Publications by Shin G. Goto (Shinsuke Goto)

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Review

4. **Goto, S.G.** 2016. Physiological and molecular mechanisms underlying photoperiodism in the spider mite: comparisons with insects. Journal of Comparative Physiology B 186, 969–984. doi: 10.1007/s00360-016-1018-9

3. **Goto, S.G.**, Lee, R.E. Jr., Denlinger, D.L. 2015. Aquaporins in the Antarctic midge, an extremophile that relies on dehydration for cold survival. Biological Bulletin 229, 47-57. doi: 10.1086/BBLv229n1p47

2. **Goto, S.G.**, Takekata, H. 2015. Circatidal rhythm and the veiled clockwork. Current Opinion in Insect Science 7, 92-97. doi: 10.1016/j.cois.2014.12.004

1. **Goto, S.G.** 2013. Roles of circadian clock genes in insect photoperiodism. Entomological Science 16, 1-16. doi: 10.1111/ens.12000

Book Chapter

2. **Goto, S.G.**, Numata, H. 2014. Insect Photoperiodism. In Hoffmann, K.H. (ed.) Insect Molecular Biology and Ecology. pp. 217-244. CRC Press.

1. **Goto, S.G.**, Shiga, S. & Numata, H. 2009. Perception of light and the role of clock genes. In Nelson, R.J., Denlinger, D.L., Somers, D.E. (eds.) Photoperiodism: The Biological Calendar. pp. 258-286. Oxford University Press. doi: 10.1093/acprof:oso/9780195335903.003.0011

Original Article

58. Yamamoto, Mz., Shiga, S., **Goto, S.G.** 2017. Distribution of PERIOD-immunoreactive neurons and temporal change of the immunoreactivity under long-day and short-day conditions in the larval brain of the flesh fly *Sarcophaga similis*. Chronobiology International, in press. doi: 10.1080/07420528.2017.1310736

57. Shimizu, Y., Mukai, A., **Goto, S.G.** 2017. Cell cycle arrest in the jewel wasp *Nasonia vitripennis* in larval diapause. Journal of Insect Physiology, in press. doi: 10.1016/j.jinsphys.2016.11.011

56. Matsumoto, K., Suetsugu, Y., Tanaka, Y., Kotaki, T., **Goto, S.G.**, Shinoda, T., Shiga, S. 2017. Identification of allatostatic molecules in the brown-winged green bug *Plautia stali*. Journal of Insect Physiology 96, 21-28. doi: 10.1016/j.jinsphys.2016.10.005

55. Omura, S., Numata, H., **Goto, S.G.** 2016. Circadian clock regulates photoperiodic responses governed by distinct output pathways in the bean bug, *Riptortus pedestris*. Biological Rhythm Research 47, 937-945. doi: 10.1080/09291016.2016.1212515

54. Miyazaki, Y., Tanaka, K., Watari, Y., **Goto, S.G.** 2016. Temperature cycle amplitude alters the adult eclosion time and expression pattern of the circadian clock gene *period* in the onion fly. Journal of Insect Physiology 86, 54-59. doi: 10.1016/j.jinsphys.2016.01.002

53. Mukai, A., **Goto, S.G.** 2016. The clock gene period is essential for the photoperiodic response in the jewel wasp *Nasonia vitripennis* (Hymenoptera: Pteromalidae). Applied Entomology and Zoology 51, 185-194. doi: 10.1007/s13355-015-0384-1

52. Kobelkova, A.[a], **Goto, S.G.**[a], Peyton, J.T., Ikeno, T., Lee, R.E. Jr., Denlinger, D.L. 2015. Continuous activity and no cycling of clock genes in the Antarctic midge during the polar summer. Journal of Insect Physiology 81, 90-96. [a]equally contributed. doi: 10.1016/j.jinsphys.2015.07.008

