

大阪市立大学大学院理学研究科生物地球系専攻

自然誌機能生物学講座 情報生物学研究グループ 業績集

2009

- Tanigawa, N., Matsumoto, K., Yasuyama, K., Numata, H., Shiga, S. Early embryonic development and diapause stage in the band-legged ground cricket *Dianemobius nigrofasciatus*. *Development Genes and Evolution* 219, 589–596. DOI:10.1007/s00427-010-0320-x
- Kotaki, T., Shinada, T., Kaihara, K., Ohfuné, Y., Numata, H. Structure determination of a new juvenile hormone from a heteropteran insect. *Organic Letters* 11, 5234-5237. DOI: 10.1021/ol902161x
- Shintani, Y., Shiga, S., Numata, H. Different photoreceptor organs are used for photoperiodism in the larval and adult stages of the carabid beetle, *Leptocarabus kumagaii*. *Journal of Experimental Biology* 212, 3651-3655. DOI: 10.1242/jeb.034033
- Goto, S.G. & Numata, H. 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
- Zhang, B., Mitsui, H., Numata, H., Goto, S.G. 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
- Satoh, A., Yoshioka, E., Numata, H. Entrainment of the circatidal activity rhythm of the mangrove cricket *Apteronemobius asahinai* to periodic inundations. *Animal Behaviour* 78: 189-194. DOI: 10.1016/j.anbehav.2009.04.018
- Horiguchi, T., Ito, C., Numata, H. Regulation of embryogenesis by light and its ecological significance in the Asian tadpole shrimp *Triops granarius*. *Zoological Science* 26: 483-490. DOI: 10.2108/zsj.26.483
- Miyazaki, Y., Nisimura, T., Numata, H. Circannual pupation rhythm of the varied carpet beetle *Anthrenus verbasci* under different nutrient conditions. *Entomological Science* 12, 370-375. DOI: 10.1111/j.1479-8298.2009.00349.x

- Moriyama, M., Numata, H. Comparison of cold tolerance in eggs of two cicadas, *Cryptotympana facialis* and *Graptopsaltria nigrofuscata* in relation to climate warming. *Entomological Science* 12, 162-170. DOI: 10.1111/j.1479-8298.2009.00318.x
- Miyazaki, Y., Nisimura, T., Numata, H. A circadian system is involved in photoperiodic entrainment of the circannual rhythm of *Anthrenus verbasci*. *Journal of Insect Physiology* 55, 494-498. DOI:10.1016/j.jinsphys.2008.12.003.
- Hamanaka, Y., Tanaka, S., Numata, H., Shiga, S. Morphological characterization of neurons projecting to the ring gland in the larval blow fly, *Protophormia terraenovae*. *Zoological Science* 26, 227-237. DOI: 10.2108/zsj.26.227
- Shiga, S., Numata, H. Roles of PER-immunoreactive neurons in the circadian rhythm and photoperiodism in the blow fly, *Protophormia terraenovae*. *Journal of Experimental Biology* 212, 867-877. DOI: 10.1242/jeb.027003
- Goto, S.G., Numata, H. 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
- Kashiyama, K., Seki, T., Numata, H., Goto, S.G. 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 Free access to the article.
- Goto, S.G. 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
- Miyazaki, Y., Numata, H. Responsiveness to photoperiodic changes in the circannual rhythm of the varied carpet beetle, *Anthrenus verbasci*. *Journal of Comparative Physiology A* 195, 241-246. DOI: 10.1007/s00359-008-0401-8
- Kawakami, Y., Goto, S.G., Ito, K., Numata, H. Suppression of ovarian development and of 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
- 沼田英治 光周性における「光」 『動物の多様な生き方1 見える光, 見えない光: 動物と光のかかわり』 日本比較生理生化学会編 共立出版 p. 193-208.
- 動物学会近畿支部 OMUPブックレットNo.25 生きものなんでも相談 大阪公立大学共同出版会

沼田英治 「昆虫の光周性概論」 『光周性の分子生物学』海老原史樹文・井澤毅編 シュプリンガー・ジャパン pp.101-112.

志賀向子 「昆虫光周性の神経機構」 『光周性の分子生物学』海老原史樹文・井澤毅編 シュプリンガー・ジャパン pp.119-129.

森山実・沼田英治 雨は、いつも虫にとって困りものなの？ 自然保護 2009年5/6月号 (No.509) p. 6-7.

