CURRICULUM VITAE AND LIST OF PUBLICATIONS

• Personal Details

Name: Hadas Hawlena

Date and place of birth: December 27, 1974, Israel

Regular military service: March 1992-November 1993

Address and telephone number at work: Department of Life Sciences, Ben Gurion University of the Negev, Beer-Sheva 84105. Tel: 972-8-6479226

Address and telephone number at home: PO Box 241, Midreshet Ben Gurion, 84990. Tel: 972-8-6532787

• Education

1. B.Sc.–1997-2000 – Ben-Gurion University – Life Sciences. *Summa cum laude*
2. M.Sc.–2000-2002 – Ben-Gurion University – Life Sciences. *Summa cum laude*

Name of advisors: Professor Zvika Abramsky and Doctor Boris Krasnov

Transferred to Ph.D. program

3. Ph.D. –2002-2006– Ben-Gurion University – Life Sciences

Title of thesis: The interrelated nature of host-parasite interactions: role of ecological factors

4. Post Doctorial Associate –2006. Host-parasite Interactions. Ben-Gurion University – Life Sciences
5. Post Doctorial Associate –2007-2009. Microbial Interactions. Indiana University, Bloomington, Indiana, USA – Biology
6. Post Doctorial Associate –2009-2010. Tick-borne diseases. Indiana University, Bloomington, Indiana, USA – Biology

• Employment History

2015-current– Senior Lecturer, Ben Gurion University– Mitrani Department of Desert Ecology, Jacob Blaustein Institute for Desert Research

2011-2015 – Senior Lecturer, Ben Gurion University– Life Sciences

2010 - Lecturer, Ben Gurion University– Life Sciences

• Professional activities

(a) Positions in academic administration

2011-current – A member in the departmental teaching committee

(b) Member of editorial board of scientific journal and a reviewer

2011-current – Editor or member of editorial board of scientific or professional journal Frontiers in Microbiology

2005-current – Reviews in scientific journals: Israel Journal of Zoology; Functional Ecology; Behavioural Ecology and Sociobiology; Behavioural Ecology, Mammalian Biology, Behaviour, Oikos, Journal of Animal Ecology, Parasites and Vectors

(c) Membership in professional/scientific societies

1. 2000-current- The Zoological Society of Israel
2. 2005- Sigma Xi, the Scientific Research Society
3. 2006- Animal Behaviour Society
4. 2011- The Entomological Society of Israel
5. 2014- The Society for Conservation Biology - Israel

• Educational activities

(a) Courses taught

1. "Introductory to Ecology", 2st year undergraduate course, Life Sciences, BGU (compulsory course, jointly with Professor Yaron Ziv)
2. "Workshop in Ecology and Environmental Sciences", graduate student seminar organizer, Life Sciences, BGU
3. "Zoology of Vertebrates", 1st year undergraduate course, Life Sciences, BGU (compulsory course, jointly with Professor Amos Bouskila)

(b) Research students

Post Doctorate student – Doctor Mario Garrido (Span).

Ph.D. students – Carmit Cohen

M.Sc. students – Irit Messika and Carmit Cohen (transferred to Ph.D.)

Undergraduate students – Hadar Kedem, Roy Shatzki, Netta Landa, Merav Shemesh

• Awards, Citations, Honors, Fellowships

(a) Honors, Citation Awards

1. 1999 - Faculty of Natural Science, BGU, special distinction for academic achievements in 1998

2. 2000 - Department of Life Sciences, BGU, award for excellent research project
3. 2001 - Department of Life Sciences, BGU, award for academic excellence in 2000
4. 2001 - Zoological Society of Israel, honorary mention for a poster
5. 2002 - BGU, award for academic excellence in M.Sc. from the Rector
6. 2002 - Ministry of Education, award for academic excellence in M.Sc.
7. 2002 - Zoological Society of Israel, honorary mention for a presentation
8. 2006- Merav Ziv Award for academic excellence in Ph.D in Ecology