51. Takekata, H., Numata, H., Shiga, S., **Goto, S.G.** 2014. Silencing the circadian clock gene *Clock* using RNAi reveals dissociation of the circatidal clock from the circadian clock in the mangrove cricket. Journal of Insect Physiology 68, 16-22. doi: 10.1016/j.jinsphys.2014.06.012

50. Harada, E., Lee, R.E. Jr., Denlinger, D.L., **Goto, S.G.** 2014. Life history traits of adults and embryos of the Antarctic midge *Belgica antarctica*. Polar Biology 37, 1213-1217. doi: 10.1007/s00300-014-1511-0

49. Hori, Y., Numata, H., Shiga, S., **Goto, S.G.** 2014. Both the anterior and posterior eyes function as photoreceptors for photoperiodic termination of diapause in the two-spotted spider mite. Journal of Comparative Physiology A 200, 161-167. doi: 10.1007/s00359-013-0872-0

48. Ikeno, T., Numata, H., **Goto, S.G.**, Shiga, S. 2014. The involvement of the brain region containing pigment-dispersing factor-immunoreactive neurons in the photoperiodic response of the bean bug *Riptortus pedestris*. Journal of Experimental Biology 217, 453-462. doi: 10.1242/jeb.091801

47. Ito, C., **Goto, S.G.**, Numata, H. Desiccation and heat tolerance of eggs of the Asian tadpole shrimp, *Triops granarius*. Zoological Science 30, 760–766. doi: 10.2108/zsj.30.760

46. Takekata, H., **Goto, S.G.**, Satoh, A., Numata H. 2013. Light masking of the circatidal activity rhythm in the mangrove cricket *Apteronemobius asahinai*. Biological Rhythm Research 45, 229-233. doi: 10.1080/09291016.2013.797639

45. Ikeno, T., Ishikawa, K., Numata, H., **Goto, S.G.** 2013. Circadian clock gene, *Clock*, is involved in the photoperiodic response of the bean bug *Riptortus pedestris*. Physiological Entomology, 38, 157–162. doi: 10.1111/phen.12013

44. Tanaka, A., Kuga, Y., Tanaka, Y., **Goto, S.G.**, Numata, H., Shiga, S. 2013. Effects of ablation of the pars intercerebralis on ecdysteroid quantities and yolk protein expression in the blow fly, *Protophormia terraenovae*. Physiological Entomology 38, 192-201. doi: 10.1111/phen.12012

43. Takekata, H., Matsuura, Y., **Goto, S.G.**, Sato, A., Numata, H. 2012. RNAi of the circadian clock gene period disrupts the circadian rhythm but not the circatidal rhythm in the mangrove cricket. Biology Letters 8, 488-491. doi: 10.1098/rsbl.2012.0079

42. Ikeno, T., Numata, H., **Goto, S.G.** 2011. Photoperiodic response requires *mammalian-type cryptochrome* in the bean bug *Riptortus pedestris*. Biochemical and Biophysical Research

Communications 410, 394-397. doi: 10.1016/j.bbrc.2011.05.142

41. Miyazaki, Y., **Goto, S.G.**, Tanaka, K., Saito, O., Watari, Y. 2011. Thermoperiodic regulation of the circadian eclosion rhythm in the flesh fly, *Sarcophaga crassipalpis*. Journal of Insect Physiology 57, 1249-1258. doi: 10.1016/j.jinsphys.2011.05.006

40. Ikeno, T., Numata, H., **Goto, S.G.** 2011. Circadian clock genes *period* and *cycle* regulate photoperiodic diapause in the bean bug *Riptortus pedestris* males Journal of Insect Physiology 57, 935-938. doi: 10.1016/j.jinsphys.2011.04.006

39. **Goto, S.G.**, Philip, B.N., Teets, N.M., Kawarasaki, Y., Lee, R.E., Denlinger, D.L. 2011. Functional characterization of an aquaporin in the Antarctic midge *Belgica antarctica*. Journal of Insect Physiology 57, 1106–1114. doi: 10.1016/j.jinsphys.2011.03.023

