The Parasitoid Diversity and Their Role in the Control of the Siberian Moth, *Dendrolimus sibiricus* (Lepidoptera: Lasiocampidae), a Major Coniferous Pest in Northern Asia

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Table S2. Parasitism of eggs, larvae, and pupae of *Dendrolimus sibiricus* in accordance to its population dynamics phases in Northern Asia.

I. EGG PARASITISM

Administrative region[1], sampling year	**Number of collected eggs**	**Parasitoid contribution to *D. sibiricus* egg mortality, %**						**References[2]**
		Telenomus tetratomus	***Trichogramma dendrolimi***	***Trichogramma sp.***	***Mesopolobus subfumatus***	***Ooencyrtus pinicolus***	**Total parasitism**	
D. sibiricus population growth								
Tuva Rep., 1962	2466	19.20	0	0.08	0	0.08	19.36	[23]
Krasnoyarsk Ter., 2019	3099	5.70	0	0.08	0	0	5.78	Our paper, 2024
Buryatia Rep., 1958	3459	0.08	0.02	0	0	0	0.10	[21]
Amur Prov., 1982	2000	44.30	5.00	0	0	0.70	50.00	[20]
Primorsky Ter., 1991	N/A	19.00	0	0	0	0	19.00	[20]
D. sibiricus outbreak								
Tomsk Prov., 1955	N/A	N/A	N/A	N/A	N/A	N/A	16.60	[20]
Tomsk Prov., 1956	18727	88.42	0.81	0.02	0	0.05	89.30	[19]
Tomsk Prov., 1956	16737	59.90	16.90	0.02	0	0.01	76.83	[19]
Tomsk Prov., 1956	N/A	50.60	0	0	0	0	50.60	[19]
Tomsk Prov., 2018	N/A	30.00	0	0	0	0	30.00	Our paper, 2024
Krasnoyarsk Ter., 1946	87885	94.00	0	0	0	0	94.00	[18]
Krasnoyarsk Ter., 1965	4805	4.70	0	0	0	0.30	5.00	[21]

Administrative region[1], sampling year	Number of collected eggs	Parasitoid contribution to *D. sibiricus* egg mortality, %						References[2]
		Telenomus tetratomus	*Trichogramma dendrolimi*	*Trichogramma sp.*	*Mesopolobus subfumatus*	*Ooencyrtus pinicolus*	Total parasitism	
Krasnoyarsk Ter., 1966	5018	6.80	0	0	0	2.13	8.93	[21]
Krasnoyarsk Ter., 1995	N/A	N/A	N/A	N/A	N/A	N/A	32.00	[14]
Krasnoyarsk Ter., 2017	4652	80.00	3.10	0	0	0	83.10	Our paper, 2024
Krasnoyarsk Ter., 2018	N/A	100.00	0	0	0	0	100.00	Our paper, 2024
Tuva Rep., 1947	N/A	17.70	0	0	0	0	17.70	[19]
Tuva Rep., 1958	N/A	N/A	N/A	N/A	N/A	N/A	54.40	[20]
Tuva Rep., 1959	29090	71.67	1.74	0	0	2.04	81.93	[19]
Tuva Rep., 1960	8480	45.93	2.28	0	0	4.10	52.31	[19]
Tuva Rep., 1963	1689	16.70	0	0.10	0	0.10	16.90	[23]
Tuva Rep., 1964	180315	52.70	0	0.20	0	0.08	52.98	[23]
Tuva Rep., 1965	19593	52.00	0	0.10	0	0.10	52.20	[23]
Tuva Rep., 1966	391	65.50	0	0	0	0	65.50	[23]
Irkutsk Prov., 1949	3841	64.07	0	0.13	0	0.07	64.27	[21]
Irkutsk Prov., 1951	768	75.78	3.5	0	0	5.08	84.36	[21]
Irkutsk Prov., 2020	7500	54.00	0	38.00	0	0	92.00	Our paper, 2024
Irkutsk Prov., 2022	13723	14.40	9.80	0	0	0	24.20	Our paper, 2024
Buryatia Rep., 1967	4640	N/A	N/A	N/A	N/A	N/A	98.60	[21]
Amur Prov., 1983	5000	45.00	5.00	0	0	10	60	[20]
Amur Prov., 1957	4500	43.50	5.00	0	0	1.50	50	[20]
Primorsky Ter., 1975	6000	0.10	0	0	0	51.00	51.18	[20]
Primorsky Ter., 1986	N/A	2.00	1.00	0	0	61.00	64.00	[20]
D. sibiricus population decline								
Tomsk Prov., 1956	N/A	N/A	N/A	N/A	N/A	N/A	81.90	[20]
Tomsk Prov., 2018	N/A	78.00	0	0	0	0	78.00	Our paper, 2024
Krasnoyarsk Ter., 1957	N/A	N/A	N/A	N/A	N/A	N/A	99.00	[21]
Krasnoyarsk Ter., 1996	N/A	80.90	0	0	0	0	80.90	[14]
Krasnoyarsk Ter., 2020	182	54.00	0	0	0	0	54.00	Our paper, 2024

