

## R. Michael Roe Publications

(listed by subject area & numbered in order of publication year)

### Juvenile Hormone Metabolism in Insects

9. Yuhas, D. A., R. M. Roe, T. C. Sparks and A. M. Hammond, Jr. 1983. Purification and kinetics of juvenile hormone esterase from the cabbage looper, *Trichoplusia ni* (Hubner). *Insect Biochem.* **13**:129-136.
10. Roe, R. M., A. M. Hammond, Jr. and T. C. Sparks. 1983. Characterization of the plasma juvenile hormone esterase in synchronous last stadium female larvae of the sugarcane borer, *Diatraea saccharalis* (F.). *Insect Biochem.* **13**:163-170.
11. Prestwich, G. D., W.-S. Eng, R. M. Roe and B. D. Hammock. 1984. Synthesis and bioassay of isoprenoid 3-alkylthio-1,1,1-trifluoro-2-propanones: potent, selective inhibitors of juvenile hormone esterase. *Arch. Biochem. Biophys.* **228**:639-645.
13. Abdel-Aal, Y. A. I., R. M. Roe and B. D. Hammock. 1984. Kinetic properties of the inhibition of juvenile hormone esterase by two trifluoromethylketones and O-ethyl,S-phenyl phosphoramidothioate. *Pest. Biochem. Physiol.* **21**:232-241.
14. Hammock, B. D., Y. A. I. Abdel-Aal, C. A. Mullin, T. N. Hanzlik and R. M. Roe. 1984. Substituted thiotrifluoropropanones as potent selective inhibitors of juvenile hormone esterase. *Pest. Biochem. Physiol.* **22**:209-223.
15. Hammock, B. D., Y. A. I. Abdel-Aal, T. Hanzlik, D. Jones, G. Jones, R. M. Roe, M. Rudnicka, T. C. Sparks and K. D. Wing. 1984. The role of juvenile hormone metabolism in the metamorphosis of selected Lepidoptera. In: Biosynthesis, Metabolism and Mode of Action of Invertebrate Hormones (J. A. Hoffmann and M. Porchet, Eds.). Springer, N. Y. 416-425.
17. Sparks, T. C., R. M. Roe, A. Buehler and B. D. Hammock. 1985. The bioassay of anti-juvenile hormone compounds: an alternative approach. In: New Concepts and Trends in Pesticide Chemistry (P. Hedin, Ed.). American Chemical Society Symposium Series 176, Washington, D.C. 293-306.
18. Hammock, B. D. and R. M. Roe. 1985. Analysis of juvenile hormone esterase activity. *Methods Enzymol.* **111**:487-494.
24. Hammock, B. D., Y. A. I. Abdel-Aal, T. N. Hanzlik, G. E. Croston and R. M. Roe. 1987. Affinity purification and characteristics of juvenile hormone esterase from Lepidoptera. In: Molecular Entomology (J. H. Law, Ed.). Alan R. Liss, New York. 315-328.
25. Roe, R. M., C. L. Crawford, C. W. Clifford, J. P. Woodring, T. C. Sparks and B. D. Hammock. 1987. Characterization of the juvenile hormone esterases during embryogenesis of the house cricket, *Acheta*

*domesticus*. *Intl. J. Invertebr. Rep. Dev.* **12**:57-72.

**26.** Roe, R. M., C. L. Crawford, C. W. Clifford, J. P. Woodring, T. C. Sparks and B. D. Hammock. 1987. Role of juvenile hormone metabolism during embryogenesis of the house cricket, *Acheta domesticus*. *Insect Biochem.* **17**:1023-1026.

**27.** Venkatesh, K., C. L. Crawford and R. M. Roe. 1987. Characterization and the developmental role of plasma juvenile hormone esterase in the adult cabbage looper, *Trichoplusia ni*. *Insect Biochem.* **18**:53-61.

**28.** Linderman, R. J., J. Leazer, K. Venkatesh and R. M. Roe. 1987. The inhibition of insect juvenile hormone esterase by trifluoromethylketones: steric parameters at the active site. *Pest. Biochem. Physiol.* **29**:266-277.