後藤慎介 「耐寒性」 「光周性」 『分子昆虫学』 神村学・日本典秀・葛西真治・竹内秀明・畠山正統・石橋純 (編) 共立出版

2008

Moriyama, M. and Numata, H. Diapause and prolonged development in the embryo and their ecological significance in two cicadas, *Cryptotympana facialis* and *Graptopsaltria nigrofusca*. *Journal of Insect Physiology* 54: 1487-1494 . doi: 10.1016/j.jinsphys.2008.08.008

Tanaka, M., Tachibana, S.-I. and Numata, H. Sensitive stages for photoperiodic induction of pupal diapause in the flesh fly *Sarcophaga similis* (Meade) (Diptera: Sarcophagidae). *Applied Entomology and Zoology* 43, 403-407. doi: 10.1303/aez.2008.403

Udaka, H., Goto, S.G. and Numata, H. Effects of photoperiod and acclimation temperature on heat and cold tolerance in the terrestrial slug, *Lehmannia valentiana*. *Applied Entomology and Zoology* 43, 547-551.

Shimokawa, K., Numata, H. and Shiga, S. Neurons important for the photoperiodic control of diapause in the bean bug, *Riptortus pedestris*. *Journal of Comparative Physiology A, Neuroethology, Sensory Neural and Behavioral Physiology* 194: 751-762. doi: 10.1007/s00359-008-0346-y

Ikeno, T., Numata, H. and Goto, S.G. 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

Ito, C., Goto, S.G., Shiga, S., Tomioka, K. and Numata, H. 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

Zhang, B., Mitsui, H., Numata, H. and Goto, S.G. Short-term cold storage of blowfly *Lucilia*

- sericata* (Meigen) embryos. *Insect Science* 15: 225-228. doi: 10.1111/j.1744-7917.2008.00204.x
- Goto, S.G., Doi, K., Nakayama, S. and Numata, H. Maternal control of cold and desiccation tolerance in eggs of the band-legged ground cricket *Dianemobius nigrofasciatus* in relation to embryonic diapause. *Entomological Research* 38: 17-23. doi: 10.1111/j.1748-5967.2008.00140.x
- Satoh, A., Yoshioka, E. and Numata, H. Circatidal activity rhythm in the mangrove cricket *Apteronomobius asahinai*. *Biology Letters* 4, 233-236. doi: 10.1098/rsbl.2008.0036
- Udaka, H. and Numata, H. Short-day and low-temperature conditions promote reproductive maturation in the terrestrial slug, *Lehmannia valentiana*. *Comparative Biochemistry and Physiology A* 150: 80-83. doi: 10.1016/j.cbpa.2008.03.007
- 沼田英治 気の長い概年リズムとその生態機能. 「リズム生態学～体内時計の多様性とその生態機能」清水勇・大石正（編）東海大学出版会 p.139-160.
- 後藤慎介 ショウジョウバエの冬への適応と進化 「耐性の昆虫学」 田中誠二・小滝豊美・田中一裕（編）東海大学出版会 pp.46-56.
- 沼田英治 概年リズム 「時間生物学事典」 石田直理雄・本間研一編 朝倉書店 p. 32-34.
- 沼田英治 光周性 「時間生物学事典」 石田直理雄・本間研一編 朝倉書店 p. 52-53.
- 森山実 セミの孵化を観察しよう 「鳴く虫セレクション：音に聴く虫の世界」 大阪市立自然史博物館・大阪自然史センター（編著）東海大学出版会 p. 145-149.
- 沼田英治 昆虫の生活史 「昆虫ミメティックスー昆虫の設計に学ぶ」 下澤楯夫・針山孝彦 監修 エヌ・ティー・エス p. 23-29
- 志賀向子 光周性と休眠 「昆虫ミメティックスー昆虫の設計に学ぶ」 下澤楯夫・針山孝彦 監修 エヌ・ティー・エス p. 75-82.

2007

- Udaka, H., Mori, M., Goto, S.G., and Numata, H. 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
- Hamanaka, Y., Tanaka, S., Numata, H. and Shiga, S. Peptide immunocytochemistry of neurons projecting to the retrocerebral complex in the blow fly, *Protophormia terraenovae*. *Cell and*

Tissue Research 329: 581-593. doi: 10.1007/s004410050041

Shiga, S. and Numata, H. Neuroanatomical Approaches to the Study of Insect Photoperiodism. Photochemistry and Photobiology 83: 76–86.

Musolin, D. L., Fujisaki, K. and Numata, H. Photoperiodic control of diapause termination, colour change, and post-diapause reproduction in the southern green stink bug *Nezara viridula*. Physiological Entomology 32: 64-72. doi: 10.1111/j.1365-3032.2006.00542.x

Miyazaki, Y., Nishimura, T. and Numata, H. Phase resetting and phase singularity of an insect circannual oscillator. Journal of Comparative Physiology A 193: 1169–1176. doi: 10.1007/s00359-007-0270-6

沼田英治, 志賀向子 光周性・概年リズム 「シリーズ21世紀の動物科学9巻 動物の感覚とリズム」 七田芳則・深田吉孝共編 倍風館 p.148-176.