Administrative region[1], sampling year	Number of collected eggs	Parasitoid contribution to *D. sibiricus* egg mortality, %						References[2]
		Telenomus tetratomus	*Trichogramma dendrolimi*	*Trichogramma sp.*	*Mesopolobus subfumatus*	*Ooencyrtus pinicolus*	Total parasitism	
Tuva Rep., 1948	N/A	56.00	0	0	0	0	56.00	[19,23]
Tuva Rep., 1950	14825	7.22	0.79	0.02	0	0.65	8.68	[19,23,55]
Tuva Rep., 1959	N/A	N/A	N/A	N/A	N/A	N/A	90.30	[20]
Irkutsk Prov., 1950	N/A	100.00	0	0	0	0	100.00	[21]
Irkutsk Prov., 1954	1964	6.90	0.20	0	0	0	7.10	[21]
Irkutsk Prov., 1955	918	18.51	0.65	0	0	0	19.16	[21]
Chita Prov., 1940	N/A	79.00	0	0	0	0	79.00	[21]
Amur Prov., 1990	8000	74.00	5.00	0	0	20.0	99.00	[20]
Amur Prov., 1958	4500	80	17.00	0	0	2.00	99.00	[21]
Rus. Far East, 1960	N/A	0	0	0	0	90	90	[21]
Primorsky Ter., 1976	12000	15.00	0	0	0	73.00	95.4	[20]
Primorsky Ter., 1996	N/A	93.00	0	0	0	0	93.00	[20]
D. sibiricus population depression								
Tomsk Prov., 1957	N/A	N/A	N/A	N/A	N/A	N/A	15.00	[20]
Tomsk Prov., 1962	16	62.50	0	0	0	0	62.50	[19]
Tuva Rep., 1961	246	36.18	0	0	0	11.38	47.56	[23]
Irkutsk Prov.1940	N/A	N/A	N/A	N/A	N/A	N/A	5.00	[21]

Remarks: [1]Ter. – Territory, Prov. – Province, Rep. – Republic; N/A – data not available. [2]See the reference list in our paper.

II. LARVA PARASITISM

Administrative region[1], sampling year	Number of collected larvae	Parasitoid contribution to *D. sibiricus* larval mortality, %						References[2]
		*Aleiodes esenbeckii**	*Hyposoter validus*	*Cotesia ordinaria*	*Glyptapanteles liparidis*	*Cotesia rubripes* (= *Apanteles rubripes*)	Total parasitism	
D. sibiricus population growth								
Tomsk Prov., 1955	N/A	N/A	N/A	N/A	N/A	24.60	25.10	[19,20]
Tuva Rep., 1958	N/A	N/A	N/A	N/A	N/A	N/A	0.50	[20]
Buryatia Rep., 1958	N/A	30.00	0	0	0	0	30.00	[21]
D. sibiricus outbreak								
Krasnoyarsk Ter., 1995	N/A	24.00	0	0	0	0	24.00	[14]
Buryatia Rep., 1959	N/A	41.00	0	0	0	0	41.00	[21]
Buryatia Rep., 1960	N/A	65.00	0	0	0	0	65.00	[21]
Irkutsk Prov., 2022	517	0	0	0.08	0	0	0.08	Our data 2023
Rus. Far East, 1962	N/A	10	0	7.00	0	0	17.00	[20]
Amur Prov., 1990	N/A	0	0	0	75.00	0	75.00	[20]
D. sibiricus population decline								
Tomsk Prov., 1956	851	10.40	0.30	0	0.20	0	10.90	[19,20]
Tomsk Prov., 2018	N/A	5.00	0	20	0	0	25.00	Our data 2023
Krasnoyarsk Ter., 1946	560	34.00	0	0	0	0	34.00	[55]
Krasnoyarsk Ter., 1965	93	3.30	0	23.70	0	0	27.00	[21]
Krasnoyarsk Ter., 1996	N/A	12.00		0.80	0	0	12.80	[14]
Tuva Rep., 1950	1698	0.30	1.00	0.02	0	0	1.32	[19]
Irkutsk Prov., 2021	N/A	6.20	0	2.10	0	0	8.30	Our data 2023
D. sibiricus population depression								
Tomsk Prov., 1957	162	0	0	0.60	0.60	0	1.20	[20]
Tomsk Prov., 1962	4	0	0	0	25.00	0	25.00	[19]