**30.** Sparks, T. C., R. M. Roe, A. Buehler and B. D. Hammock. 1987. The evaluation of anti-juvenile hormones using last stadium larvae of the cabbage looper, *Trichoplusia ni* (Hubner). *Insect Biochem.* **17**:1011-1016.

**31.** Share, M. R. and R. M. Roe. 1988. A partition assay for the simultaneous determination of insect juvenile hormone esterase and epoxide hydrolase activity. *Anal. Biochem.* **169**:81-88.

**32.** Venkatesh, K. and R. M. Roe. 1988. The role of juvenile hormone and brain factor(s) in the regulation of plasma juvenile hormone esterase activity during the last larval stadium of the tobacco hornworm, *Manduca sexta*. *J. Insect Physiol.* **34**:415-425.

**33.** Share, M. R., K. Venkatesh, P. Jesudason and R. M. Roe. 1988. Juvenile hormone metabolism during embryogenesis in the tobacco hornworm, *Manduca sexta* (L.). *Arch. Insect Biochem. Physiol.* **8**:173-186.

**34.** Linderman, R. J., J. Leazer, R. M. Roe, K. Venkatesh, B. S. Selinsky and R. E. London. 1988. <sup>19</sup>F-NMR spectral evidence that 3-octylthio-1,1,1-trifluoropropan-2-one, a potent inhibitor of insect juvenile hormone esterase, functions as a transition state analog inhibitor of acetylcholinesterase. *Pest. Biochem. Physiol.* **31**:187-194.

**37.** Venkatesh, K. and R. M. Roe. 1989. The regulation of the first peak of haemolymph juvenile hormone esterase activity during the last stadium of the cabbage looper, *Trichoplusia ni*. *J. Insect Physiol.* **35**:543-551.

**40.** Linderman, R. J., J. Leazer, K. Venkatesh and R. M. Roe. 1989. Inhibition of insect juvenile hormone esterase by  $\alpha,\beta$ -unsaturated and  $\alpha$ -acetylenic trifluoromethyl ketones. *Pest. Biochem. Physiol.* **35**:291-299.

**41.** Roe, R. M. and K. Venkatesh. 1990. Metabolism of JHs: degradation and titer regulation. In: *Morphogenetic Hormones of Arthropods* (A. P. Gupta, Ed.), pp. 125-179. Rutgers Univ. Press, New Brunswick.

**43.** Roe, R. M., R. J. Linderman, M. Lonikar, K. Venkatesh, Y. A. I. Abdel-Aal, J. Leazer and L. Upchurch. 1990. Rational design and synthesis of polarized ketones as inhibitors of juvenile hormone esterase:

importance of juvenile hormone mimicry. *J. Agric. Food. Chem.* **38**:1274-1278.

**46.** Lampert, E. P., W. L. Pearce, J. W. Smith and R. M. Roe. 1990. Inheritance of the white larval trait in a laboratory colony of *Manduca sexta* (L.). *Am. Entomol.* **36**:289-290.

**47.** Jesudason, P., K. Venkatesh and R. M. Roe. 1990. Haemolymph juvenile hormone esterase during the life cycle of the tobacco hornworm, *Manduca sexta* (L.). *Insect Biochem.* **20**:593-604.

**48.** Venkatesh, K., Y. A. I. Abdel-Aal, F. B. Armstrong and R. M. Roe. 1990. Characterization of affinity purified juvenile hormone esterase from the plasma of the tobacco hornworm, *Manduca sexta*. *J. Biol. Chem.* **265**:21727-21732.

**52.** Linderman, R. J., T. Tshering, K. Venkatesh, D. R. Goodlett, W. C. Dauterman and R. M. Roe. 1991. Organophosphorus inhibitors of insect juvenile hormone esterase. *Pest. Biochem. Physiol.* **39**:57-73.

**55.** Linderman, R. J., E. A. Jamois and R. M. Roe. 1991. Correlation of equilibrium hydration constant and inhibitory potency for trifluoromethylketone inhibitors of insect juvenile hormone esterase. In: Reviews Pesticide Toxicology Volume 1 (E. Hodgson, R. M. Roe and N. Motoyama, Eds.), pp. 261-269. NC State University, Raleigh.

