

Supplementary

Table S1. Biogeographic data of *Phyllonorycter populifoliella* collected in the Palearctic in recent time and the poplar moths *Phyllonorycter* spp. dissected from old herbaria from the Palearctic and Nearctic*

No.	Process ID in BOLD	Stage**	Host plant (P. – <i>Populus</i>)	Country	Region, city	Collection date	Collector
I. RECENT-TIME SAMPLING (DIRECTLY FROM FIELD): <i>Ph. populifoliella</i>							
1	MICRU063-15	A	<i>P. balsamifera</i>	Russia	Barnaul	27.VII.2015	N. Kirichenko
2	SIBLE142-18	L	<i>P. balsamifera</i>	Russia	Barnaul	29.VII.2017	N. Kirichenko
3	SIBLE050-17	P	<i>P. balsamifera</i>	Russia	Blagoveshchensk	27.VI.2016	N. Kirichenko
4	MICRU041-15	A	<i>P. balsamifera</i>	Russia	Chita	11.VIII.2015	N. Kirichenko
5	MICRU061-15	A	<i>P. balsamifera</i>	Russia	Irkutsk	08.VIII.2015	N. Kirichenko
6	SIBLE046-17	L	<i>P. balsamifera</i>	Russia	Irkutsk	18.VI.2016	N. Kirichenko
7	SIBLE053-17	L	<i>P. balsamifera</i>	Russia	Irkutsk	18.VI.2016	N. Kirichenko
8	GRPAL1132-13	A	<i>Populus</i> sp.	Russia	Komsomolsk-on-Amur	13.VII.2010	N. Kirichenko
9	GRACI465-09	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	17.VIII.2009	N. Kirichenko
10	GRPAL1080-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	18.VIII.2009	N. Kirichenko
11	GRPAL1081-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	18.VIII.2009	N. Kirichenko
12	GRPAL1082-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	18.VIII.2009	N. Kirichenko
13	GRPAL1083-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	18.VIII.2009	N. Kirichenko
14	GRPAL1084-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	18.VIII.2009	N. Kirichenko
15	GRPAL1085-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	15.VIII.2009	N. Kirichenko
16	GRPAL1086-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	15.VIII.2009	N. Kirichenko
17	GRPAL1087-13	A	<i>P. balsamifera</i>	Russia	Krasnoyarsk	15.VIII.2009	N. Kirichenko
18	GRPAL1109-13	L	<i>P. balsamifera</i>	Russia	Krasnoyarsk	19.VI.2011	N. Kirichenko
19	GRPAL1119-13	L	<i>P. balsamifera</i>	Russia	Krasnoyarsk	23.VII.2011	N. Kirichenko
20	GRPAL1126-13	L	<i>P. balsamifera</i>	Russia	Krasnoyarsk	28.VI.2012	N. Kirichenko
21	SIBLE041-17	L	<i>P. balsamifera</i>	Russia	Krasnoyarsk	12.VI.2016	N. Kirichenko
22	GRPAL1123-13	L	<i>Populus</i> sp.	Russia	Moscow	22.VII.2010	N. Kirichenko
23	GRPAL1124-13	L	<i>Populus</i> sp.	Russia	Moscow	21.VII.2010	N. Kirichenko
24	GRACI466-09	A	<i>P. balsamifera</i>	Russia	Novosibirsk	16.VIII.2009	N. Kirichenko
25	GRPAL1089-13	A	<i>P. balsamifera</i>	Russia	Novosibirsk	16.VIII.2009	N. Kirichenko
26	GRPAL1090-13	A	<i>P. balsamifera</i>	Russia	Novosibirsk	16.VIII.2009	N. Kirichenko
27	GRAS012-13	L	<i>Populus</i> sp.	Russia	Omsk	29.VI.2013	N. Kirichenko
28	CAMRU142-21	L	<i>P. nigra</i>	Russia	St. Petersburg	16.VI.2021	N. Mamaev
29	CAMRU143-21	L	<i>Populus</i> sp.	Russia	St. Petersburg	16.VI.2021	N. Mamaev
30	CAMRU144-21	L	<i>Populus</i> sp.	Russia	St. Petersburg	16.VI.2021	N. Mamaev
31	CAMRU145-21	L	<i>Populus</i> sp.	Russia	St. Petersburg	16.VI.2021	N. Mamaev
32	CAMRU146-21	L	<i>Populus</i> sp.	Russia	St. Petersburg	16.VI.2021	N. Mamaev

