coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Europe.

Food plant. *Salix* sect. *Vetrix*: *S. aurita*, *S. caprea*, *S. cinerea*, *S. silesiaca*; *S. atrocinerea*; gall dark green to reddish-tinted dorsally and yellowish-green ventrally; coffee-bean-shaped and thick-walled, smooth and usually glabrous galls transected by leaf blade but projecting somewhat above it; mostly two to four but often only one gall per leaf.

P. (P.) dolichura (THOMSON, 1871)

(= *lapponicola* KOPELKE, 1994)

Published records. HIERONYMUS (1891) as *Nematus ischnocerus* Thoms.; BENEŠ (1968a, 2013): Pančavská louka Meadow), 2♀♀, 24.vi.–27.vii.2005, lgt J. Vaněk; subalpine meadows (Kotel, Labská louka, Šišák) in the Krkonoše Mts.; galls on *Salix lapponum*, lgt. E. Baudyš, identified as *P. dolichura* (BENEŠ (1989a) and *P. lapponicola* (BENEŠ 2013).

Distribution. Northern Europe; Scotland (BENSON 1954).

Food plant. *Salix lapponum*; single or paired, sausage-shaped, slightly pubescent gall on the upper side of the leaf, dorsally green to reddish, ventrally yellowish-green.

Comment. TAEGER & BLANK (2011) listed *P. lapponicola* as a valid species, however VIKBERG & MALINEN (2012) recently synonymized it with *P. dolichura*. See also comment under *P. virilis*.

P. (P.) proxima (Serville, 1823)

Published records. GREGOR & BAŤA (1942); BENEŠ (1968a, 1989, 2013); MACEK (2009).

Additional material examined. Bohemia: Rakovník (50°06', 13°45'), 1♂, vi.1989, ex gall on *Salix fragilis*, lgt. and det. K. Beneš.

Distribution. Europe. introduced to North America, Australia and New Zealand. Parthenogenetic species, males very rare (BENSON 1958 gives ratio of females to males as 1000:1; KOPELKE 1999b as 635: 1).

Food plant. *Salix* sect. *Salix*: *S. alba*, *S. babylonica*, *S. fragilis*, *S. x rubens*; gall (Fig. 1); thick-walled, medullar, coffee-bean-shaped galls transected by leaf blade. Young galls are yellowish to green, mature ones yellowish-green to pink ventrally and dorsally dark reddish to reddish-brown, 8–12 mm long and 4–10 mm deep; numerous galls (up to 20), usually on both sides of the blade. Two broods a year.

P. (P.) triandrae Benson, 1941

Published records. BENEŠ (1989); URBAN (1993).

Additional material examined. Bohemia: Rakovník (50°06', 13°45'); Hřebečnický (49°59', 13°45'); Skryje (49°58', 13°45'); Zvíkovec (49°57', 13°41'), vii.–viii.1959–60; galls on *S. triandra*; all lgt et det. K. Beneš.

Distribution. Central and northern Europe.

Food plant. *Salix triandra*; gall as in *P. proxima*, usually one but often two or more coffee-bean-shaped, smooth, lustrous, glabrous galls transected by leaf blade, dark red above and pale yellowish-green ventrally. Common.

P. (P.) virilis Zirngiebl, 1955

Published records. GREGOR & BAŤA (1942) as *P. femoralis*; BENEŠ (1968a, 1989); URBAN (1993) as *P. dolichura*; BENEŠ (2013) as *P. virilis*.

Additional material examined. Bohemia: Doksy (50°34', 14°39'); Hodkovice (50°40', 13°08'), lgt. E. Baudyš; Hřebečnický (49°59', 13°45'); Rakovník (50°06', 13°45'); Skryje (49°58', 13°45'), lgt. K. Beneš; Rábí (49°55', 13°37'); Železnice, (50°28', 15°23'), lgt. E. Baudyš; Moravia: Jevíčko (49°38', 16°43'); Karlov (50°01', 17°17'); Lipník (49°32', 17°35'); Lipová-lázně (50°14', 17°07'); Malá Morávka (50°01', 17°19'); Praděd (50°05', 17°14'); Raškov (50°02', 16°54'); Staré Město na Moravě (49°48', 16°40'); Štramberk (49°36', 18°17'), all lgt. and coll. E. Baudyš; all galls on *Salix purpurea*; Kotouč near Štramberk (49°35', 18°17'), lgt. and coll. E. Baudyš, galls on *Salix viminalis* x *purpurea*; all rev. and det. K. Beneš.

Distribution. West Palaearctic.

Food plant. *Salix purpurea*; gall (Fig. 12 in MOL 2013); usually paired, sausage-shaped, elongate, glabrous galls (up to 20 × 5 mm) protruding only on the upper side of the leaf blade. Young galls dorsally dark green, later with reddish tint, and mature galls dark reddish to reddish-brown, ventrally pale green. Monovoltine spring species.

Comment. The taxonomic status of the species in this species-group remains somewhat uncertain. KOPELKE (1994) in his revision of the *dolichura*-group, recognized seven European species in this group but mentioned at least another 11 species of willow as hosts of species of this group without definite taxonomic status. It is worthy of mention that a female reared in 1960 from a gall on *Salix myrsinites* (Slovakia, High Tatra Mts, Furkotská Valley, 1800 m a. s. l., viii.1959, emerged in iv.1960), oviposited both on *S. retusa* and *S. purpurea* where galls and larvae also subsequently developed.

