

CURRICULUM VITAE

Lynn Moorhead Riddiford

Born October 18, 1936

Academic Career:

A. B. magna cum laude in Biochemical Sciences, Radcliffe College, 1958.
 Ph.D. in Zoology, Cornell University, 1961
 Research Fellow in Biology, Harvard University, 1961-1963 (with Professor J. T. Edsall)
 Instructor in Biology, Wellesley College, 1963-1965
 Research Fellow in Biology, Harvard University, 1965-1966 (with Professor C. M. Williams)
 Assistant Professor of Biology, Harvard University, 1966-1971
 Associate Professor of Biology, Harvard University, 1971-1973
 Associate Professor of Zoology, University of Washington, 1973-1975
 Professor of Zoology, University of Washington, 1975-2003
 Virginia and Prentice Bloedel University Professor, University of Washington, 2000-2005
 Associate Chair for Undergraduates, Department of Biology, 2003-2004
 Professor of Biology, University of Washington, 2003-2007
 Professor of Biology Emerita, University of Washington, 2007-
 Senior Fellow, Janelia Farm Research Campus, Howard Hughes Medical Institute, 2007-2016
 Visiting Scholar, Stanford University, 1979-1980 (with Professor R. T. Schimke)
 Visiting Scholar, University of Cambridge, 1986-1987 (with Drs. M. Ashburner & M. Akam)
 Visiting Research Scientist, International Center for Insect Physiology and Ecology, Nairobi, Kenya, 1987 (5 months)
 Visiting Scientist, National Institute of Sericultural and Entomological Sciences, Tsukuba, Japan, 1992 (2.5 months)
 Visiting Scientist, Division of Entomology, CSIRO, Canberra, Australia, 1993-94 (9 months)
 Visiting Fellow, Research School of Biological Sciences, Australian National University, 1996 (6 weeks)
 Visiting Scholar, Department of Zoology, University of Cambridge (with Dr. M. Akam) and Overseas Fellow of Churchill College, 2000-2001

Honors:

Awards: Phi Beta Kappa; Sigma Xi, Sigma Xi prize to Radcliffe senior (1958); National Science Foundation predoctoral (1958-60) and postdoctoral fellowships (1961-63); National Institutes of Health predoctoral fellowship (1960-61); John S. Guggenheim Foundation Fellowship (1979-80); National Institutes of Health Senior International Fellowship (1986-87); Recognition Award in Insect Physiology, Biochemistry, and Toxicology (Entomological Society of America, 1997); G. J. Mendel Honorary Medal for Merit in the Biological Sciences, Academy of Sciences of the Czech Republic (1998); Entomological Foundation Medal of Honor (2006); National Academy of Sciences (2010); Vollum Award for Distinguished Accomplishment in Science and Technology, Reed College (2011); Washington State Academy of Sciences (2018); ICIPE@50 Achievement Award, ICIPE (2020).
Fellow: AAAS (1977); Royal Entomological Society (1989); American Academy of Arts and Sciences (1993); Entomological Society of America (1995); Overseas Fellow, Churchill College, University of Cambridge (2000-2001); Honorary Fellow, Royal Entomological Society (2007).
Plenary and Named Lectures: Kreeger-Wolf Distinguished Visitor in Biological Sciences, Northwestern University (1979); plenary lecture, Vth International Symposium on Juvenile Hormones (1991); plenary lecture, XIX International Congress of Entomology, Beijing (1992); Boyce-Thompson Institute Distinguished Lecturer in the Life Sciences (1993); plenary lecture at the American Physiological Society meeting (1994); Karlson Lecture, VIth International Conference on Juvenile Hormones (1995); Weese Lecturer, University of

Oklahoma (1996); plenary lecture, First Pan-African Conference on Biochemistry and Molecular Biology, Nairobi (1996); plenary lecture, International Congress of Comparative Biochemistry and Physiology, Mt. Buller, Australia (2003); plenary lecture, 5th Congress of Asia and Oceania Society of Comparative Endocrinology, Nara, Japan (2004); Karlson Lecture, 18th International Ecdysone Workshop (2010); Howard Bern Lecture, Society for Integrative and Comparative Biology (2012); Keynote Lecture, Southeastern Regional Developmental Biology meeting, Nashville (2013).