(b) Fellowships

1. 2001 - The International Arid Lands Consortium, peace fellowship, $5000 to participate in field research in Las Cruces, New Mexico
2. 2003 - 2006- Kreitman Fellowship for excellence, $667 per month for 4 years of Ph.D.
3. 2006 - Fulbright postdoctoral fellowship for Israeli students in America, $20,000 for a year
4. 2007-BIKURA, a postdoctoral fellowship from the Israel Science Foundation, $34,000 per year for two years
5. 2007-Sara Lee Schupf post doctoral award for advancing women in science funded by the Clore foundation and S. Donald Sussman, $20,000 per year for two years
6. 2009- Post doctoral fellowship from Indiana University, $32,000 for one year
7. 2011-Rich Fund for Women in Academy, $5000 for one year

• **Scientific Publications**

H-index = 11

C_{ISI} = Number of citations (not including self-citation) according to ISI
C_{GS} = Number of citations (not including self-citation) according to Google Scholar
IF = 5-years journal impact factor according to ISI
JR = Journal ranking according to ISI
Q1/Q2/Q3 = Quartile in category
#Due to a change in marital status "Tsairi" and "Hawlena" should be regarded as equivalent
* Papers that were published after the beginning of my contract at BGU (September, 2010)

(a) Chapters in collective book

*1. **Hawlena, H.** and Ben-Ami, F. A community perspective on the evolution of virulence. In: Parasite Diversity and Diversification: Evolutionary Ecology

Meets Phylogenetics. Editors, Morand, S., Krasnov, B., and Littlewood, T. Cambridge University Press, Cambridge. *In press*

(b) Refereed articles in scientific journals

1. #**Tsairi, H.** and A. Bouskila. (2004) Ambush site selection of a desert snake (*Echis coloratus*) at an oasis. Herpetologica 60:13-23 (IF = 1.36; JR = 74/151; C_{GS} = 12; C_{ISI} = 22, Q2)
2. **Hawlena, H**., Z. Abramsky, and B.R. Krasnov (2005) Age-biased parasitism and density-dependent distribution of fleas (Siphonaptera) on a desert rodent. Oecologia 146:200-208 (IF = 3.76; JR = 37/136; CGS = 35; CISI = 30, Q2)
3. **Hawlena H**., Z. Abramsky, and B.R. Krasnov (2006) Ectoparasites and age-dependent survival in a desert rodent. Oecologia 148:30-39 (IF = 3.76; JR = 37/136; CGS = 33; CISI = 28, Q2)
4. Krasnov B.R., S. Morand, **H. Hawlena**, I.S. Khokhlova, G.I. Shenbrot (2005) Sex-biased parasitism, seasonality and sexual size dimorphism in desert rodents. Oecologia 146:209-217 (IF = 3.76; JR = 37/136; CGS = 80; CISI = 62, Q2)
5. Krasnov B.R., S. Morand, I.S. Khokhlova, G.I. Shenbrot, and **H. Hawlena** (2005) Abundance and distribution of fleas on desert rodents: linking Taylor's power law to ecological specialization and epidemiology. Parasitology 131:825-837 (IF = 2.46; JR = 14/35; CGS = 10; CISI = 8, Q2)
6. Krasnov B.R., M. Stanko, I.S. Khokhlova, L. Mosansky, G.I. Shenbrot, **H. Hawlena**, and S. Morand (2006) Aggregation and species coexistence in fleas parasitic on small mammals. Ecography 29:159-168 (IF = 5.79; JR = 16/136; CGS = 16; CISI = 13, Q1)
7. **Hawlena H**., I.S. Khokhlova, Z. Abramsky, and B.R. Krasnov (2006). Age, intensity of infestation by flea parasites and body mass loss in a rodent host. Parasitology, 133:187-193 (IF = 2.46; JR = 14/35; CGS = 23; CISI = 21, Q2)
8. Krasnov B.R., G.I. Shenbrot, I.S. Khokhlova, **Hawlena H**., and A.A. Degen (2006). Temporal variation in parasite infestation of a host individual: Does a parasite-free host remain uninfested permanently? Parasitology Research, 99: 541-545 (IF = 2.51; JR = 9/35; CGS = 11; CISI = 10, Q2)
9. **Hawlena H**., B.R. Krasnov Z. Abramsky, I.S. Khokhlova, D. Saltz, M. Kam, A. Tamir, and A.A. Degen (2006). Flea infestation and energy requirements of

rodent hosts: Are there general rules? Functional Ecology, 20: 1028-1036 (IF = 5.39; JR = 19/136; CGS = 15; CISI = 13, Q1)