Subgenus *Eupontania* Zinovjev, 1985

Rounded, pea-shaped or oval, often rather irregular galls attached to the mid-vein on underside of leaf (*viminalis*-group) or large, bean-shaped, thin-walled galls transected by the leaf blade (*vesicator*-group).

P. (E.) acutifoliae acutifoliae Zinovjev, 1985

Published records. (URBAN 1993): Bzenec, galls on *Salix acutifolia* (as *P. viminalis*).

Additional material examined. Bohemia: Mazánek tree-nursery near Jičín (50°26', 15°20'); galls on *Salix acutifolia*; coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Europe.

Food plant. *Salix acutifolia*; gall (Fig. 9 in MOL 2013) pea-shaped, rarely irregular, yellowish to reddish galls on the ventral side of the leaf, with small warts; up to five galls per leaf.

Comment. *Salix acutifolia* is an alpine species, very rare in the Czech Republic (Šumava Mts.) and sometimes planted. New subspecies for the Czech Republic.

P. (E.) acutifoliae daphnoides Zinovjev, 1993

Published records. BENEŠ (1968a) as *P. viminalis*; BENEŠ (2013) as *P. acutifoliae daphnoides*. Horní Albeřice (50°41', 15°51'), viii.1959, galls on *Salix daphnoides*, lgt. P. Pecina, det. K. Beneš.

Additional material examined. Bohemia: Horšovský Týn (49°32', 12°56'), lgt. Maloch; Vysoké nad Jizerou (50°41', 15°24'); Moravia: Bernartice nad Odrou (49°37', 17°57') (abundant); Beskydy (Tanečnice) (49°27', 18°16'); Bludov (49°56', 16°56'); Jeseník (50°13', 17°13'); Kroměříž env. (49°12', 17°24'); Mohelnice (49°47', 16°55'); Napajedla env. (49°10', 17°31'); Ramzová (50°12', 17°04'); Rýmařov (49°56', 17°16'); Šumperk env. (49°59', 16°58'); Uherské Hradiště (49°04', 17°30'); Vsetín (49°20', 18°00'), lgt. Bubela; Zábřeh (49°53', 16°52'); galls on *Salix daphnoides*, all lgt and coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Europe.

Food plant. *Salix daphnoides*; gall as in nominal subspecies.

***P. (E.) brevicornis* (Förster, 1854)**

(= *pedunculi* sensu KOPELKE 1991, nec HARTIG 1837)

Published records. VIKBERG & ZINOVJEV (2006): Bohemia, Nové Strašecí (50°09', 13°52'), 1♀ ex larva on *Salix cinerea* x *caprea*, 2.viii.1959, lgt. K. Beneš, det. et coll. V. Vikberg; Moravia: Třešť (Novomlýnský rybník Pond (49°17', 15°29'), 1?, 4.viii.1928, ex larva on *S. cinerea*, lgt. E. Baudyš, det. K. Beneš as *P. pedunculi* Htg..
Material examined. see above.

Distribution. Central and northern Europe.

Food plant. *Salix cinerea*; rounded yellowish and more or less pubescent gall on the ventral side of the leaf blade.

Comment. VIKBERG & ZINOVJEV (2006) pointed out that a species associated with *Salix cinerea* and named by KOPELKE (1991) as *P. pedunculi* belongs to *P. brevicornis* and recorded it as a species new for the Czech Republic.

***P. (E.) collactanea collactanea* (Förster, 1854)**

Published records. GREGOR & BAŤA (1942): Milkov (49°4', 16°52'), 3♀♀, v–vi, lgt. Slaviček, coll. MMB; BENEŠ (1989); URBAN (1993): Skalička (49°31', 17°48'), 1♀, 15.vi..

Additional material examined. Moravia: Řepešín (not found) 14.iv.1942; galls on *Salix repens*, lgt Otruba, coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Central and northern Europe.

Food plant: *Salix repens*; gall (Fig. 2): rounded or irregular oval, yellowish to deep red gall, without warts, on the ventral side of the leaf with small reddish scar dorsally; macroscopically glabrous, with sparse, short microtrichiae. Monovoltine species.

***P. (E.) collactanea rosmarinifoliae* Vikberg et Zinovjev, 2006**

Material examined. Bohemia: Hůrka, near Horní Planá (48°45', 14°04'), 27.viii.1959, galls on *Salix rosmarinifolia*, lgt. V. Skalický; Moravia: Kroměříž env., Valachy, S. of Pornice (49°15', 17°10'), forest bog, c. 260 m a. s. l., 9.v.1957, lgt. H. Zavřel, all coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Central and northern Europe.

Food plant. *Salix rosmarinifolia*; gall as in nominal subspecies.

Comment. New subspecies for the Czech Republic.

***P. (E.) kriebbaumeri* Konow, 1901**

Published records. BAYER (1914): Valašské Meziříčí (49°28', 17°58'), galls on *Salix eleagnos*; GREGOR & BAŤA (1942); BENEŠ (1989).

Additional material examined. Moravia: Český Těšín (49°45', 18°37'); Dolní Paseky, near Rožnov (49°29', 18°09'); Olomouc (49°36', 17°15'); galls on *Salix eleagnos*, lgt., det. and coll. E. Baudyš.

Distribution. Central and southern Europe.

Food plant. *Salix eleagnos*; gall (Fig. 3): small (4–7 mm) rounded, whitish, felt-like galls on ventral side of the leaf, with small red scar on the upper side. Surface of the gall

greenish to pinkish with small brownish warts and strongly curled hairs. One to four galls per leaf. One brood a year.