**58.** Roe, R. M., K. Venkatesh, D. D. Anspaugh, R. J. Linderman and D. M. Graves. 1991. Chemical and biological approaches to juvenile hormone esterase based insecticides. In: Reviews in Pesticide Toxicology Volume 1 (E. Hodgson, R. M. Roe and N. Motoyama, Eds.), pp. 249-259. NC State University, Raleigh.

**61.** Jesudason, P., D. D. Anspaugh and R. M. Roe. 1992. Juvenile hormone metabolism in the plasma, integument, midgut, fat body, and brain during the last instar of the tobacco hornworm, *Manduca sexta* (L.). *Arch. Insect Biochem. Physiol.* **20**:87-105.

**64.** Linderman, R. J., D. M. Graves, S. Garg, K. Venkatesh, D. D. Anspaugh and R. M. Roe. 1993. Unique inhibition of a serine esterase. *Tetrahedron Lett.* **34**:3227-3230.

**67.** Panchapakesan, K., R. M. Roe and E. P. Lampert. 1993. Effects of coloration on parasitism, predation, and field survivorship of the tobacco hornworm, *Manduca sexta* (L.). *J. Entomol. Sci.* **28**:308-314.

**68.** Roe, R. M., P. Jesudason, K. Venkatesh, V. L. Kallapur, D. D. Anspaugh and C. Majumder. 1993. Developmental role of juvenile hormone metabolism in Lepidoptera. *Amer. Zool.* **33**:375-383.

**83.** Panchapakesan, K., E. P. Lampert, N. A. Granger, W. G. Goodman and R. M. Roe. 1994. Biology and physiology of the white mutant of the tobacco hornworm, *Manduca sexta* (L.). *J. Insect Physiol.* **40**:423-429.

**84.** Lassiter, M. T., C. S. Apperson, C. L. Crawford and R. M. Roe. 1994. Juvenile hormone metabolism during adult development of the southern house mosquito, *Culex quinquefasciatus* Say (Diptera:Culicidae).

*J. Med. Entomol.* **31**:587-593.

- 96.** Lassiter, M. T., C. S. Apperson and R. M. Roe. 1995. Juvenile hormone metabolism during the fourth stadium and pupal stage of the southern house mosquito, *Culex quinquefasciatus* Say. *J. Insect Physiol.* **41**:869-876.
- 97.** Linderman, R. J., E. A. Walker, C. Haney and R. M. Roe. 1995. Determination of the regiochemistry of insect epoxide hydrolase catalyzed epoxide hydration of juvenile hormone by <sup>18</sup>O-labeling studies. *Tetrahedron* **51**:10845-10856.
- 99.** Kallapur, V. L., C. Majumder and R. M. Roe. 1996. *In vivo* and *in vitro*-tissue specific metabolism of juvenile hormone during the last stadium of the cabbage looper, *Trichoplusia ni*. *J. Insect Physiol.* **42**:181-190.
- 100.** Lassiter, M. T., C. S. Apperson and R. M. Roe. 1996. Juvenile hormone metabolism in the ovary, gut, head and carcass after blood feeding in the southern house mosquito, *Culex quinquefasciatus*. *Comp. Biochem. Physiol.* **113B**:229-237.
- 102.** Roe, R. M., V. Kallapur, R. J. Linderman, F. Viviani, S. V. Harris, E. A. Walker and D. M. Thompson. 1996. Mechanism of action and cloning of epoxide hydrolase from the cabbage looper, *Trichoplusia ni*. *Arch. Insect Biochem. Physiol.* **32**:527-535.
- 103.** Thompson, D. M., D. D. Anspaugh, L. J. Gahan, D. G. Heckel and R. M. Roe. 1996. Cloning of a putative juvenile hormone-responsive storage protein gene from the tobacco budworm, *Heliothis virescens*. *Arch. Insect Biochem. Physiol.* **32**:439-447.
- 108.** Roe, R. M., D. D. Anspaugh, K. Venkatesh, R. J. Linderman and D. M. Graves. 1997. A novel geminal diol as a highly specific and stable *in vivo* inhibitor of insect juvenile hormone esterase. *Arch. Insect Biochem. Physiol.* **36**:165-179.
- 110.** VanHook Harris, S., D. Marin Thompson, R. J. Linderman, M. D. Tomalski and R. M. Roe. 1998. Cloning and expression of a novel juvenile hormone-metabolizing epoxide hydrolase during larval-pupal metamorphosis of the cabbage looper, *Trichoplusia ni*. *Insect Molec. Biol.* **7**:1-12.
- 131.** Gilbert, L. I., N. A. Granger and R. M. Roe. 2000. The juvenile hormones: historical facts and speculations on future research directions. *Insect Biochem. Molec. Biol.* **30**:617-644.
- 135.** Linderman, R. J., R. M. Roe, S. V. Harris and D. M. Thompson. 2000. Inhibition of insect juvenile hormone epoxide hydrolase: asymmetric synthesis and assay of glycidol-ester and epoxy-ester inhibitors of *Trichoplusia ni* epoxide hydrolase. *Insect Biochem. Molec. Biol.* **30**:767-774.
- 136.** Scott, M. P., S. T. Trumbo, P. A. Neese, W. D. Bailey and R. M. Roe. 2001. Changes in biosynthesis and degradation of juvenile hormone during breeding by burying beetles: A reproductive or social role? *J. Insect Physiol.* **47**:295-302.