Presidencies and Chairmanships: Chairman, Scientific Program Committee, Governing Council, International Center for Insect Physiology and Ecology (ICIPE), Nairobi, Kenya (1989-91); Chairman, Advisory Board, Seri-Biotechnology, Central Silk Board, India (1989); President, American Society of Zoologists (now Society for Comparative and Integrative Biology) (1991); Chairman and co-organizer of the first Gordon Conference on Metamorphosis, (1999); President, Board of Directors, The Entomological Foundation (2001); Chair, Scientific Advisory Board, Whitney Marine Laboratory, University of Florida (2004); President, Council for the International Congresses of Entomology (2000-2004); President, Council of the International Federation of Comparative Endocrinological Societies (2001-2005).

Societies:

American Association for Advancement of Science [Fellow; Electorate Nominating Committee, Section G, 1976-78 (Chairman, 1978); Council Delegate, Sect. G, 1986-89)]; American Society of Biochemistry and Molecular Biology; Genetics Society of America; Society for Developmental Biology; Society for Experimental Biology; Royal Entomological Society;

Society for Integrative and Comparative Biology (formerly American Society of Zoologists) [President, 1991; Division of Comparative Endocrinology: Program Officer (1973-74), Chairman (1978-79); ASZ Nominating Committee, 1980; Division of Comparative Physiology & Biochemistry: Chairman, 1990-91; Bartholomew Award Committee, 2006-7].

Entomological Society of America (Youth Science Development Committee, 1973-75; Special Committee on Basic Sciences, 1984; Selection Committee for ESA Recognition Award in Insect Physiology, Biochemistry, and Toxicology, 1998-2000; Selection Committee for Fellows of the ESA, 2001-2003; Section B, Awards Canvassing Committee, 2003 (Chair); Founder's Memorial Lecture Committee, 2005-2008; ICE 2016 Organizing Committee 2013-2016; counselor of the Entomological Foundation, 2015-18.

Other Professional Activities:

NIH Study Section on Tropical Medicine and Parasitology, 1974-78; 1997.

NIH *Ad Hoc* Committee on Comparative Endocrinology, 1979.

NIH Special Study Sections: 1981 (Chairman), 1982, 1996, 1997, 2004.

NSF Regulatory Biology Panel, 1984-1988

NSF Predoctoral Fellowships Review Committee, 1990-92

NSF Advisory Committee on the Biological Sciences, 1992-95

NSF Committee of Visitors (Chairman) for Physiology and Ethology Cluster, Division of Integrative Biology & Neuroscience (1998)

NSF Integrative Animal Biology Panel (2001, 2005)

NSF Physiological Systems Panel (2007)

NSF Committee of Visitors (Chairman), Integrative Organismal Systems Division (2011)

NATO Fellowships Review Committee, 1975, 1985, 1988

USDA Grant Review Panel on Biological Stress on Plants, 1979, 1989, 1995.

USDA Strengthening Grants Panel, 1997

Howard Hughes Medical Institute Panel on Undergraduate Biological Sciences Education Initiative, 1992.

EPA Predoctoral Fellowships Panel, 2000, 2006

International Committee of the Symposia of Comparative Endocrinology, 1978-1989
 Governing Council (Chairman, Program Committee 1989-91), International Center for Insect Physiology and Ecology, Nairobi, Kenya, 1985-1991
 Chairman, Advisory Board, Seri-Biotechnology, Central Silk Board, India (1989)
 Standing Review Committee for Insect Bio-Tech, Canada, 1991-93
 Scientific Advisory Committee for the Center of Agricultural Biotechnology, University of Maryland, 1992-94.
 Review Committees: Department of Zoology, Arizona State University (1995); Department of Zoology, University of British Columbia (1995); Department of Entomology, Oregon State University (1996); Boyce Thompson Institute for Plant Biology (1998); Department of Biological Sciences, University of Iowa (1998); Department of Cellular and Molecular Biology, University of Arizona (Chair) (2003).
 Membership Committee for Class II, section 2, American Academy of Arts and Sciences, 1998
 Chairman and co-organizer of the first Gordon Conference on Metamorphosis, 1999
 Board of Directors, The Entomological Foundation, 1999-2001 (Secretary-Treasurer, 2000-2001; President, 2001)
 Scientific Advisory Board, Whitney Marine Laboratory, University of Florida, 2000-2004 (Chair, 2004)
 Council for the International Congresses of Entomology, 1988-2008 (President, 2000-2004)
 Executive Council of the International Federation of Comparative Endocrinological Societies (Member-at-large, 1989-1993; Vice-president, 1997-2001; President, 2001-2005; past-President, 2005-9)
 National Academy of Sciences, Engineering and Medicine Committee on Gene Drive Research in Non-Human Organisms (2015-16); CMC Committee, Class VI (2020-).