***P. (E.) pedunculii* (Hartig, 1837)**

(= *gallarum* sensu KOPELKE 1991, nec Hartig, 1837; *N. bellus* Zadach, 1876)

Published records. Numerous data: GREGOR & BAŤA (1942); BENEŠ (1989); MACEK (2009, 2011).

Additional material examined. Bohemia: Dobříš env. (49°47', 14°10'); Hodkovice (50°40', 13°08'); Jičín env. (50°25', 15°21'); Rožmitál (49°36'.13°52'), lgt E. Baudyš; Skryje (49°58', 13°45'), 1♂, 30.iii.1959, reared ex larva on *Salix caprea*; Hřebečniky (49°59', 13°45'), 2♀♀, 5.iv.1959, 1♀, 9.v.1959, SW, lgt. and det. K. Beneš. Moravia: Bludov env. (49°56', 16°56'); Brno (49°11', 16°39'); Horní Heřmanice (49°58', 16°42'); Královský Sněžník (50°10', 16°57'); Šumperk (49°59', 16°58'); Zlaté Hory (50°16', 17°24'), galls on *Salix caprea*; Jevíčko (49°38', 16°43'); Telč (49°11', 15°2'), galls on *Salix aurita*; all lgt. et coll. E. Baudyš, rev. and det. K. Beneš.

Distribution. Europe, Siberia (Yakutsk, Magadan), Sakhalin, (VIKBERG & ZINOVJEV, 2006); Kamchatka (BENSON, 1958; ZHELOKHOVTSEV, 1988).

Food plant. *Salix* sect. *Vetrix*: *S. aurita*, *S. caprea*, *S. silesiaca*, *S. starkeana*, etc.; gall (Fig. 96 in KOPELKE 1991): pea-shaped and more or less densely pubescent gall on ventral side of the leaf.

***P. (E.) vesicator* (Bremi-Wolf, 1849)**

Published records. GREGOR & BAŤA (1942); BENEŠ (1968a, 1989); URBAN (1993); MACEK (2009).

Additional material examined. Bohemia: Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'); Slabce (50°01', 13°43'), vii.1959–1960, galls on *Salix purpurea*, lgt. K. Beneš.

Distribution. Europe.

Food plant. *Salix purpurea*; gall (Fig. 11 in MOL 2013): large (up to 20 x 15 mm) thin-walled smooth, glabrous and slightly plumose, bean-shaped galls attached to mid-rib and transected by the leaf blade, greenish, dorsal parts exposed to sun more or less reddish. Galls on *Salix x superpurpurea* project conspicuously beyond the edge of the leaf. One to three galls per leaf.

***P. (E.) viminalis* (Linnaeus, 1758)**

Published records. BAYER (1914) as *P. salicis*; GREGOR & BAŤA (1942); BENEŠ (1968a, 1989); URBAN (1993).

Additional material examined. Bohemia: Hřebečniky (49°59', 13°45'); Rakovník (50°06', 13°45'); Slabce (50°01', 13°43'); Skryje (49°58', 13°45'), vii.–viii.1959, numerous galls on *Salix purpurea*, lgt. and det. K. Beneš.

Distribution. Central and southern Europe (north to N. Germany, Poland and Baltic states, south to Crimea peninsula, east to Ukraine and Russia (Kiev, Pskov) (VIKBERG & ZINOVJEV 2006).

Food plant. *Salix purpurea*; gall (Fig. 4, Fig. 10 in MOL 2013): pea-shaped, yellowish-green to yellow galls with small whitish to brownish warts, mature galls with surface exposed to sun flushed red.

Comment. BENSON (1940) described *P. harrisoni* with paratypes from Bohemia (75 ♀♀, Chodau (= Chodov), lgt. R.V. Stein, coll. BMNH), later synonymized with *P. viminalis*;

however ZINOVJEV (1994) regarded it as *P. aestiva harrisoni*, (now *P. saliciscinereae harrisoni*) and maintained that paratypes from Bohemia represent a distinct species, as yet not described.

Species deleted from the Czech list

GREGOR & BAŤA (1942) recorded *Pontania forsiusi* Enslin, 1915 from peat-bog in the Bohemian Forest, (Wallern = Volary), 1♀, 19.vi.1933, lgt. L. Baťa, det. F. Gregor, coll. ?, not seen). LINDQVIST (1944), on the basis of a type revision, synonymized it with the arcto-alpine Holarctic *Nematus (Lindqvistia) reticulatus* Holmgren, 1883.

Key to the immature stages of the species of the genera *Phyllocolpa*, *Tubpontania* and *Pontania* in the Czech Republic

- 1 Leaf folds or rolls often slightly thickened (histoid gall) and often curled and spirally twisted for the entire length of the leaf (*Phyllocolpa* and *Tubpontania*) 2.
- Closed medullar unilateral or bilateral leaf galls of various shapes (*Pontania*) 14.
- 2(1) Leaf folds/rolls on narrow-leaved willows of the subgenus *Salix* and sections *Vimex*, *Daphnella* and *Helix* 3.
- Leaf folds/rolls on broad-leaved willows of the subgenus *Vetrix* 10.
- 3(2) Leaf folds/rolls on *Salix viminalis* (osier) 4.
- Leaf folds/rolls on other willow species 6.
- 4(3) Both sides of the leaf folded downwards for nearly its entire length, covering midrib; several greyish-green larvae with posteriorly rounded supra-anal plate lacking pseudocerci, tarsal claws with conspicuous basal lobe; head yellowish-brown with darker frontal area and supraorbital stripes *Ph. piliserra*
- Unilateral (sometimes bilateral) leaf roll, forming a narrow tube with single green larva, pseudocerci in the corners of supra-anal plate 5.
- 5(4) Pale green larva with brown head, posterior abdominal segments, supra-anal plate and small pseudocerci without blackish markings *Ph. scotaspis*
- Green larva with brownish-yellow head, two posterior abdominal segments, supra-anal plate and pseudocerci with blackish markings *Ph. anglica*
- 6(3) Leaf rolls on *Salix purpurea* 7.
- Leaf rolls or folds on other species of willows 8.
- 7(6) Unilateral tight leaf roll; larva with supra-anal plate dark-spotted and tarsal claws with distinct basal lobe *Ph. polita*

