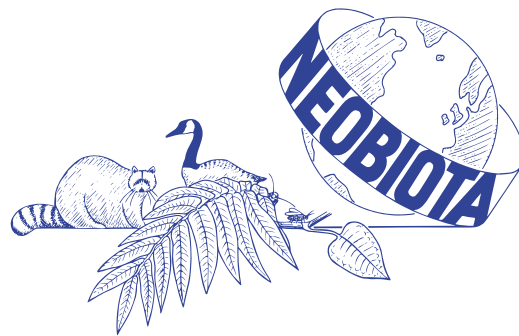


Book of Abstracts

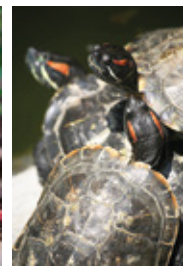
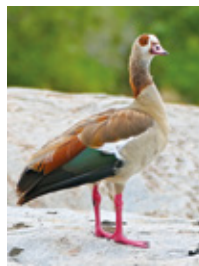
Christian Ries & Yves Krippel (eds)



NEOBIOTA 2016

Biological Invasions: Interactions with Environmental Change

9th International Conference on Biological Invasions



Photos: © Wikimedia Commons

Vianden, Luxembourg
14 - 16 September 2016

www.neobiota2016.org



Fonds National de la
Recherche Luxembourg

Supported by the Fonds National de la Recherche, Luxembourg
(Project Code 11253560)

NEOBIOTA 2016

Biological Invasions: Interactions with Environmental Change

9th International Conference on Biological Invasions

Vianden, Luxembourg

14-16 September 2016

Book of Abstracts

Christian Ries & Yves Krippel (eds)

Fondation faune-flore
Institut de recherche sur le patrimoine naturel et la diversité biologique

Supported by the Fonds national de la recherche, Luxembourg
(RESCOM/2016/11253560)

Impressum

Ries C. & Y. Krippel (2016) (eds). Biological Invasions: Interactions with Environmental Change. Book of abstracts. NEOBIOTA 2016 - 9th International Conference on Biological Invasions. Vianden, Luxembourg, 14-16 September 2016. Fondation faune-flore, Luxembourg. 256 pp. ISBN 978-99959-0-255-1.

This abstract book can be downloaded in PDF format from the neobiota.eu website.

Cover photos from <https://commons.wikimedia.org> (from left to right):

1. *Aedes albopictus* (Asian tiger mosquito), Maryland (US). Unknown date. Author: Susan Ellis, Bugwood.org.
2. *Fallopia japonica* (Japanese knotweed), Schwetzingen Hardt (Germany). 24 April 2015. Author: AnRo0002.
3. *Alopochen aegyptiaca* (Egyptian goose). Biyamiti Weir, Kruger NP (South Africa). 16 January 2015. Author: Bernard Dupont.
4. *Clathrus archeri* (Octopus stinkhorn). 25 October 2004. Author: Oilys.
5. *Trachemys scripta elegans* (Red-eared sliders). 17 May 2007. Author: Laszlo-photo.
6. *Neogobius kessleri* (Bighead goby), an invasive species from the Danube, here in the river Rhine at Arnhem (NL). 21 August 2009. Author: viridiflavus.

© Fondation faune-flore - Institut de recherche sur le patrimoine naturel et la diversité biologique. Luxembourg. www.faune-flore.lu