Administrative region[1], sampling year	**Number of collected larvae**	**Parasitoid contribution to *D. sibiricus* larval mortality, %**						**References[2]**
		Aleiodes esenbeckii*	***Hyposoter validus***	***Cotesia ordinaria***	***Glyptapanteles liparidis***	***Cotesia rubripes* (= *Apanteles rubripes*)**	**Total parasitism**	
Krasnoyarsk Ter., 1966	N/A	22.50	0	0	0	0	22.50	[21]
Tuva Rep., 1958	246	0.50	1.50	0	0.50	0	2.50	[19]
Tuva Rep., 1959	250	0.80	2.40	0	0.40	0	3.60	[19]
Tuva Rep., 1960	100	0	0	2.00	1.00	0	3.00	[19]
Irkutsk Prov., 1949	1321	63.97	0	0	0	0	63.97	[21]

Remarks: [1]Ter. – Territory, Prov. – Province, Rep. – Republic; N/A – data not available; * Likely *Aleiodes esenbeckii* ssp. *dendrolimi*. [2]See the reference list in our paper.

III. PUPA PARASITISM

Administrative region[1], sampling year	Number of collected pupae	Parasitoid contribution to *D. sibiricus* pupal mortality, %										References[2]
		Masicera Sphingivora (=M. zimini)	*Agria affinis (= Pseudosarcophaga affinis)*	*Exorista sp.*	*Therion giganteum (=Exochilum giganteum)*	*Iseropus stercorator*	*Pimpla instigator*	*Habronyx heros*	*Blepharipa* spp.	*Tachina sp.*	Total parasitism	
D. sibiricus population growth												
Tomsk Prov., 1955	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.30	[20]
Tuva Rep., 1958	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.90	[20]
Buryatia Rep., 1958	N/A	1.36	0	0	0	0	0	0	0	0	1.36	[21]
Primorsky Ter., 1985	N/A	0	0	0	0	0	0	0	10	0	10	[20]
D. sibiricus outbreak												
Tomsk Prov., 1956	712	0	2.00	0.30	0.50	0.60	0.10	0.40	0.90	0	4.80	[19]
Krasnoyarsk Ter., 1957	N/A	20.00	0	0	0	0	0	0	0	0	20.00	[21]
Tuva Rep.,1950	12000	66.60	0	0	0	0	0	0	0	0	66.60	[19]
Tuva Rep., 1958	N/A	5.20	0	0	0	0	0	0	0	0	5.20	[19]
Tuva Rep., 1959	N/A	21.70	0	0	0	0	0	0	0	0	21.70	[19]
Tuva Rep., 1960	1225	54.80	2.10	0.10	0.20	0.10	0	0	0	0	57.30	[19,23]
Irkutsk Prov., 1949	646	26.24	0	0	0	0	0	0	0	0	26.24	[21]
Irkutsk Prov., 2021	N/A	0	0	0	0.10	0	0	0	0	0	0.10	Our data 2023
Irkutsk Prov., 2022	679	0	0	0	0	0.58	0	0	0	41.64	42.22	Our data 2023
Buryatia Rep., 1960	N/A	1.30	0	0	0	0	0	0	0	0	1.30	[21]
Primorsky Ter., 1986	N/A	0	0	0	0	0	0	0	40	0	40.00	[20]
D. sibiricus population decline												
Krasnoyarsk Ter., 1963	18	0	0	0	0	11.10	0	0	0	61.11	72.21	[21]
Krasnoyarsk Ter.,	93	0	0	0	0	1.10	0	0	0	9.60	10.70	[21]

Administrative region[1], sampling year	Number of collected pupae	Parasitoid contribution to *D. sibiricus* pupal mortality, %										References[2]
		Masicera Sphingivora (=M. zimini)	*Agria affinis* (= *Pseudosarcophaga affinis)*	*Exorista sp.*	*Therion giganteum (=Exochilum giganteum)*	*Iseropus stercorator*	*Pimpla instigator*	*Habronyx heros*	*Blepharipa* spp.	*Tachina sp.*	Total parasitism	
1965												
Tuva Rep., 1950	7697	58.50	2.10	0.20	0	0.30	0.01	0	0	0	61.11	[55]
Irkutsk Prov.,1948	2944	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35.11	[21]
Primorsky Ter., 1976	N/A	0	0	0	0	0	0	0	70	0	70	[20]
Primorsky Ter., 1987	N/A	0	0	0	0	0	0	0	60	0	60	[20]
D. sibiricus population depression												
Tomsk Prov., 1957	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58.10	[20]
Tomsk Prov., 1957	240	0	9.20	6.70	7.10	1.70	0.80	12.10	17.90	0	55.50	[19]
Tuva Rep., 1960	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60.90	[20]
Tuva Rep., 1961	119	31.20	1.70	2.50	2.50	0	0	0	0	0	37.90	[19]
Irkutsk Prov.,1949	N/A	31.00	0	0	0	0	0	0	0	0	31.00	[21]

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