- Bilateral, longitudinally twisted leaf roll with distinct swelling at oviposition site; larva without distinct dark spots on the supra-anal plate and tarsal claws without distinct basal lobe ***T. purpureae***
- 8(6) On *Salix alba*, *S. babylonica*, *S. fragilis*, *S. × rubens*, *S. triandra*; unilateral short, tight, leaf fold reaching mid-vein; whole leaf often distinctly arched; larva green, dorsally darker; head yellowish-brown; frons, postocular area and labrum brown; supra-anal plate with two brownish spots, pseudocerci large and pale ***Ph. oblita***
– Leaf rolls or folds on other species of willows 9.
- 9(8) On *S. pentandra*; leaf roll does not reach mid-vein; larva with dark head, thoracic legs partly blackish, two posterior abdominal segments spotted black dorsally ***Ph. carinifrons***
– On *S. daphnoides*; uni- or bilateral narrow, tubular leaf fold ***Ph. plicadaphnoides***
- 10(2) On *S. caprea* 11.
– On *S. aurita* 12.
– On *S. cinerea* 13.
– On *S. silesiaca*; twisted bilateral leaf roll ***Ph. rolleri***
– On *S. lapponum*; twisted bilateral leaf roll ***Ph. acutiserra***^{*)}
– On *S. lapponum*; unilateral leaf fold ***Ph. plicalapponum***^{*)}
– On *S. hastata* and *S. phylicifolia*; uni- or bilateral leaf roll ***Ph. anomaloptera***^{*)}
– On *S. hastata* and *S. phylicifolia*; unilateral leaf fold ***T. crassispina***^{*)}
- 11(10) Unilateral, gently folded leaf roll; supra-anal plate of larva with black pattern ***Ph. leucosticta***
– Uni- or bilateral tight leaf roll; larva with supra-anal plate lacking black pattern ***T. cyrnea***
- 12(10) Unilateral, gently folded leaf roll ***Ph. erythropygia***
– Bilateral, longitudinally twisted leaf roll ***Ph. alienata***
- 13(10) Unilateral, gently folded leaf roll ***Ph. prussica***
– Bilateral, longitudinally twisted leaf roll ***Ph. leucapsis***
- 14(1) Bean-shaped galls transected by leaf blade; often two or more galls per leaf 15.
– Sausage-shaped upper-side galls; usually two galls on each side of midrib 18.
– Globular galls on ventral side of the leaf blade, usually attached to mid-vein 19.
- 15(14) Large (up to 25×15 mm), thin-walled, bean-shaped galls, usually in basal part of leaf on *S. purpurea*; larva with yellowish-brown head, tarsal claws with small basal lobe, pseudocerci close together ***P. (E.) vesicator***

- Thin-walled, smaller, similar galls on *S. lapponum* ***P. (E.) crassipes****
- Thick-walled, coffee-bean-shaped galls (up to 12 x 8 mm) on other species of willow; larva with blackish-brown head, tarsal claws with conspicuous basal lobe, pseudocerci in corners of the supra-anal plate 16.
- 16(15) Galls on broad-leaved species of willows (*S. aurita*, *S. caprea*, *S. cinerea*, *S. silesiaca*) ***P. (P.) bridgmanii***
- Galls on narrow-leaved species of willows 17.
- 17(16) On *S. alba*, *S. fragilis*, *S. babylonica*; often large numbers of galls per leaf ***P. (P.) proxima***
- On *S. triandra*; usually one, in second brood two to four, galls per leaf ***P. (P.) triandrae***
- 18(14) On *S. purpurea* (from lowlands to montane zone); galls glabrous, often reddish-brown dorsally ***P. (P.) virilis***
- On *S. lapponum* (in subalpine zone); galls ±pubescent, often greenish dorsally ***P. (P.) dolichura***
- On *S. eleagnos* ***P. (P.) eleagnocola****
- 19(14) On narrow-leaved willows of the subgenus *Salix* and sections *Vimen*, *Daphnella* and *Helix* 20.
- On broad-leaved willows of the subgenus *Vetrix* 22.
- 20(19) On *S. eleagnos*; whitish felt-like galls ***P. (E.) kriechebaumeri***
- On other species of willow; galls glabrous or sparsely pilose, yellowish-green to yellow, often flushed red 21.
- 21(20) On *S. purpurea*; yellowish, usually red-flushed galls with distinct warts ... ***P. (E.) viminalis***
- On *S. daphnoides*, *S. acutifolia* ***P. (E.) acutifoliae***
- On *S. repens*, *S. rosmarinifolia* ***P. (E.) collactanea***
- 22(19) On *S. aurita*, *S. caprea*, *S. silesiaca* ***P. (E.) pedunculi***
- On *S. cinerea* ***P. (E.) brevicornis***
- On *S. lapponum* ***P. (E.) samolad****
- On *S. hastata* ***P. (E.) hastatae****