沼田英治, 初宿成彦 都会にすむセミたち—温暖化の影響? 海游舎

沼田英治, 中嶋康裕 (監訳) 志賀向子, 後藤慎介ほか (訳) 動物生理学—環境への適応 (クヌート・シュミット・ニールセン著) 東京大学出版会

宇高寛子, 沼田英治 2007 チャコウラナメクジの生活史 農薬時代 第189号 p. 21-25.

沼田英治・後藤慎介・三井秀也 (発明者) ニクバエ類昆虫またはクロバエ類昆虫の製造方法 (特許出願2007-231056) 財団法人大阪産業振興機構 (出願人) 出願年月日: 平成19年9月6日

2006

Yasuyama, K., Okada, Y., Hamanaka, Y., Shiga, S. Synaptic connections between eyelet photoreceptors and pigment dispersing factor-immunoreactive neurons of the blowfly *Protophormia terraenovae*. The Journal of Comparative Neurology 494: 331-344. doi: 10.1002/cne.20812

Nakamura, K., Numata H. Effects of photoperiods and temperature on the induction of adult diapause in *Dolycoris baccarum* (L.) (Heteroptera: Pentatomidae) from Osaka and Hokkaido, Japan. Applied Entomology and Zoology 41: 105-109. doi: 10.1303/aez.2006.105

Miyawaki, R., Tanaka, S.I., Numata, H. Role of juvenile hormone in the control of summer diapause in adult *Poecilocoris lewisi* (Heteroptera: Scutelleridae). *Formosan Entomologist* 26: 1-10.

Fukumoto, E., Numata, H., Shiga, S. Effects of temperature of adults and eggs on the induction of embryonic diapause in the band-legged ground cricket, *Dianemobius nigrofasciatus*. *Physiological Entomology* 31: 211-217. doi: 10.1111/j.1365-3032.2006.00507.x

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

Moriyama, M., Numata, H. Induction of egg hatching by high humidity in the cicada *Cryptotympana facialis*. *Journal of Insect Physiology* 52: 1219-1225. doi: 10.1016/j.jinsphys.2006.09.005

Miyazaki, Y., Nisimura, T., Numata, H. Phase responses in the circannual rhythm of the varied carpet beetle, *Anthrenus vervasci*, under naturally changing day length. *Zoological Science* 23: 1031-1037. (Selected for cover photograph) doi: 10.2108/zsj.23.1031

Tachibana, S.-I., Numata, H., Seasonal prevalence of blowflies and flesh flies in Osaka City. *Entomological Science* 9: 341-345. doi: 10.1111/j.1479-8298.2006.00179.x

沼田英治・三井秀也（訳）『マゴットセラピー ウジを使った創傷治療』 大阪公立大学共同出版会

渡康彦・瀧巖・松井崇明・齋藤治・後藤慎介・田中一裕 昆虫の羽化リズムにおける温度周期の重要性-土中で蛹化するハエ類を例に- 芦屋大学論叢 43: 119-130.

2005

Tachibana, S.-I., Numata, H., Goto, S.G. Gene expression of heat-shock proteins (*Hsp23*, *Hsp70*, *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

Yamashita, T., Tomiyama, T., Li, Q., Numata, H., Mori, H. Regulation of tau exon 10 splicing by a double stem-loop structure in mouse intron 10. *FEBS Letters* 579: 241-244. doi: 10.1016/j.febslet.2004.11.090

Miyazaki, Y., Nisimura, T., Numata, H. A phase response curve for circannual rhythm in the varied carpet beetle *Anthrenus verovasci*. *Journal of Comparative Physiology A* 191: 883-887. doi: 10.1007/s00359-005-0012-6

Nisimura, T., Numata, H., Yoshioka, E. Effect of temperature on circadian rhythm controlling the crepuscular activity of the burying beetle *Nicrophorus quadripunctatus* Kraatz (Coleoptera: Silphidae). *Entomological Science* 8: 331-338. doi: 10.1111/j.1479-8298.2005.00132.x

Ikeda, K., Numata, H., Shiga, S. Roles of the mushroom bodies in olfactory learning and photoperiodism in the blow fly *Protophormia terraenovae*. *Journal of Insect Physiology* 51: 669-680. doi: 10.1016/j.jinsphys.2005.05.001

Hamanaka Y., Yasuyama K., Numata, H., Shiga, S. Synaptic connections between pigment-dispersing factor-immunoreactive neurons and neurons in the pars lateralis of the blow fly *Protophormia terraenovae*. *The Journal of Comparative Neurology* 491: 390-399. doi: 10.1002/cne.20712

西村知良、宮崎洋祐、沼田英治 2005. 概年リズムの位相反応曲線 *時間生物学* 11: 16-24.