ISBN 978-99959-0-255-1

Table of contents

Partners & Sponsors	6
Introduction	7
Committees	8
Conference programme	9
Oral presentations.....	17
K1 Biological invasions and climate change	18
S1 Biological invasions and climate change	19
S2-3 Invader traits and characteristics of invaded communities	25
S3 Ecological impacts of biological invasions.....	35
K2 Biogeography and macroecology of invasions	40
S4-5 Biogeography and macroecology of invasions	41
S5 Invasive species and changes in landuse.....	48
K3 Non-native pests and pathogens.....	50
S6 Non-native pests and pathogens.....	51
S6 Socioeconomic impacts of biological invasions	53
S6 Restoration of invaded ecosystems	54
K4 Genetics and evolution of invasive species.....	56
S7-8 Genetics and evolution of invasive species.....	57
S8 Engaging the public with the topic on invasive species.....	63
K5 Eradication, management & control of invasive species	66
S9-10 Eradication, management & control of invasive species	67
S10 Biosecurity and risk assessment, including early detection and rapid response	73
Poster presentations.....	79
T01 Biological invasions and climate change.....	80
T02 Invader traits and characteristics of invaded communities.....	87
T03 Ecological impacts of biological invasions	116
T04 Biogeography and macroecology of invasions.....	139
T05 Invasive species and changes in landuse	156
T06 Non-native pests and pathogens	166
T07 Socioeconomic impacts of biological invasions.....	174
T08 Restoration of invaded ecosystems.....	176
T09 Genetics and evolution of invasive species	178
T10 Engaging the public with the topic on invasive species	197
T11 Eradication, management & control of invasive species.....	205
T12 Biosecurity and risk assessment, including early detection and rapid response.....	228
NEOBIOTA - European Group on Biological Invasions.....	244
NEOBIOTA conferences	245
NeoBiota Journal.....	246
Index of authors.....	248

***Brachycaudus divaricatae* Shap. (Sternorrhyncha, Aphididae) in Belarus: genetic divergence from Armenian aboriginal forms**Nina Voronova, Maryia Varabyova, [Sergey Buga](#)*Belarusian State University, Minsk, Belarus*

Brachycaudus divaricatae Shaposhnikov, 1956 is an invasive aphid species, which has been dramatically spread across the territory of Belarus within a decade. This species of aphids was described in the middle of XX century from Transcaucasia and the neighboring regions of Near East and Central Asia, which is considered to be its primary area. In 2002 *B. divaricatae* entered the territory of Lithuania and Poland, and was first registered in Belarus in 2008. At present *B. divaricatae* became widespread across all the territory of Belarus causing significant damage to cherry plum (*Prunus divaricate* Ledeb.) in gardens and green areas.

When exploring mechanisms that provide aphids with the high level of ecological plasticity, the most intriguing question is: whether this dramatic expansion to the new territories is accompanied by the substantial changes in the genetic variability, which can be both: the increasing of the level of genetic heterogeneity of invaders owing to the high level of natural selection or extreme reduction in the number of genetic variants due to the founder effect. We have studied the level of genetic heterogeneity of invasive populations of *B. divaricatae* in Belarus versus aboriginal forms of this species from Armenia.

We have identified three haplotypes of COI gene in Europe so far and all of them were found in both Belarus and Armenia. Despite the high conservatism of COI genes in aphids there were two nucleotide and one amino acid substitutions. This level of genetic variability of COI gene corresponded well with the conventional degree of the intraspecies variability of COI gene in aphids.

Analyses of 11 microsatellite loci with low number of alleles showed that there were individuals with unique STR-alleles in populations of *B. divaricatae* from Belarus and Armenia. In general, the level of variability of STR loci was low in both populations, but *B. divaricatae* from Belarus were slightly less variable comparing to Armenian ones. At the same time, we did not find any substantial differences in the STR patterns between aphids from Armenia and Belarus in spite of being dramatically remoted. We did not observe any signs of manifestation of founder effect. As a result of phylogenetic analysis of all 11 STR loci we could assume that *B. divaricatae* had permeated into the territory of Belarus more than once and formed several genetic lines by now, which slightly differ in the STR patterns.

Considering our study, we could summarize that expansion of *B. divaricatae* into new territory occurs without significant loss of genetic variability.