*) Not recorded in the Czech Republic. Several other species, associated with *S. lapponum* (*Ph. acutiserra* (Lindqvist 1949), *Ph. picalapponum* Kopelke, 2007, *P. (E.) crassipes* (Thomson, 1871) and *P. (E.) samolad* Malaise, 1921, may be present in the Krkonoše and Jeseníky Mts; occurrence of *Ph. hastatae* Vikberg 1970, *T. anomaloptera* (Förster, 1854), and *T. crassispina* (Thomson, 1871) on *S. hastata* in the Jeseníky Mts is possible, as well as *P. (E.) eleagnocola* Kopelke 1994 on *S. eleagnos* in Moravia. Occurrence of species associated with *S. myrtilloides*, *S. myrsinifolia* and *S. bicolor* is rather unlikely in view of their scarcity. In 1980 I searched in vain for galls on *S. bicolor*, known from several shrubs on the eastern slope of Mount Studničná in the Krkonoše Mts.

Tab. 1. List of species occurring in the Czech Republic. Species new to the Czech Republic and to the historical lands of Bohemia (B) and Moravia (M) are marked with asterisk (*). GT: gall type, DIS: distribution.

SPECIES	HOST	GT	DIS
Phyllocolpa Benson, 1960			
<i>Ph. alienata</i> (Förster, 1854)	<i>S. aurita</i>	twisted roll	B –
<i>Ph. anglica</i> (Cameron, 1877)	<i>S. viminalis</i>	roll	– M
<i>Ph. carinifrons</i> (Benson, 1940)	<i>S. pentandra</i>	fold	B M
<i>Ph. erythropyga</i> (Förster, 1854)	<i>S. aurita</i>	fold	B M*
<i>Ph. leucapsis</i> (Tischbein, 1846)	<i>S. cinerea</i>	twisted roll	B M
<i>Ph. leucosticta</i> (Hartig, 1837)	<i>S. caprea</i>	fold	B M
<i>Ph. oblita</i> (Serville, 1823)	<i>S. alba, S. babylonica</i> <i>S. fragilis, S. triandra</i>	fold	B M
<i>Ph. piliserra</i> (Thomson, 1863)	<i>S. viminalis</i>	double fold	B M
<i>Ph. plicadaphnoides</i> Kopelke, 2007	<i>S. daphnoides</i>	fold	– M*
<i>Ph. polita</i> (Zaddach, 1883)	<i>S. purpurea</i>	fold	B* M*
<i>Ph. prussica</i> (Zaddach, 1883)	<i>S. cinerea</i>	fold	B* M*
<i>Ph. rolleri</i> Liston 2005	<i>S. silesiaca</i>	twisted roll	B* –
<i>Ph. scotaspis</i> (Förster, 1854)	<i>S. viminalis</i>	roll	– M
Tubpontania Vikberg, 2010			
<i>T. cyrnea</i> (Liston, 2005)	<i>S. caprea</i>	roll	B* –
<i>T. purpureae</i> (Cameron, 1884)	<i>S. purpurea</i>	twisted roll	B M
Pontania A. Costa, 1852			
Subgenus <i>Pontania</i> s.str.			
<i>P. (P.) bridgmanii</i> (Cameron, 1883)	<i>S. aurita, S. caprea</i> <i>S. cinerea, silesiaca</i>	coffee-bean	B M
<i>P. (P.) dolichura</i> (Thomson, 1877)	<i>S. lapponum</i>	sausage-shaped	B M
<i>P. (P.) proxima</i> (Serville, 1823)	<i>S. alba, S. fragililis</i> <i>S. babylonica</i>	coffee-bean	B M
<i>P. (P.) triandrae</i> Benson, 1940	<i>S. triandra</i>	coffee-bean	B M
<i>P. (P.) virilis</i> Zirngiebl, 1955	<i>S. purpurea</i>	sausage-shaped	B M
Subgenus <i>Eupontania</i> Zinovjev, 1985			
<i>P. (E.) acutifoliae acutifoliae</i> Zinovjev, 1985	<i>S. acutifolia</i>	rounded	B* M*
<i>P. (E.) acutifoliae daphnoides</i> Zinovjev, 1993	<i>S. daphnoides</i>	rounded	B M*
<i>P. (E.) brevicornis</i> (Förster, 1854)	<i>S. cinerea</i>	rounded	B M*
<i>P. (E.) collactanea collactanea</i> (Förster, 1854)	<i>S. repens</i>	rounded	– M
<i>P. (E.) c. rosmarinifoliae</i> Vikberg & Zinovjev, 2006	<i>S. rosmarinifolia</i>	rounded	B* M*
<i>P. (E.) krieckbaumeri</i> Konow, 1901	<i>S. eleagnos</i>	rounded	– M
<i>P. (E.) pedunculi</i> (Hartig, 1837)	<i>S. aurita, S. caprea</i> <i>S. silesiaca</i>	rounded	B M
<i>P. (E.) vesicator</i> (Bremi-Wolf, 1849)	<i>S. purpurea</i>	large, bean-shaped	B M
<i>P. (E.) viminalis</i> (Linné, 1758)	<i>S. purpurea</i>	rounded	B M

Acknowledgements

I am greatly obliged to † Prof. Ing. Dr. Eduard Baudyš, who very kindly invited me to his home in October 1960 and generously allowed me to revise the galls of the gall-making sawflies in his herbarium. Dr. I. Malenovský (MMB) kindly informed me about the recent location of the collection. To Dr. L. Baxová I am indebted for technical help. Dr. J. Macek (NMPC) kindly revised the manuscript and made many useful comments. Tony Long (Svinošice) helped work up the English.