10. **Hawlena H**., D. Bashary, Z. Abramsky, and B.R. Krasnov (2007). Benefits, costs and constraints of anti-parasitic grooming in adult and juvenile rodents. Ethology, 113: 394-402 (IF = 1.95; JR = 32/151; CGS = 25; CISI = 23, Q1)
11. **Hawlena H**., Z. Abramsky, B.R. Krasnov, and D. Saltz (2007). Host defence versus intraspecific competition in the regulation of infrapopulations of the flea Xenopsylla conformis on its rodent host *Meriones crassus*. International Journal for Parasitology, 37: 919-925 (IF = 3.72; JR = 6/35; CGS = 10; CISI = 11, Q1)
12. **Hawlena H**., Z. Abramsky, and B.R. Krasnov (2007). Ultimate mechanisms of age-biased flea parasitism. Oecologia, 154: 601-609 (IF = 3.76; JR = 32/136; CGS = 9; CISI = 5, Q2)
13. **Hawlena H**, B.R. Krasnov, Z. Abramsky, I.S. Khokhlova, J. Gouy De Bellocq, and B. Pinshow (2008). Effects of food abundance, age, and flea infestation on the body condition and immunological variables of a rodent host, and their consequences for flea survival. Comparative Biochemistry and Physiology, Part A, 150: 66-74 (IF = 2.18; JR = 25/151; CGS = 5; CISI = 8, Q1)
14. **Hawlena H,** D. Bashary, Z. Abramsky, I.S. Khokhlova, and B.R. Krasnov (2008). Programmed versus stimulus-driven anti-parasitic grooming in a desert rodent. Behavioral Ecology, 19: 929 - 935 (IF = 3.31; JR = 6/151; CGS = 7; CISI = 7, Q1)
15. Krasnov B.R., G.I. Shenbrot, I.S. Khokhlova, **H Hawlena**, and A.A. Degen (2008). Sex ratio in flea infrapopulations: number of fleas, host gender and host age do not have an effect. Parasitology, 135: 1133-1141 (IF = 2.46; JR = 14/35; CGS = 5; CISI = 5, Q2)

*16. **Hawlena, H**., F. Bashey, H. Mendes-Soares, and C. M. Lively (2010). Spiteful interactions in a natural population of the bacterium *Xenorhabdus bovienii*. American Naturalist, 175: 374-381 (IF = 5.33; JR = 22/136; CGS = 16; CISI = 14, Q1)

*17. **Hawlena, H**., F. Bashey, and C. M. Lively (2010). The evolution of spite: population structure and bacteriocin-mediated antagonism in two natural populations of *Xenorhabdus* bacteria. Evolution, 64: 3198–3204 (IF = 5.40; JR = 17/136; CGS = 15; CISI = 14, Q1)

*18. Bashey, F., S.K. Young, **H Hawlena**, and C. M. Lively (2011). Spiteful interactions between sympatric natural isolates of *Xenorhabdus bovienii* benefit kin and reduce virulence. Journal of Evolutionary Biology, 25(3): 431-437 (IF = 3.70; JR = 30/136; CGS = 7; CISI = 6, Q1)

*19. **Hawlena, H**., E. Rynkiewicz, E. Toh, A. Alfred, L. A Durden, M. W Hastriter, D. E Nelson, R. Rong, D. Munro, Q. Dong, C. Fuqua, and K. Clay. 2012. The arthropod, but not the vertebrate host or its environment dictates bacterial community composition of fleas and ticks. ISME Journal, 7: 221-223 (IF = 8.93; JR = 4/136, CGS = 10; CISI = 5, Q1)