38. Ikeno, T., Katagiri, C., Numata, H., **Goto, S.G.** 2011. Causal involvement of the *mammalian-type cryptochrome* in the cuticle deposition rhythm in the bean bug *Riptortus pedestris*. Insect Molecular Biology 20, 409-415. doi: 10.1111/j.1365-2583.2011.01075.x

37. **Goto, S.G.**, Katagiri, C. 2011. Effects of acclimation temperature on membrane phospholipids in the flesh fly *Sarcophaga similis*. Entomological Science 14, 224-229. doi: 10.1111/j.1479-8298.2010.00439.x

36. Ito, C., **Goto, S.G.**, Tomioka, K., Numata, H. 2011. Temperature entrainment of the circadian cuticle deposition rhythm in *Drosophila melanogaster*. Journal of Biological Rhythms 26, 14-23. doi: 10.1177/0748730410391640

35. Udaka, H., Ueda, C., **Goto, S.G.** 2010. Survival rate and expression of *Heat-shock protein 70* and *Frost* genes after temperature stress in *Drosophila melanogaster* lines that are selected for recovery time from temperature coma. Journal of Insect Physiology 56, 1889-1894. doi: 10.1016/j.jinsphys.2010.08.008

34. Tagaya, J., Numata, H., **Goto, S.G.** 2010. Sexual difference in the photoperiodic induction of pupal diapause in the flesh fly *Sarcophaga similis*. Entomological Science 13, 311-319. doi: 10.1111/j.1479-8298.2010.00394.x

33. Ikeno, T., Tanaka, S.I., Numata, H., **Goto, S.G.** 2010. Photoperiodic diapause under control of circadian clock genes in an insect. BMC Biology 8, 116. doi: 10.1186/1741-7007-8-116

32. Tokuda, Y., Ikeno, T., **Goto, S.G.**, Numata, H., Ezaki, Y. 2010. Influence of habitat change on the evolution of morphology and life history traits of azooxanthellate solitary corals (Scleractinia: Flabellidae). Biological Journal of the Linnean Society 101, 184-192. doi: 10.1111/j.1095-8312.2010.01479.x

31. Kashiyama, K., Ito, C., Numata, H., **Goto, S.G.** 2010. Spectral sensitivity of light-induced hatching and expression of genes involved in the photoreception in the eggs of tadpole shrimp *Triops granarius*. Comparative Biochemistry and Physiology Part A. 156, 416-421. doi: 10.1016/j.cbpa.2010.03.012

30. Muguruma, F., **Goto, S.G.**, Numata, H., Shiga, S. 2010. Effect of photoperiod on clock gene expression and subcellular distribution of PERIOD in the circadian clock neurons of the blow fly *Protophormia terraenovae*. Cell and Tissue Research 340, 497–507. doi:

10.1007/s00441-010-0966-8

29. **Goto, S.G.**, Udaka, H., Ueda, C., Katagiri, C. 2010. Fatty acids of membrane phospholipids in *Drosophila melanogaster* lines showing rapid and slow recovery from chill coma. Biochemical and Biophysical Research Communications 391, 1251–1254. doi: 10.1016/j.bbrc.2009.12.053

28. Kawakami, Y., Ito, K., Numata, H., **Goto, S.G.** 2010. Dominant and recessive inheritance patterns of diapause in the two-spotted spider mite, *Tetranychus urticae*. Journal of Heredity 101, 20-25. doi: 10.1093/jhered/esp085

27. **Goto, S.G.**, Numata, H. 2009. Alteration of pupal diapause program and regulation of larval duration by photoperiod in the flesh fly *Sarcophaga similis* Meade (Diptera: Sarcophagidae). Applied Entomology and Zoology 44, 603-609. doi: 10.1303/aez.2009.603