Editorial Boards:

Journal of Chemical Ecology (1974-79); *General and Comparative Endocrinology* (1975-1994; 2001-2016); *Insect Biochemistry and Molecular Biology* (1978-present); *Journal of Experimental Zoology*, Associate Editor (1980-84; 1993-2005); *Integrative and Comparative Biology* (formerly *American Zoologist*) (1984-88; part of consortium of University of Washington editors, 1999-2005); *Archives of Insect Biochemistry and Physiology* (1986-2016); *Insect Molecular Biology* (1991-2011); *Developmental Biology*, Associate Editor (1991-95); *Comparative Biochemistry and Physiology* (1995-1997; Associate Editor, 1998-2001); *Journal of Experimental Biology* (1999-2006); *Journal of Insect Science*, Advisory Board (2000-2014); *Vitamins and Hormones* (2004-2010); *Ann. Rev. Entomol.* (2008-2012).

Publications Excluding Abstracts

1. Williams, C. M., Moorhead, L. V., and Pulis, J. F. (1959). Juvenile hormone in thymus, human placenta, and other mammalian organs. *Nature* **183**, 405.
2. Riddiford, L.M. (1960). Autoradiographic studies of tritiated thymidine infused into blastema of the early regenerate in the adult newt, *Triturus*. *J. Exp. Zool.* **144**, 25-32.
3. Riddiford, L. M. and Scheraga, H. A. (1962). Structural studies of paramyosin. I. Hydrogen ion equilibria. *Biochemistry* **1**, 95-107.
4. Riddiford, L. M. and Scheraga, H. A. (1962). Structural studies of paramyosin. II. Conformational changes. *Biochemistry* **1**, 108-114.
5. Riddiford, L. M. (1964). Hydrogen ion equilibria of human carbonic anhydrase B. *J. Biol. Chem.* **239**, 1079-1086.

6. Riddiford, L. M. (1965). Acid difference spectra of human carbonic anhydrases. *J. Biol. Chem.* **240**, 168-172.
7. Riddiford, L. M. Stellwagen, R. H., Mehta, S., and Edsall, J. T. (1965). Hydrogen ion equilibria of human carbonic anhydrases B and C. *J. Biol. Chem.* **240**, 3305-3316.
8. Riddiford, L. M. (1966). Solvent perturbation and ultraviolet optical rotatory dispersion studies of paramyosin. *J. Biol. Chem.* **241**, 2792-2802.
9. Riddiford, L. M. (1967). Paramyosin, a model α -helical protein. In: *Ordered Fluids and Liquid Crystals* (Advances in Chemistry Series No. 63), (R. S. Porter and J. F. Johnson, Editors), pp. 167-179. American Chemical Society, Washington, DC
10. Riddiford, L. M. and Williams, C. M. (1967). The effects of juvenile hormone analogues on the embryonic development of silkworms. *Proc. Nat. Acad. Sci.* **57**, 595-601.
11. Riddiford, L. M. and Williams, C. M. (1967). Volatile principle from oak leaves: role in sex life of the polyphemus moth. *Science* **155**, 589-590.
12. Riddiford, L. M. (1967). Antibiotics in the laboratory-rearing of cecropia silkworms. *Science* **157**, 1451-1452.
13. Riddiford, L. M. (1967). Trans-2-hexenal: mating stimulant for polyphemus moths. *Science* **158**, 139-141.
14. Riddiford, L. M. (1968). Artificial diet for Cecropia and other saturniid silkworms. *Science* **160**, 1461-1462.
15. Riddiford, L. M. (1969). In *Insect-Plant Interactions*, Natl. Acad. Sciences, Washington, DC
Summaries of reports presented at IBP Conference on Insect-Plant Interactions, Santa Barbara, March, 1968, pp. 59-61.
 - 1) Artificial diet for saturniid silkworms.
 - 2) Oak leaves and the mating and ovipositional behavior of the polyphemus moth.
 - 3) Effects of juvenile hormone of embryonic determination.
16. Riddiford, L. M. (1970). Prevention of metamorphosis by exposure of insect eggs to juvenile hormone analogues. *Science* **167**, 287-288.
17. Riddiford, L. M. (1970). Antennal proteins of saturniid moths--their possible role in olfaction. *J. Insect Physiol.* **16**, 653-660.
18. Riddiford, L. M. (1970). Effects of juvenile hormone on the programming of postembryonic development in eggs of the silkworm, *Hyalophora cecropia*. *Devel. Biol.* **22**, 249-263.
19. Truman, J. W. and Riddiford, L. M. (1970). Neuroendocrine control of ecdysis in silkmooths. *Science* **167**, 1624-1626.
20. Riddiford, L. M. (1971). Effects of juvenile hormone on embryonic determination and on the larval-pupal transformation of silkworms. *Proc. XIIIth International Congr. Entomol.*, Moscow, August, 1968. vol. 1, 431.
21. Riddiford, L. M. and Johnson, L. K. (1971). Synchronization of hatching of *Antheraea pernyi* eggs. *Proc. XIIIth International Congr. Entomol.*, Moscow, August, 1968, vol. 1, 431-