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33	CAMRU147-21	L	<i>Populus</i> sp.	Russia	St. Petersburg	16.VI.2021	N. Mamaev
34	SIBLE123-18	L	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2017	N. Kirichenko
35	PAROF086-18	L	<i>Populus</i> sp.	Russia	Tomsk	26.VI.2018	N. Kirichenko
36	PAROF087-18	L	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2018	N. Kirichenko
37	PAROF088-18	L	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2018	N. Kirichenko
38	PAROF089-18	L	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2018	N. Kirichenko
39	PAROF090-18	A	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2018	N. Kirichenko
40	PAROF091-18	A	<i>P. balsamifera</i>	Russia	Tomsk	26.VI.2018	N. Kirichenko
41	MICRU062-15	A	<i>P. balsamifera</i>	Russia	Tyumen	24.VII.2015	N. Kirichenko
42	MICRU042-15	A	<i>P. balsamifera</i>	Russia	Ulan-Ude	10.VIII.2015	N. Kirichenko
43	PAROF092-18	A	<i>Populus</i> sp.	Russia	Ulan-Ude	01.VI.2015	S. Rudykh
44	PAROF093-18	A	<i>Populus</i> sp.	Russia	Ulan-Ude	01.VI.2015	S. Rudykh
45	PAROF094-18	A	<i>Populus</i> sp.	Russia	Ulan-Ude	01.VI.2015	S. Rudykh
46	GMBMA581-17	A	no data	Belarus	Minsk	07.X.2015	T. Lipinksaya
47	GMBMP157-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
48	GMBMP227-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
49	GMBMP253-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
50*	GMBMP280-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
51	GMBMP293-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
52	GMBMP346-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
53	GMBMP440-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
54	GMBMP470-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
55	GMBMP554-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
56	GMBMP598-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
57	GMBMP620-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
58	GMBMO1020-17	A	no data	Belarus	Minsk	22.VII.2016	T. Lipinksaya
59	GMBMR376-17	A	no data	Belarus	Minsk	01.IX.2016	T. Lipinksaya
60	GMBMP2792-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya
61	GRAS013-13	L	<i>P. nigra</i>	Bulgaria	Sofia	26.VII.2013	N. Kirichenko
62	LEFIC167-10	A	<i>Populus</i> sp.	Finland	Porvoo	02.VIII.2006	M. Mutanen
63	LEFIG401-10	A	<i>P. nr. balsamifera</i>	Finland	Salo	no data	T. Mutanen
64	LEFIG402-10	A	<i>P. nr. balsamifera</i>	Finland	Salo	no data	T. Mutanen
65	LEFIJ4515-16	A	no data	Finland	Salo	21.VIII.2015	T. Mutanen
66	WOGRA342-15	A	<i>P. balsamifera</i>	Finland	Laensi-Suomi	22.VII.2012	J. Itamies
67	GRACI156-07	A	<i>P. nigra</i>	France	Briancon	01.VII.2006	C. Lopez- Vaamonde
68	FBLMX086-1	A	no data	Germany	Bavaria	11.IX.2008	P. Lichtman- necker
69	FBLMX087-11	A	no data	Germany	Bavaria	28.VII.2008	P. Lichtman- necker
70	GBMNB45678-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
71	GBMNB45677-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank

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72	GBMNB45676-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
73	GBMNB45675-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
74	GBMNB45674-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
75	GBMNB45673-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
76	GBMNB45672-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
77	GBMNB45671-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
78	GBMNB45670-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
79	GBMNB45669-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
80	GBMNB45668-20	A	<i>Populus</i> sp.	India	Ladakh	01.IX.2018	P. Shashank
81	MPEA287-08	A	<i>Populus</i> sp.	Lithuania	Vilnius	28.VII.2001	P. Ivinskis
82	GRPAL061-10	A	<i>P. nigra</i>	Lithuania	Vilnius	17.VIII.2000	J. & W. De Prins
83	TPEST014-23	L	<i>P. nigra</i>	Slovenia	Bac	11.VIII.2022	S. Gomboc, N. Kirichenko
OUTGROUP (<i>Ph. pastorella</i>)							
84	GRPAL1088-13	A	<i>P. balsamifera</i>	Russia	Novosibirsk	16.VIII.2009	N. Kirichenko
II. PAST-TIME SAMPLING (FROM HERBARIUM): <i>Phyllonorycter</i> spp.							
<i>Ph. populifoliella</i>							
1	LMINH166-19	L	<i>Populus</i> sp.	Austria	Vienna	01.IV.1879	herbarium
2	LMINH160-19	L	<i>P. canadensis</i>	Austria	no data	01.VII.1931	herbarium
3	LMINH164-19	L	<i>P. nigra</i>	Poland	Lower Silesia	13.VII.1899	herbarium
<i>Ph. comparella</i>							
4	LMINH161-19	L	<i>P. canadensis</i>	Austria	no data	01.VII.1886	herbarium
5	LMINH162-19	L	<i>P. canadensis</i>	Austria	no data	01.VII.1886	herbarium
6	LMINH163-19	L	<i>Populus</i> sp.	Spain	Catalonia	01.07.1925	herbarium
<i>Ph. pastorella</i>							
7	LMINH150-19	L	<i>P. nigra</i>	Turkme- nistan	Ashgabat	13.VI.1901	herbarium
<i>Ph. nipigon</i>							
8	LMINH061-19	P	<i>P. balsamifera</i>	Canada	Yukon	01.VII.1964	herbarium
9	LMINH062-19	P	<i>P. balsamifera</i>	Canada	Yukon	01.VII.1964	herbarium
10	LMINH140-19	L	<i>P. balsamifera</i>	Canada	Quebec	01.VIII.1974	herbarium
11	LMINH159-19	L	<i>P. balsamifera</i>	USA	Connecticut	01.VII.1850	herbarium
12	LMINH157-19	L	<i>P. balsamifera</i>	USA	Michigan	19.VIII.1974	herbarium
13	LMINH158-19	L	<i>P. balsamifera</i>	USA	Michigan	19.VIII.1974	herbarium
<i>Phyllonorycter</i> sp.							
14	LMINH050-19	L	<i>P. nigra</i>	Spain	Galicia	10.VII.1912	herbarium
REFERENCE SEQUENCES							
<i>Ph. populifoliella</i>							
†	GMBMP280-18	A	no data	Belarus	Minsk	05.VIII.2016	T. Lipinksaya

No.	Process ID in BOLD	Stage**	Host plant (<i>P.</i> – <i>Populus</i>)	Country	Region, city	Collection date	Collector
<i>Ph. comparella</i>							
15	FGMLG240-15	A	no data	Germany	Bavaria	30.VIII.2008	G. Fuchs
<i>Ph. pastorella</i>							
16	LEFIE922-10	A	no data	Finland	Joensuu	30.VIII.2008	T. Mutanen
<i>Ph. nipigon</i>							
17	CNFM271-14	A	no data	Canada	Quebec	30.V.2013	F. Tremblay
OUTGROUP (<i>Phyllocnistis unipunctella</i>)							
18	LMINH148-19	L	<i>P. canadensis</i>	Russia	Kaliningrad	26.VIII.1892	herbarium

* Altogether, 102 sequences were involved in the study, including reference and outgroup sequences. Their GenBank accession numbers can be found using the link: dx.doi.org/10.5883/DS-POPMOTH. One sequence, GMBMP280-18 (listed under No. 50 in the part I in the table), was used also as reference sequences in the analysis of herbarium data (listed under † in the part II in the table). **Stage: A – adult, L – larva, P – pupa.