**165.** Anspaugh, D. D., S. M. Khalil, M. D. Tomalski, D. M. Thompson and R. M. Roe. 2005. Molecular characterization of epoxide hydrolase cDNAs from the cabbage looper, *Trichoplusia ni*. Proceedings, 2005 Beltwide Cotton Conferences, New Orleans, Louisiana-January 4-7, 2005. National Cotton Council, Memphis, TN. pages 1463-1474.

**168.** Anspaugh, D. D. and R. M. Roe. 2005. Regulation of JH epoxide hydrolase versus JH esterase activity in the cabbage looper, *Trichoplusia ni*, by juvenile hormone and xenobiotics. *J. Insect Physiol.* **51**: 523-535.

**174.** Khalil, S. M. S., D. D. Anspaugh and R. M. Roe. 2006. Role of juvenile hormone esterase and epoxide hydrolase in reproduction of the cotton bollworm, *Helicoverpa zea*. *J. Insect Physiol.* **52**: 669-678.

**260.** Terrapon, N. et al. (2014) Molecular traces of alternative social organization in a termite genome. *Nature Communications.* **5**:3636.

### **Tick Endocrinology, Development and Functional Genomics**

**39.** Sonenshine, D. E., R. M. Roe, K. Venkatesh, C. Apperson, B. Winder, M. E. Schriefer and J. C. Baehr. 1989. Biochemical evidence of the occurrence of a juvenoid in ixodid ticks. In: Host Regulated Developmental Mechanisms in Vector Arthropods - 2ND symposium (D. Borovsky and A. Spielman, Eds.), pp. 9-17.

**42.** Venkatesh, K., R. M. Roe, C. S. Apperson, D. E. Sonenshine, M. E. Schriefer and L. M. Boland. 1990. Metabolism of juvenile hormone during adult development of *Dermacentor variabilis* (Acari: Ixodidae). *Med. Entomol.* **27**:36-42.

**63.** Roe, R. M., V. L. Kallapur, C. Majumder, M. T. Lassiter, C. S. Apperson, D. E. Sonenshine and B. S. Winder. 1993. Biochemical evidence for the presence of a juvenoid in ticks. In: Host Regulated Developmental Mechanisms in Vector Arthropods (D. Borovsky and A. Spielman, Eds.), pp. 110-120. Univ. Fla.-IFAS, Vero Beach.

**117.** Roe, R. M., V. Kallapur, R. J. Linderman and D. W. Sonenshine. 1999. Hydrolysis of juvenile hormone in the American dog tick, *Dermacentor variabilis*. In: Proceedings, IX International Congress of Acarology Volume 2 (G. R. Needham, R. Mitchell, D. J. Horn and W. C. Welbourn, Eds.), pp. 493-496. Ohio Biological Survey, Columbus, Ohio.