26. Zhang, B., Mitsui, H., Numata, H., **Goto, S.G.** 2009. A simple, heat-sterilisable artificial diet excluding animal-derived ingredients for *Lucilia sericata* adults. Medical and Veterinary Entomology 23, 443-447. doi: 10.1111/j.1365-2915.2009.00835.x

25. **Goto, S.G.**, Numata, H. 2009. Possible involvement of distinct photoreceptors in the photoperiodic induction of diapause in the flesh fly *Sarcophaga similis*. Journal of Insect Physiology 55, 401-407. doi: 10.1016/j.jinsphys.2008.11.008 (Selected at Top25 Hottest Articles in Journal of Insect Physiology, July-September 2009)

24. **Goto, S.G.** 2009. Genetic analysis of diapause capability and association between larval and pupal photoperiodic responses in the flesh fly *Sarcophaga similis*. Physiological Entomology 34, 46-51. doi: 10.1111/j.1365-3032.2008.00650.x

23. Kashiyama, K., Seki, T., Numata, H., **Goto, S.G.** 2009. Molecular characterization of visual pigments in Branchiopoda and the evolution of opsins in Arthropoda. Molecular Biology and Evolution 26, 299-311. doi: 10.1093/molbev/msn251

22. Kawakami, Y., **Goto, S.G.**, Ito, K., Numata, H. 2009. Suppression of ovarian development and vitellogenin gene expression in adult diapause of the two-spotted spider mite, *Tetranychus urticae*. Journal of Insect Physiology 55, 70-77. doi: 10.1016/j.jinsphys.2008.10.007 (Selected at Top25 Hottest Articles in Journal of Insect Physiology, October-December 2008)

21. Udaka, H., **Goto, S.G.**, Numata, H. 2008. Effects of photoperiod and acclimation temperature on heat and cold tolerance in the terrestrial slug, *Lehmannia valentiana* (Pulmonata: Limacidae). Applied Entomology and Zoology 43, 547-551. doi: 10.1303/aez.2008.547

20. Ikeno, T., Numata, H., **Goto, S.G.** 2008. Molecular characterization of the circadian clock genes in the bean bug, *Riptortus pedestris*, and their expression patterns under long- and short-day conditions. Gene 419, 56-61. doi: 10.1016/j.gene.2008.05.002

19. Ito, C., **Goto, S.G.**, Shiga, S., Tomioka, K., Numata, H. 2008. Peripheral circadian clock for the cuticle deposition rhythm in *Drosophila melanogaster*. Proceedings of the National Academy of Sciences of the USA 105, 8446-8451. doi: 10.1073/pnas.0800145105

18. Zhang, B., Mitsui, H., Numata, H., **Goto, S.G.** 2008. Short-term cold storage of blowfly *Lucilia sericata* embryos. Insect Science 15, 225-228. doi: 10.1111/j.1744-7917.2008.00204.x

17. **Goto, S.G.**, Doi, K., Nakayama, S., Numata, H. 2008. Maternal control of desiccation and cold tolerance of eggs of the band-legged ground cricket, *Dianemobius nigrofasciatus*. Entomological Research 38, 17-23. doi: 10.1111/j.1748-5967.2008.00140.x

16. Udaka, H., Mori, M., **Goto, S.G.**, Numata, H. 2007. Seasonal reproductive cycle in relation to tolerance to high temperatures in the terrestrial slug, *Lehmannia valentiana*. Invertebrate Biology 126, 154-162. doi: 10.1111/j.1744-7410.2007.00085.x

15. **Goto, S.G.**, Han, B., Denlinger, D.L. 2006. A nondiapausing variant of the flesh fly, *Sarcophaga bullata*, that shows arrhythmic adult eclosion and elevated expression of *period* and *timeless*. Journal of Insect Physiology 52, 1213-1218. doi: 10.1016/j.jinsphys.2006.09.003