Fig. 1–4. 1 – *Pontania proxima* (Serville, 1823), galls on *Salix fragilis*. Záhorie 13.vi.2008. 2 – *Pontania collactanea* (Förster, 1854), galls on *Salix repens*, Záhorie 13.vi.2008. 3 – *Pontania krieckbaumeri* Konow, 1901, galls on *Salix eleagnos*. Poprad 17.vii.2007. 4 – *Pontania viminalis* (Linné, 1758), gall on *Salix purpurea*. Rakovník 10.viii.2009.

References

- BAUDYŠ E. 1915: Ein Beitrag zur Verbreitung der Gallen in Böhmen. *Verhandlungen der Kaiserl.-Königl. Zoologisch-Botanischen Gesellschaft*, Wien 1915: 49–136.
- BAUDYŠ E. 1916: Zooecidie nové pro Čechy [Zooecidien – neu für Böhmen]. *Časopis společnosti entomologické*, Praha **13**: 1–18 (in Czech).
- BAUDYŠ E. 1922: Druhý příspěvek k zooecidologickému prozkoumání Moravy. *Sborník přírodovědného klubu v Brně* **5**: 63–82 (in Czech).
- BAUDYŠ E. 1924: Třetí příspěvek k zooecidologickému prozkoumání Moravy. *Práce Moravské Přírodovědecké Společnosti v Brně*, Fasc. 1, spis 2: 9–28 (in Czech).
- BAUDYŠ E. 1925: Čtvrtý příspěvek k zooecidologickému prozkoumání Moravy a Slezska. *Sborník přírodovědného klubu v Brně* (1924) **7**: 1–87 (in Czech).
- BAUDYŠ E. 1926a: Druhý příspěvek k rozšíření zooecidií v Čechách. *Sborník Vysoké Školy Zemědělské v Brně* No. 130, 105 pp. (in Czech).
- BAUDYŠ E. 1926b: Pátý příspěvek k zooecidologickému prozkoumání Moravy a Slezska. *Sborník Vysoké Školy Zemědělské v Brně* No. 46, 1–48 (in Czech).

- BAUDYŠ E. 1943–4: Příspěvek k rozšíření zoocecidii v okolí Velichovek. *Sborník Entomologického Oddělení Zemského Musea v Praze* **21–22**: 127–138 (in Czech).
- BAUDYŠ E. 1948: Sedmý příspěvek k zoocecidologickému prozkoumání Moravy a Slezska. *Sborník Vysoké Školy Zemědělské v Brně* **16**: 1–28 (in Czech).
- BAUDYŠ E. 1953: The zooecidia (galls) of basket willows in Moravia. *Acta Universitatis Agronomicae, Silviculturae* (Brno) **1–4**: 1–26. (in Czech with English summary).
- BAUDYŠ E. 1954: *Zooecidie z oblasti Slezska a přilehlých částí Moravy*. Praha, 288 pp. (Russian and German summary).
- BAYER E. 1914: *Moravské háčky*. Zpráva pro přírodovědecké prozkoumání Moravy (Brno). 179 pp. (in Czech).
- BAYER E. 1928: Synopsis hálek středoevropských. *Časopis Moravského Zemského Musea* (Brno).
- BENANDER P. 1969: Om några Pontania-arter och deras cecidier (Hym. Symphyta). *Opuscula Entomologica* (Lund) **34(1–2)**: 90–94. (in Swedish).
- BENEŠ K. 1968a: Příspěvek k poznání pilatek Krkonoš. (Hymenoptera, Tenthredinidae). *Opera Corcontica* (Vrchlabí) **5**: 247–251 (in Czech).
- BENEŠ K. 1968b: Galls and larvae of the European species of genera Phyllocolpa and Pontania (Hymenoptera, Tenthredinidae). *Acta Entomologica Bohemoslovaca* **65**: 112–137.
- BENEŠ K. 1977: Faunistic records from Czechoslovakia. *Acta Entomologica Bohemoslavaca* **74**: 286.
- BENEŠ K. 1989: Symphyta. In: ŠEDIVÝ J. (ed.): *Ennumeratio Insectorum Bohemoslovakiae*. Checklist of Czechoslovak Insects III (Hymenoptera). *Acta Faunistica Entomologica Musei Nationalis Pragae* **19**: 15–26.
- BENEŠ K. 2013: Širopasí blanokřídli (Hymenoptera Symphyta) české části Krkonoš. *Opera Corcontica* (Vrchlabí) **50**: 35–80 (in Czech, English summary).
- BENEŠ K. 2014: Additions to the Czech list of Euura Newman 1837 (Hymenoptera, Tenthredinidae). *Acta Musei Moraviae, Scientes Biologicae* (Brno) **99(1)**: 69–75.
- BENSON R.B. 1940: Further sawflies of the genus Pontania Costa (Hymenoptera: Symphyta) in Britain. *The Entomologist's Monthly Magazine*, 4th Series, **76(1)**: 88–94.
- BENSON R.B. 1954: British sawfly Galls of the Genus Nematius (Pontania) on Salix (Hymenoptera, Symphyta). *Journal of the Society for British Entomology* **4(9)**: 206–211.
- BENSON R.B. 1958: Hymenoptera, Symphyta. *Handbooks for the Identification of British Insects* **6(2c)**: 139–258.
- BENSON R.B. 1960: Studies in Pontania. *Bulletin of the British Museum (Natural History) Entomology* **8(9)**: 367–384.
- BLANK S.M., TAEGER A., LISTON A.D., SMITH D.R., RASNITSYN A.P., SHINOHARA A., HEIDEMAA M. & VIITASAARI M. 2009: Studies toward a Word Catalog of Symphyta (Hymenoptera). *Zootaxa* **2254**: 1–96.
- ENSLIN E. 1916: Blattwespengallen (Fortsetzung). *Internationale Entomologische Zeitschrift* (Guben) **10(4)**: 17–19.
- GREGOR F & BAŤA L. 1942: Prodróm našeho blanokřídleho hmyzu 5. *Sborník Entomologického Oddělení Zemského Musea v Praze* **20**: 258–344.
- HIERONYMUS G. 1891: Beiträge zur Kenntnis der europäischen Zooecidien und der Verbreitung derselben. *Jahres-Bericht der schlesischen Gesellschaft für Vaterländische Cultur* (Breslau) **68**: 245–260.
- KONOW F. W. 1901: Revision der Nematiden-Gattung Pontania Costa (Hym.). *Zeitschrift für systematische Hymenopterologie und Dipterologie* (Teschendorf) **1(2)**: 127–136.
- KOPELKE J.-P. 1991: Die Arten der *viminalis*-Gruppe, Gattung Pontania O. Costa 1859 Mittel- und Nordeuropas (Insecta: Hymenoptera, Tenthredinidae). *Senckenbergiana Biologica* **71**: 65–128.
- KOPELKE J.-P. 1994: Die Arten der *Pontania dolichura*-Gruppe in Mittel- und Nordeuropa (Insecta: Hymenoptera: Tenthredinidae: Nematinae). *Senckenbergiana Biologica* **74**: 127–145.
- KOPELKE J.-P. 1998: *Gallentypen europäischer Blattwespenarten der Gattungen Euura, Phyllocolpa und Pontania* (Hymenoptera, Tenthredinidae). pp 137–140. In: TAEGER A. & BLANK S. M. (eds): *Pflanzenwespen Deutschlands* (Hymenoptera, Symphyta). *Kommentierte Bestandsaufnahme*. Kelttern. Groecke & Evers.
- KOPELKE J.-P. 1999b: Gallenerzeugende Blattwespen Europas – Taxonomische Grundlagen. Biologie und Ökologie (Tenthredinidae: Nematinae): Euura, Phyllocolpa, Pontania). *Courier der Forschungsinstitut, Senckenberg* (Frankfurt am Main) **212**: 1–183.