*20. **Hawlena, H**., Bashey, F., and Lively, C.M. 2012. Bacteriocin-mediated interactions within and between coexisting species. Ecology and Evolution 2(10): 2516–2521 (IF = 1.22; JR = 99/136, CGS = 2; CISI = 2, Q3)

*21. Bashey, F., **Hawlena, H**., and Lively, C.M. 2012. Alternative paths to success in a parasite community: within-host competition favors higher virulence and direct interference. Evolution, 67(3) 900-907 (IF = 5.40; JR = 17/136, CGS = 1; CISI = 1, Q1)

*22. Rynkiewicz, E.C., **Hawlena, H.**, A Durden, M. W Hastriter, Demas G.E., and K. Clay. 2013. Associations between innate immune function and ectoparasites in wild rodent hosts. Parasitology Research, 112:1763–1770 (IF = 2.51; JR = 9/35, CGS = 1; CISI = 0, Q2)

*23. Levin, L., Zhidkov, I., Gurman, Y., **Hawlena, H**., and Mishmar, D. 2013. Functional recurrent mutations in the human mitochondrial phylogeny – dual roles in evolution and disease. Genome Biology and Evolution, 5:876-90 (IF = 4.86, JR = 10/47, CGS = 3; CISI = 2, Q1)

*24. Kiffner, C., Stanko, M., Morand, S., Khoklova, I.S., Shenbrot, G. I., Ladisoit, A., Leirs, H., **Hawlena, H**., and Krasnov, B. 2013. Sex-biased parasitism is not universal: evidence from rodent-flea associations from three biomes. Oecologia, 173:1009–1022 (IF = 3.76; JR = 37/136, CGS = 3; CISI = 1,Q2)

*25. Kedem H, Cohen C, Messika I, Einav M, Pilosof S, **Hawlena H.** 2014. Multiple effects of host species diversity on co-existing host-specific and host-opportunistic microbes. Ecology 95:1173–1183 (IF = 6.37; JR = 15/136, CGS = 1; CISI = 1, Q1)

*26. Gutiérrez, R., Moric, D., Cohen, C., **Hawlena H**. and Harrus, S.2014. The effect of ecological and temporal factors on the composition of *Bartonella* infection

in rodents and their fleas. The ISME Journal 8:1598-1608 (IF = 8.9; JR = 4/136, CGS = 1 Q1)

*27. Kiffner, C., Stanko, M., Morand, S., Khokhlova, I.S., Shenbrot, G.I., Laudisoit, A., Leirs, H., **Hawlena, H**. and Boris R. Krasnov. 2014. Variable effects of host characteristics on species richness of flea infracommunities in rodents from three continents. Parasitology Research 113:2777-2788 (IF = 2.51; JR = 9/35, Q2)

*28. Gavish, Y., H. Kedem, I. Messika, C. Cohen, E. Toh, D. Munro, Q. Dong, C. Fuqua, K. Clay, and **H. Hawlena**. 2014. Association of host and microbial species diversity across spatial scales in desert rodent communities. Plos One 9(10): e109677 (IF = 4; JR = 7/X, Q1).

*29. Cohen, C., E. Toh, D. Munro, Q. Dong and **H. Hawlena**. In press. Similarities and seasonal variations in bacterial communities from the blood of vertebrates and from their vectors. ISME J, *in press* (IF = 8.9; JR = 4/136, Q1).

• **Lectures and Presentations at Meetings and Invited Seminars not followed by Published Proceedings**

(a) Presentation of papers at conferences/meetings (oral or poster)

1. #**Tsairi, H**., and A. Bouskila (2000) Ambush site selection of a sit-and wait snake: a combination of a field study and a manipulative experiment. 37th meeting of the Zoological Society of Israel, Beer-Sheva, Israel. Israel Journal of Zoology 47: 185
2. #**Tsairi, H.**, B.R.Krasnov, Z. Abramsky, and I.S. Khokhlova (2002). Does ectoparasite burden affect the body condition, energetic demands and survival of its rodent host? The 9th European Ecological Congress (Eureco ’02), Lund, Sweden
3. #**Tsairi, H.**, Z. Abramsky, B.R. Krasnov, and I.S. Khokhlova (2002). Do ectoparasites harm their rodent hosts? An integrated approach of field and laboratory manipulations. The 39th meeting of the Zoological Society of Israel Tel- Aviv, Israel. Israel Journal of Zoology 49: 90.
4. **Hawlena, H.** (2005) Age-biased parasitism and density dependent distribution of fleas (Siphonaptera) on a desert rodent. The 9th International Mammalogical Conference (IMC9). Sapporo, Japan