14. Tachibana, S.-I., Numata, H., **Goto, S.G.** 2005. Gene expression of heat-shock proteins (*Hsp23*, *Hsp70* and *Hsp90*) during and after larval diapause in the blow fly *Lucilia sericata*. Journal of Insect Physiology 51, 641-647. doi: 10.1016/j.jinsphys.2004.11.012 (Selected at Top25 Hottest Articles in Journal of Insect Physiology, July - September 2005)

13. **Goto, S.G.**, Kimura, M.T. 2004. Heat-shock-responsive genes are not involved in the adult diapause of *Drosophila triauraria.* Gene 326, 117-122. doi: 10.1016/j.gene.2003.10.017

12. **Goto, S.G.**, Denlinger, D.L. 2002. Short-day and long-day expression patterns of genes involved in the flesh fly clock mechanism: *period*, *timeless*, *cycle* and *cryptochrome*. Journal of Insect Physiology 48, 803-816. doi: 10.1016/S0022-1910(02)00108-7

11. **Goto, S.G.**, Denlinger, D.L. 2002. Genes encoding two cystatins in the flesh fly *Sarcophaga crassipalpis* and their distinct expression patterns in relation to pupal diapauses. Gene 292, 121-127. doi: 10.1016/S0378-1119(02)00652-2

10. Daibo, S., Kimura, M.T., **Goto, S.G.** 2001. Upregulation of genes belonging to the drosomycin family in diapausing adults of *Drosophila triauraria.* Gene 278, 177-184. doi: 10.1016/ S 0378-1119(01)00713-2

9. **Goto, S.G.** 2001. A novel gene that is up-regulated during recovery from cold shock in *Drosophila melanogaster.* Gene 270, 259-264. doi: 10.1016/S0378-1119(01)00465-6

8. **Goto, S.G.**, Kimura, M.T. 2001. Phylogenetic utility of mitochondrial *COI* and nuclear *Gpdh* genes in *Drosophila*. Molecular Phylogenetics and Evolution 18, 404-422. doi: 10.1006/mpev.2000.0893

7. Hirai, Y., **Goto, S.G.**, Yoshida, T., Kimura, M. T. 2000. Faunal and ecological surveys on Drosophilid flies in a subtropical island of Japan, Iriomote-jima. Entomological Science 3, 273-284. Open Access

6. **Goto, S.G.** 2000. Expression of a *Drosophila* homologue of senescence marker protein-30 during cold acclimation. Journal of Insect Physiology 46, 1111-1120. doi: 10.1016/S0022-1910(99)00221-8 (Selected at Top25 Hottest Articles in Journal of Insect Physiology, July - September 2008)

5. **Goto, S.G.**, Kitamura, H.W. & Kimura, M.T. 2000. Phylogenetic relationship and climatic adaptations in the *Drosophila takahashii* and *montium* species subgroups. Molecular Phylogenetics and Evolution 15, 147-156. doi: 10.1006/mpev.1999.0727

4. **Goto, S.G.**, Yoshida, T., Beppu, K. & Kimura, M.T. 1999. Evolution of overwintering strategies in Eurasian species of the *Drosophila obscura* species group. Biological Journal of the Linnean Society 68, 429-441. doi: 10.1111/j.1095-8312.1999.tb01179.x

3. **Goto, S.G.**, Kimura, M.T. 1998. Heat- and cold-shock responses and temperature adaptations in subtropical and temperate species of *Drosophila*. Journal of Insect Physiology 44, 1233-1239. doi: 10.1016/S0022-1910(98)00101-2

2. **Goto, S.G.**, Yoshida, K.M., Kimura, M.T. 1998. Accumulation of *Hsp70* mRNA under environmental stresses in diapausing and nondiapausing adults of *Drosophila triauraria*. Journal of Insect Physiology 44, 1009-1015. doi: 10.1016/S0022-1910(97)00143-1

1. **Goto, S.G.**, Tagawa, M., Kimura, M.T. 1997. The effect of age, sex and diapause on desiccation tolerance in *Drosophila triauraria*. Japanese Journal of Entomology 65, 362-368. Open Access