- KOPELKE J.-P. 2003: Gall-forming Nematinae, their willow hosts (*Salix* spp.) and biological strategies (Insecta, Hymenoptera, Symphyta, Tenthredinidae, Nematinae: Euura, Phyllocolpa, Pontania). *Senckenbergiana Biologica* **82**: 163–189.
- KOPELKE J.-P. 2007a: The European species of the genus *Phyllocolpa*, part I: the *leucosticta*-group (Insecta, Hymenoptera, Tenthredinidae, Nematinae). *Senckenbergiana Biologica* **87**: 75–109.
- KOPELKE J.-P. 2007b: The European species of the genus *Phyllocolpa*, part II: the *leucapsis*-group (Insecta, Hymenoptera, Tenthredinidae, Nematinae). *Senckenbergiana Biologica* **87**: 149–161.
- KOPELKE J.-P. 2007c: The European species of the genus *Phyllocolpa*, part III: the species-groups of *crassispina*, *scotaspis* and *piliserra* (Insecta, Hymenoptera, Tenthredinidae, Nematinae). *Senckenbergiana Biologica* **87**: 163–183.
- LINDQVIST E. 1944: Über einige hochnordische Nematinen. *Notulae Entomologicae* **24**: 18–24.
- LISTON A.D. 2005: A new species of *Phyllocolpa* Benson, *Phyllocolpa rolleri* sp. nov. (Hym., Tenthredinidae, Nematinae) on *Salix hastata*. *The Entomologist's Record and Journal of Variation* **117**: 183–185.
- LISTON A.D. 2011: New hostplant records for European sawflies (Hymenoptera, Tenthredinidae). *The Entomologist's Monthly Magazine* **146**: 189–193.
- LORENZ H. & KRAUS M. 1957: *Die Larvalsystematik der Blattwespen (Tenthredinoidea und Megalodontoidea). Abhandlungen zur Larvalsystematik der Insekten, 1.* Akademie-Verlag Berlin. 339 pp.
- MACEK J. 2009: Širopasí blanokřídli (Hymenoptera, Symphyta) Jizerských hor a Frýdlandska. *Sborník Severočeského Muzea, přírodní vědy (Liberec)* **27**: 199–237 (in Czech, English summary).
- MACEK J. 2011: Sawflies (Hymenoptera: Symphyta) of the Bílé Karpaty Protected Landscape Area and Biosphere Reserve (Czech Republic). *Acta Musei Moraviae, Scientiae biologicae (Brno)* **96(2)**: 519–596.
- MOL A. 2013: Galvormende Bladwespen op wilg in Nederland (Hymenoptera: Tenthredinidae: Nematinae). *Nederlandse Faunistische Mededelingen* **39**: 15–34. (in Dutch)
- MUCHE W.H. 1970: Die Blattwespen Deutschlands IV. Nematinae (1. Teil) (Hymenoptera). *Entomologische Abhandlungen* **36, Suppl IV**: 157–236.
- NYMAN T., ZINOVJEV A., VIKBERG V. & FARREL B.D. 2006: Molecular phylogeny of the sawfly subfamily Nematinae (Hymenoptera: Tenthredinidae). *Systematic Entomology* **31**: 569–583.
- PÁDR Z. 1993: Studie výskytu blanokřídleho hmyzu podřádu širopasých – pilatkovitých (Insecta: Hymenoptera Symphyta) na území Prahy. *Natura Pragensis* **9**, 70 pp. (In Czech).
- SMITH D.R. 1979: *Suborder Symphyta*. Pp 3–137. In: KROMBEIN K., HURD P. D., SMITH D. R. & BURKS B. D. (eds.) 1979: *Catalog of Hymenoptera in America North of Mexico*. Washington, Smithsonian Institution Press 1–3: 1–2735.
- TAEGER A. & BLANK S.M. 2011: *ECatSym – Electronic World Catalog of Symphyta (Insecta, Hymenoptera)*. Program version 3.9, data version 38 (07.12.2011). Digital Entomological Information, Müncheberg.
- URBAN J. 1993: Beitrag zur gegenwärtigen Zustand unserer Kenntnisse der salicikolen Insektenarten in den Weidenanlagen Mährens. *Acta Scientiarum Naturalium Academiae Scientiarum (Brno)* **27**: 1–42.
- VIKBERG V. 2010a: European species of *Tubpontania* gen. nov., a new genus for species of the *Pontania crassispina* group (Hymenoptera: Tenthredinidae: Nematinae). *Zootaxa* **2620**: 1–28.
- VIKBERG V. 2010b: On the taxonomy of *Phyllocolpa scotaspis* (Förster, 1854) and *Phyllocolpa anglica* (Cameron, 1877) and notes on the species groups of *Phyllocolpa* (Hymenoptera: Tenthredinidae: Nematinae). *Sahlbergia* **15**: 3–13.
- VIKBERG V. & MALINEN P. 2012: On the identity of *Pontania dolichura* (Thomson, 1871) and *Pontania femoralis* (Cameron 1876) (Hymenoptera: Tenthredinidae: Nematinae). *Sahlbergia* **18**: 25–39.
- VIKBERG V. & ZINOVJEV A.G. 2006: On the taxonomy and host plants of North European species of *Eupontania* (Hymenoptera: Tenthredinidae: Nematinae). *Beiträge zur Entomologie* **56**: 239–268.
- ZEROVA M.D., D'JAKONCHUK L.A. & ERMOLENKO V.M. 1988: *Nasekomye galo-obrazovateli kul'turnyh i dikorastushchikh rastenij evropejskoj chasti SSSR. Pereponchatokrylye [Gall-inducing insect of cultivated and wild plants of the European part of the USSR]*. Naukova Dumka, Kiev. 159 pp. (in Russian).
- ZHELOCHOVTSEV A.N. 1988: 27. *Otrjad Hymenoptera, Pereponchatokrylye. Podotriad Symphyta (Chalastogastra) – Sidjachebrjukhie. 27. [Order Hymenoptera – Wasps Suborder Symphyta (Chalastogastra) – Sawflies and Woodwasps]* (in Russian). pp. 3–237. In: ZHELOCHOVTSEV A.N., TOBIAS V.I., KOZLOV M.A. (eds.): *Opredelitel' nasekomyh evropejskoj chasti SSSR. T. III. Pereponchatokrylye*.