**120.** Neese, P. A., V. Kallapur, D. E. Sonenshine, C. S. Apperson and R. M. Roe. 2000. Absence of insect juvenile hormones in the American dog tick, *Dermacentor variabilis* (Say)(Acari:Ixodidae), and in *Ornithodoros parkeri* Cooley (Acari:Argasidae). *J. Insect Physiol.* **46**:477-490.

**127.** Neese, P. A., V. L. Kallapur, C. S. Apperson, D. E. Sonenshine and R. M. Roe. 2001. Bioassay, radiobiosynthesis, and GC/MS analysis of juvenile hormone in ticks: A new perspective. In: Proceedings, 10<sup>th</sup> International Congress of Acarology (R. B. Halliday, D. E. Walter, H. C. Proctor, R. A. Norton and M. J. Colloff, Eds.), pp. 612-617. CSIRO Publishing, Melbourne, Australia.

- 128.** Roe, R. M., V. Kallapur, P. A. Neese, C. S. Apperson and D. E. Sonenshine. 2001. Juvenile hormone regulation of metamorphosis and reproduction in ticks: A critical re-examination of the evidence and a new perspective. In: Proceedings, 10<sup>th</sup> International Congress of Acarology (R. B. Halliday, D. E. Walter, H. C. Proctor, R. A. Norton and M. J. Colloff, Eds.), pp. 604-611. CSIRO Publishing, Melbourne, Australia.
- 134.** Gudderra, N. P., P. A. Neese, D. E. Sonenshine, C. S. Apperson and R. M. Roe. 2001. Developmental profile, isolation, and biochemical characterization of a novel lipoglycohemoglobin-carrier protein from the American dog tick, *Dermacentor variabilis* (Acari: Ixodidae) and observations on a similar protein in the soft tick, *Ornithodoros parkeri* (Acari: Argasidae). *Insect Biochem. Molec. Tox.* **31**:299-311.
- 145.** Gudderra, N. P., D. E. Sonenshine, C. S. Apperson and R. M. Roe. 2002. Tissue distribution and characterization of predominant hemolymph carrier proteins from *Dermacentor variabilis* and *Ornithodoros parkeri*. *J. Insect Physiol.* **48**:161-170.
- 146.** Gudderra, N. P., D. E. Sonenshine, C. S. Apperson and R. M. Roe. 2002. Hemolymph proteins in ticks. *J. Insect Physiol.* **48**:269-278.
- 162.** Thompson, D. M., S. M. S. Khalil, L. A. Jeffers, U. Ananthapadmanaban, D. E. Sonenshine, R. D. Mitchell, C. J. Osgood, C. S. Apperson and R. M. Roe. 2005. In vivo role of 20-hydroxyecdysone in the regulation of the vitellogenin mRNA and egg development in the American dog tick, *Dermacentor variabilis* (Say). *J. Insect Physiol.* **51**: 1105-1116.
- 178.** Roe, R. M., D. M. Thompson, S. M. S. Khalil, L. A. Jeffers, R. D. Mitchell, C. S. Apperson and D. E. Sonenshine. 2006. Hormonal regulation of reproduction in ticks: a new perspective. Proceedings, 12th International Congress of Acarology, 21-26 August 2006, Amsterdam, The Netherlands (Edited by J. Bruin). Abstract Book. p. 172.
- 179.** Khalil, S. M. S., D. M. Thompson, D. E. Sonenshine and R. M. Roe. 2006. Full-length sequence and tissue expression of vitellogenin gene from the American dog tick, *Dermacentor variabilis*. Proceedings, 12th International Congress of Acarology, 21-26 August 2006, Amsterdam, The Netherlands (Edited by J. Bruin). Abstract Book. p. 91.
- 180.** Roe, R. M., K. V. Donohue, A. Jones, M. Vanderherchen, C. S. Apperson, M. Isherwood and R. J. Linderman. 2006. Development of a novel all natural tick and insect repellent, BioUD, as a DEET replacement and for use on cotton fabric. Proceedings, 12th International Congress of Acarology, 21-26 August 2006, Amsterdam, The Netherlands (Edited by J. Bruin). Abstract Book. p. 172.
- 181.** Donohue, K. V., S. M. S. Khalil, D. E. Sonenshine and R. M. Roe. 2006. Cloning and sequencing of the major hemelipoglycoprotein in the American dog tick, *Dermacentor variabilis*. Proceedings, 12th International Congress of Acarology, 21-26 August 2006, Amsterdam, The Netherlands (Edited by J. Bruin). Abstract Book. p. 50.
- 185.** Mitchell R. D. III, E. Ross, C. Osgood, D. E. Sonenshine, K. V. Donohue, S. M. Khalil, D. M. Thompson and R. M. Roe. 2007. Molecular characterization, tissue-specific expression and RNAi