Keywords: *Brachycaudus divaricatae*, aphids, genetic variability, invasive species, cherry-plum aphid, microsatellite loci, STR analysis

Touza, Julia	64, 208	Vohralík, Vladimír.....	239
Tracy, Johnson M.....	159	von Törne, Christine.....	186
Traian, Manole	159, 160	Vonlanthen, Corinne Maria	227
Traidl-Hoffmann, Claudia.....	185, 186	Voronova, Nina.....	182
Trenchard, Liz.....	92	Vuković, Nina.....	145
Tricarico, Elena	36, 122, 212, 226	Vurro, Maurizio	67
Trickova, Teodora	204	Vyvey, Lindsay.....	243
Triska, Maggie D	242	Wagner, Viktoria	115
Tsiamis, Kostas	206	Wakida – Kusunoki, Armando T.....	174
Turbé, Anne.....	75	Waldhaeuser, Nina.....	97
Turner, Rod	53	Wallner, Peter	51
Tyson, Joy	53	Walser, Jean-Claude	179
Uludag, Ahmet	155, 173, 204, 214	Walther, Gian-Reto.....	211
Uremis, Ilhan.....	155	Wattier, Remi.....	60, 196
Vahsen, Megan.....	191	Watzlawczyk, Sylvester.....	178
Valdez Lizárraga, Mayra.....	174	Weigelt, Patrick	32, 45, 147, 154
Valentin Serebryakov, Valentin	85	Weiss-Lehman, Christopher	191
Valskys, Vaidotas.....	157	Wessely, Johannes	83
van de Wiel, Marco	92	Weyl, Olaf LF.....	128
Van Gompel, Wouter	205	Whattam, Mark.....	53
van Kleunen, Mark 32, 40, 41, 45, 101, 146, 147, 154, 184, 189		Wild, Jan	86
van Klinken, Rieks	53	Wildpret de la Torre, Wolfredo	88, 102
van Valkenburg, Johan.....	241	Wildpret, Wolf-Hermann.....	102
van Wilgen, Brian W.....	55, 175	Wilson, Claire	230
Vanderhoeven, Sonia	75	Wilson, John R.....	64, 76
Varabyova, Maryia.....	182	Wilson, Meriwether	210
Vargas-Amengual, Sergi	197	Winkler, Barbro	185, 186
Vaz, Ana Sofia	161	Winter, Marten.....	32, 45, 83, 147, 154
Ven, Arne	20	Wójcik-Fudalewska, Dagmara	87
Verburg, Peter H	161	Worner, Susan.....	53
Vercruyssen, Edward	205	Yannelli, Florencia A.....	177
Verdu, Cindy F.....	62	Yazlık, Ayşe	155
Verhaeghe, Agnès	169	Yazmış, Efecan.....	155
Verheggen, François.....	169	Yesson, Chriss	44
Verreycken, Hugo	75	Yildiz, Hakan.....	80, 202
Verschelde, Pieter.....	205	Zajac, Adam.....	164
Verschwele, Arnd.....	97	Zajac, Maria.....	163, 164
Veselý, Lukáš	168	Zakharov, Ilya A.....	152
Vétek, Gabor	181	Zaliberová, Mária	105
Vicente, Joana Raquel.....	161	Žalneravičius, Egidijus	138, 157
Vidal, Eric	71, 129	Zavyalov, Nikolai A.	38
Vilà, Montserrat	44, 48, 74, 197	Zemanova, Miriam A.....	23
Vilizzi, Lorenzo.....	232	Zenetos, Argyro	204
Viljamaa-Dirks, Satu.....	168	Zengeya, Tsungai.....	128
Vimercati, Giovanni.....	61	Zervou, Sevasti	206
Vinogradova, Yulia	136, 162	Zhao, Feng	185, 186
Vítková, Michaela	222	Zielska, Joanna	96
Vivian-Smith, Gabrielle	53	Zikos, Andreas.....	206
Vladimirov, Vladimir	137, 173, 204	Zobel, Martin	27