- Shestaja chast. (Opredeliteli po faune SSSR, izdavaemye Zoologicheskim institutom AN SSSR; Vyp. 158). [Key to Insects of the European Part of the USSR. Vol. III. Hymenoptera. Sixth part. Keys to the Fauna of the USSR; Vol. 158].* (in Russian). Nauka, Leningrad. 268 pp.
- ZINOVJEV A.G. 1985: K systematike pilil'schikov roda Pontania O. Costa (Hymenoptera, Tenthredinidae). Podrod Eupontania subg. n. [On the taxonomy of the sawfly genus Pontania O. Costa (Hymenoptera, Tenthredinidae). Subgenus Eupontania subg. n. *Trudy Zoologicheskogo Instituta AN CCCR* **132**: 3–16. (in Russian, abstract in English)]
- ZINOVJEV A.G. 1993: Subgenera and Palaearctic species groups of the genus Pontania, with notes on the taxonomy of the viminalis-group (Hymenoptera: Tenthredinidae). *Zoosystematica Rossica* **2**: 145–154.
- ZINOVJEV A. G. 2010: *Palaearctic sawflies of the genus Pontania Costa (Hymenoptera: Tenthredinidae) and their host specificity*. pp 204–225. In: CSOKA G., MATTSON W. J., STONE G. N. & PRICE P. W. (eds.): *The biology of Gall-inducing Arthropods*. U.S. Department of Agriculture, Forest Service, General Technical Report NC–199. 329 pp. [Originally in Russian: *Proceedings of the Zoological Institute* (St. Petersburg) **193**: 108–139.]
- ZINOVJEV A.G. & VIKBERG V. 1999: The sawflies of the Pontania crassispina-group with a key to the genera of the subtribe Euurina (Hymenoptera: Tenthredinidae: Nematinae). *Entomologica Scandinavica* **30**: 281–298.