knockdown of the first vitellogenin receptor from a tick. *Insect Biochem. Molec. Biol.* **37**: 375-388.

**186.** Thompson, D. M., S. M. S. Khalil, L. A. Jeffers, D. E. Sonenshine, R. D. Mitchell, C. J. Osgood and R. M. Roe. 2007. Sequence and the developmental and tissue-specific regulation of the first complete vitellogenin messenger RNA from ticks responsible for heme sequestration. *Insect Biochem. Molec. Biol.* **37**: 363-374.

**191.** Roe, R. M., K. V. Donohue, S. M. S. Khalil and D. E. Sonenshine. 2008. Hormonal regulation of metamorphosis and reproduction in ticks. In: *Molecular Biology of Ticks and the Tick-Pathogen Interface*. Eds: J. delaFuente, D. M. Kocan and D. E. Sonenshine. *Frontiers in Bioscience* **13**: 7250-7268.

**193.** Donohue, K. V., S. M. S. Khalil, R. D. Mitchell, D. E. Sonenshine and R. M. Roe. 2008. Molecular characterization of the major hemelipoglycoprotein in ixodid ticks. *Insect Molec. Biol.* **17**: 197-208.

**201.** Donohue, K. V., S. M. S. Khalil, D. E. Sonenshine and R. M. Roe. 2009. Heme-binding storage proteins in the Chelicerata. *J. Insect Physiol.* **55**: 287-296.

**205.** Cabrera, A. R., K. V. Donohue, S. M. S. Khalil, D. E. Sonenshine and R. M. Roe. 2009. Characterization of vitellin protein in the twospotted spider mite, *Tetranychus urticae* (Acari: Tetranychidae). *J. Insect Physiol.* **55**: 655-661.

**206.** Donohue, K. V., S. M. S. Khalil, E. Ross, R. D. Mitchell, R. M. Roe and D. E. Sonenshine. 2009. Male engorgement factor: role in stimulating engorgement to repletion in the ixodid tick, *Dermacentor variabilis*. *J. Insect Physiol.* **55**: 909-918.

**208.** Donohue, K. V., S. M. S. Khalil, D. E. Sonenshine and R. M. Roe. 2009. Heme-binding storage proteins in the Chelicerate. *J. Insect Physiol.* **55**: 287-296.

**209.** Cabrera, A. R., K. V. Donohue and R. M. Roe. 2009. Regulation of female reproduction in mites: A unifying model for the Acari. *J. Insect Physiol.* **55**: 1079-1090.

**215.** Donohue, K. V., S. M. S. Khalil, E. Ross, C. M. Grozinger, D. E. Sonenshine and R. M. Roe. 2009. Neuropeptide signaling sequences identified by pyrosequencing of the American dog tick synganglion transcriptome during blood feeding and reproduction. *Insect Biochem. Molec. Biol.* **40**: 79-90.

**244.** Sonenshine, D. E., B. W. Bissinger, N. Egekqu, K. V. Donohue, S. M. Khalil and R. M. Roe. 2011. First transcriptome of the testis-vas deferens-male accessory gland and proteome of the spermatophore from *Dermacentor variabilis* (Acari: Ixodidae). *PlosONE* **6**:e24711.