432.

22. Riddiford, L. M. (1971). The insect antennae as a model olfactory system. In *Gustation and Olfaction* (ed. G. Ohloff), pp. 251-259. Academic Press, New York.
23. Riddiford, L. M. and Williams, C. M. (1971). The role of the corpora cardiaca in the behavior of saturniid moths. I. Release of sex pheromone. *Biol. Bull.* **140**, 1-7.
24. Truman, J. W. and Riddiford, L. M. (1971). The role of the corpora cardiaca in the behavior of saturniid moths. II. Oviposition. *Biol. Bull.* **140**, 8-14.
25. Ajami, A. M. and Riddiford, L. M. (1971). Identification of an ommochrome in the eye and nervous system of saturniid moths. *Biochemistry* **10**, 1451-1455.
26. Ajami, A. M. and Riddiford, L. M. (1971). Purification and characterization of an ommochrome-protein from the eyes of saturniid moths. *Biochemistry* **10**, 1455-1460.
27. Riddiford, L. M., Ajami, A. M., Corey, E. J., Yamamoto, H., and Anderson, J. E. (1971). Synthetic imino analogs of Cecropia juvenile hormones as potentiators of juvenile hormone activity. *J. Am. Chem. Soc.* **93**, 1815-1816.
28. Riddiford, L. M. (1971). Review of *The Physiology of Insect Reproduction* by F. Engelmann. *Quart. Rev. Biol.* **46**, 180-181.
29. Riddiford, L. M. (1971). Juvenile hormone and insect embryogenesis. *Mitt. Schweiz. Entom. Ges.* **44**, 177-186.
30. Riddiford, L. M. (1972). Review of *Milestones in the Developmental Physiology of Insects* (ed. D. Bodenstein). *BioScience* **22**, 120.
31. Riddiford, L. M. (1972). Juvenile hormone in relation to the larval-pupal transformation of the Cecropia silkworm. *Biol. Bull.* **142**, 310-325.
32. Riddiford, L. M. (1972). Juvenile hormone and insect embryonic development: its potential role as an ovicide. In *Insect Juvenile Hormones, Chemistry and Action* (ed. J. J. Menn and M. Beroza), pp. 95-111. Academic Press, New York.
33. Riddiford, L. M. and Truman, J. W. (1972). Delayed effects of juvenile hormone on insect metamorphosis are mediated by the corpus allatum. *Nature* **237**, 458.
34. Riddiford, L. M. (1972). Review of *Insect Hormones* by V. B. Wigglesworth. *Amer. Scientist* **60**, 508.
35. Riddiford, L. M. (1972). The action of juvenile hormone on silkworm embryos. In *Insect Endocrines (III). Supp. Acta Entomol. Bohem.* (ed. V. J. A. Novak and K. Slama), pp. 37-42. Academia, Prague. (Paper written in 1966 for Conference on Insect Endocrines in August, 1966).
36. Truman, J. W., Riddiford, L. M., and Safranek, L. (1973). Hormonal control of cuticle colouration in the tobacco hornworm, *Manduca sexta*: Basis of an ultrasensitive assay for juvenile hormone. *J. Insect Physiol.* **19**, 195-203.
37. Riddiford, L. M. and Ajami, A. M. (1973). Juvenile hormone: its assay and effects on pupae of *Manduca sexta*. *J. Insect Physiol.* **19**, 749-762.