5. **Hawlena, H.**, B.R. Krasnov, and Z. Abramsky (2006) Host age: a key factor in host-parasite relationships. The 42th meeting of the Zoological Society of Israel, Rechovot, Israel
6. **Hawlena, H.** Z. Abramsky, and B.R. Krasnov (2006) The effect of ecological factors on patterns of host-parasite relationships. EcoHealth ONE. Forging collaboration between ecology and health. Madison, Wisconsin, USA
7. Bashey, F**, Hawlena, H,** F. Vigneux, and C.M Lively (2008) Within-host competition and virulence in entomopathogenic bacteria. Evolution 2008. Minneapolis, University of Minnesota, USA
8. **Hawlena, H.** (2008) Regulation mechanisms of fleas: Are fleas consumers or prey? The 83rd Annual Meeting of the American Society of Parasitologists. Arlington, Texas
9. Veciana, M, A., Ribas, and **Hawlena, H.** (2009) Helminths of two gerbils in the Negev Desert, Israel. The 10th International Congress of Mammalogy. Mendoza, Argentina
10. Bashey, F, **Hawlena, H.**, and C.M Lively (2009) Antagonistic interactions among bacterial symbionts of nematodes. The 6th International Symbiosis Society Conference, Madison, Wisconsin, USA
11. **Hawlena, H.**, Evie Rynkiewic, and Keith Clay (2010). The effects of environment, super-spreaders, vectors, and the microbial community on the risk of vector-borne diseases. Symposium of the Indiana University Center for Research in Environmental Sciences, Bloomington, Indiana, USA.
12. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2009). Preliminary results of a field investigation of co-infection patterns in ticks and their rodent hosts in southern Indiana. Indiana Academy of Science 125th Fall Meeting, Indiana University Kokomo, Kokomo, Indiana, USA
13. Bashey, F**. Hawlena, H.** and Lively, C.M. (2011). Within-host interactions between sympatric natural isolates of *Xenorhabdus*: The interplay between bacteriocin activity and host morality rates. Microbial Population Biology Gordon Conference, Andover, NH
14. Bashey, F**. Hawlena, H.** and Lively, C.M. (2011). Spite and virulence: how within-host competition affects parasite fitness. Annual Meeting of the Society for the Study of Evolution and the American Society of Naturalists, Norman, OK

15. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2011). Interactions between ectoparasites and innate immune function in free-living rodents. Ecology Society of America conference, Austin, TX.
16. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2011). Interactions between ectoparasites and innate immune function in free-living rodents. Animal Behavior Society and International Ethological Conference (joint meeting), Indiana University, Bloomington, IN.
17. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2011). Species and sex differences in immune function may influence ectoparasite burden in rodent hosts. Ecology and Evolution of Disease conference, Santa Barbara, CA.
18. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2011). What makes a superspreader? Interactions between parasites and immune function in free-living rodents. Early Career Scientists Symposium, Ann Arbor, MI.
19. Rynkiewicz, E, **Hawlena, H.**, and Clay, K. (2011). Interactions between parasites and immune function in free-living rodents: Possible impacts on vector-borne disease prevalence. Indiana Academy of Science conference, Indianapolis, IN.
20. Cohen, C. and **Hawlena, H.** (2012). The effect of host age on the symbiont community composition. 49th meeting of the Zoological Society of Israel, Beer-Sheva, Israel.
21. Kedem, H.. and **Hawlena, H.** (2012). Testing the "Microbe-Host Specificity" Hypothesis. 49th meeting of the Zoological Society of Israel, Beer-Sheva, Israel.
22. Kedem, H., Messika, I., Cohen, C, Toh, E, Munro, D, Dong, Q, and **Hawlena, H.** (2013). The two implications of species diversity: A community perspective on the 'dilution' hypothesis. The Ecology and Evolution of Infectious Disease Conference. University Park, PA, USA
23. Shatzki, R., Avisar, A., Dayan, T., and **Hawlena, H.** (2013) The effects of human disturbance on host-vector-bacteria networks. The Ecology and Evolution of Infectious Disease Conference. University Park, PA, USA
24. Gutiérrez, R, Morick, D, Cohen, C, **Hawlena, H** and Harrus, S. (2014) Co-infection analysis of *Bartonella* variants in wild rodents and their fleas using a 454-pyrosequencing assay. 1st Conference on Neglected Vectors and Vector-Borne Diseases (EurNegVec), Cluj-Napoca, Romania