**245.** Bissinger, B. W., K. V. Donohue, S. M. S. Khalil, C. M. Grozinger, D. E. Sonenshine, J. Zhu and R. M. Roe. 2011. Synganglion transcriptome and developmental global gene expression in adult females of the American dog tick, *Dermacentor variabilis* (Acari: Ixodidae). *Insect Molec. Biol.* **20**: 465-491.

**246.** Khalil, S. M. S., K. V. Donohue, D. M. Thompson, L. A. Jeffers, U. Ananthapadmanaban, D. E. Sonenshine, R. D. Mitchell and R. M. Roe. 2011. Full-length sequence, regulation and developmental

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**247.** Cabrera, A. R., K. V. Donohue, S. M. S. Khalil, E. Scholl, C. Opperman, D. E. Sonenshine and R. M. Roe. 2011. New approach for the study of mite reproduction: the first transcriptome analysis of a mite, *Phytoseiulus persimilis* (Acari: Phytoseiidae). *J. Insect Physiol.* **57**: 52-61.

**252.** Carr, A. L., R. M. Roe, C. Arellano, D. E. Sonenshine, C. Schal and C. S. Apperson. 2013. Responses of *Amblyomma americanum* and *Dermacentor variabilis* to odorants that attract haematophagous insects. *Med. Vet. Entomol.* **27**: 86-95.

**261.** Egekwu, N., D. E. Sonenshine, B. W. Bissinger and R. M. Roe (2014) Transcriptome of the female synganglion of the black-legged tick *Ixodes scapularis* (Acari: Ixodidae) with comparison between Illumina and 454 systems. *PlosOne.* **9**:e102667.

**262.** Sonenshine, D. E. and R. M. Roe. 2014. *Biology of Ticks Volume I*. Oxford University Press, NY, NY. 540 pp.

**263.** Sonenshine, D. E. and R. M. Roe. 2014. *Biology of Ticks Volume II*. Oxford University Press, NY, NY. 491 pp.

**264.** Sonenshine, D. E. and R. M. Roe. 2014. Overview: ticks, people, and animals. In: *Biology of Ticks Volume I* (D. E. Sonenshine and R. M. Roe, eds.). Oxford Univ. Press, NY, NY. Pp. 3-16.

**265.** Sonenshine, D. E. and R. M. Roe. 2014. External and internal anatomy of ticks. In: *Biology of Ticks Volume I* (D. E. Sonenshine and R. M. Roe, eds.). Oxford Univ. Press, NY, NY. Pp. 74-98.

**266.** Bissinger, B. W. and R. M. Roe. 2014. Tick repellent research, methods, and development. In: *Biology of Ticks Volume I* (D. E. Sonenshine and R. M. Roe, eds.). Oxford Univ. Press, NY, NY. Pp. 382-408.

**267.** Khalil, A. M. A., K. V. Donohue, R. M. Roe and D. E. Sonenshine. 2014. Heme-binding lipoglyco-storage proteins. In: *Biology of Ticks Volume I* (D. E. Sonenshine and R. M. Roe, eds.). Oxford Univ. Press, NY, NY. Pp. 398-415.

**268.** Roe, R. M., K. V. Donohue, S. M. S. Khalil, B. W. Bissinger, J. Zhu and D. E. Sonenshine. 2014. Hormonal regulation of metamorphosis and reproduction in ticks. In: *Biology of Ticks Volume I* (D. E. Sonenshine and R. M. Roe, eds.). Oxford Univ. Press, NY, NY. Pp. 416-448.

**269.** Ponnusamy, L., A. Gonzalezb, W. Van Treurenb, S. Weiss, C. M. Parobek, J. J. Juliano, R. Knight, R. M. Roe, C. S. Apperson and S. R. Meshnick. 2014. Diversity of *Rickettsiales* in the microbiome of the lone star tick, *Amblyomma americanum*. *Appl. Environ. Microbiol.* **80**:354-359.

**270.** Sonenshine, D. E. and R. M. Roe. 2014. Important advances in our knowledge of tick biology may transform the future control of ticks and tick-borne diseases. *Bull. Royal Ent. Soc.*, Special Edition 2014.



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