25. Messika, I., Kedem, H., Einav, M., Dong, Q., Fuqua, C., Clay, K., and **Hawlena**, **H**. The relationship between offspring quantity and quality in arthropod-vectors reflect the size of the mother-arthropod and its internal and external environments. 51th meeting of the Zoological Society of Israel, Beer-Sheva, Israel.

(b) Invited presentations at universities, institutions, and conferences

1. 1998 - Ein-Gedi Field studies center, Israel
2. 2005 - Department of Biology, Institute of Zoology, University of Bern, Switzerland
3. 2005 - Department of Ecology and Evolution, University of Lausanne, Switzerland
4. 2006- Evolutionary Ecology Group, Department of Biology, University of Utah, Salt Lake City, Utah, USA
5. 2006 - Disease Ecology Group, Institute of Ecology, University of Georgia, Athens, Georgia, USA
6. 2006 - Ecological Parasitology Group, Department Ecology, Evolution & Marine Biology, University of California, Santa Barbara, California, USA
7. 2006 - Disease Ecology and Evolution group, Department of Biology, Indiana University, Bloomington, Indiana, USA
8. 2006 - Department of Wildlife Ecology, Madison, University of Wisconsin, USA
9. 2008 - A symposium at the 83rd Annual Meeting of the American Society of Parasitologists, titled evolutionary ecology of host-ectoparasite interactions. Arlington, Texas
10. 2009 - Department of Biology, Indiana University, Bloomington, Indiana, USA
11. 2010- Symposium of the Indiana University Center for Research in Environmental Sciences, Bloomington, Indiana, USA.
12. 2011- Mitrani Department of Desert Ecology, Ben Gurion University, Sde Boker, Israel
13. 2012 - Department of Zoology, Tel Aviv University, Israel
14. 2012 –Department of Biology, University of Haifa at Oranim, Tivon, Israel
15. 2012 - Departments of Entomology and Plant Pathology and Microbiology, the Hebrew University of Jerusalem, Jerusalem, Israel
16. 2013- Departments of Ecology, Evolution and Behavior, Faculty of Science, the Hebrew University of Jerusalem, Jerusalem, Israel

17. 2013- Department of Evolutionary and Environmental Biology and the Institute of Evolution, University of Haifa, Haifa, Israel

• **Research Grants**

1. 2013-2015, United states Israel Binational Science Foundation (BSF) start-up research grants, Hawlena, H. (IP), Clay, K., Fuqua, C., Dong, Q. , Determinants of microbial community composition in nature: the effects of host species composition on the microbial community associated with an arthropod vector, $75,000 for 2 years

2. 2011-2015, Marie Curie Career Integration Grant (CIG), Hawlena, H. (IP), Effects of ecological factors on bacterial communities of fleas, €100,000 for 4 years

• **Articles to be published**

Papers in review:

* Cohen, C., Einav, M. and **Hawlena, H.** The relative role of host age in shaping its symbiont community: Contributions of individual host heterogeneity and the timeline of maturation.

* Bashey-Visser, F. **Hawlena, H**. McCune, K.B.A., Shedd, D., Lively, C.M. Distinct life history and foraging behavior of three sympatric entomopathogenic nematode species.