38. Ajami, A. M. and Riddiford, L. M. (1973). Comparative metabolism of the Cecropia juvenile hormone. *J. Insect Physiol.* **19**, 635-645.
39. Riddiford, L. M. and Ashenhurst, J. (1973). The switchover from virgin to mated behavior in female Cecropia moths: the role of the bursa copulatrix. *Biol. Bull.* **144**, 162-171.
40. Truman, J. W. and Riddiford, L. M. (1974). Hormonal mechanisms underlying insect behavior. *Adv. Insect Physiol.* **10**, 297-352.
41. Riddiford, L. M. (1974). Hormonal control of reproductive behavior of female wild silkmoths. In *Experimental Analysis of Insect Behaviour* (ed. L. Barton Browne), pp. 278-285. Springer-Verlag, New York.
42. Riddiford, L. M. and Truman J. W. (1974). Role of hormones in insect behavior. In *Experimental Analysis of Insect Behaviour* (ed. L. Barton Browne), pp. 286-296. Springer-Verlag, New York.
43. Truman, J. W. and Riddiford, L. M. (1974). Review of *The Physiology of Insecta*, 2nd edn. vol. 1 (ed. M. Rockstein). *Science* **183**, 404.
44. Troisi, S. and Riddiford, L. M. (1974). Juvenile hormone effects on metamorphosis and reproduction of the fire ant, *Solenopsis invicta*. *Environ. Entomol.* **3**, 112-116.
45. Truman, J. W. and Riddiford, L. M. (1974). Physiology of insect rhythms. III. The temporal organization of the endocrine events underlying pupation of the tobacco hornworm. *J. Exp. Biol.* **60**, 371-382.
46. Nijhout, M. M. and Riddiford, L. M. (1974). The control of egg maturation by juvenile hormone in the tobacco hornworm moth, *Manduca sexta*. *Biol. Bull.* **146**, 377-392.
47. Truman, J. W., Riddiford, L. M., and Safranek, L. (1974). Temporal patterns of response to ecdysone and juvenile hormone in the epidermis of the tobacco hornworm, *Manduca sexta*. *Develop. Biol.* **39**, 247-262.
48. Riddiford, L. M. (1975). Host hormones and insect parasites. In *Mechanisms of Invertebrate Immunity* (eds. K. Maramorosch and R. Shope), pp. 339-353. Academic Press, New York.
49. Riddiford, L. M. (1975). Juvenile hormone-induced delay of metamorphosis of the viscera of the Cecropia silkworm. *Biol. Bull.* **148**, 429-439.
50. Riddiford, L. M., Ajami, A. M., and Boake, C. (1975). The effectiveness of several insect growth regulators in the control of populations of the German cockroach. *J. Econ. Entomol.* **68**, 46-48.
51. Deyrup-Olsen, I. and Riddiford, L. M. (1975). A project laboratory for an intermediate level undergraduate course in general physiology. *Physiol. Teacher* **4**, 4-5.
52. Fain, M.J. and Riddiford, L. M. (1975). Juvenile hormone titers in the hemolymph during late larval development of the tobacco hornworm, *Manduca sexta* (L.). *Biol. Bull.* **149**, 506-521.
53. Safranek, L. and Riddiford, L. M. (1975). The biology of the black larval mutant of the tobacco hornworm, *Manduca sexta*. *J. Insect Physiol.* **21**, 1931-1938.

54. Riddiford, L. M. (1976). Hormonal control of insect epidermal cell commitment *in vitro*. *Nature* **259**, 115-117.
55. Riddiford, L. M. (1976). *In vitro* action of ecdysone and juvenile hormone in epidermal commitment in the tobacco hornworm. In *Invertebrate Tissue Culture: Applications in Medicine, Biology and Agriculture* (eds., K. Maramorosch and E. Kurstak), pp. 213-222. Academic Press, New York.
56. Riddiford, L. M. (1976). Juvenile hormone control of epidermal commitment *in vivo* and *in vitro*. In *The Juvenile Hormones* (ed., L. I. Gilbert), pp. 198-219. Plenum Press, New York.
57. Riddiford, L. M. (1976). Symposium on invertebrate neurosecretion -a preface. *Amer. Zool.* **16**, 105-107.
58. Fain, M. J. and Riddiford, L. M. (1976). Reassessment of the critical periods for prothoracicotropic hormone and juvenile hormone secretion in the tobacco hornworm, *Manduca sexta*. *Gen. Compar. Endocrin.* **30**, 131-141.
59. Mitsui, T. and Riddiford, L. M. (1976). Pupal cuticle formation by *Manduca sexta* epidermis *in vitro*: patterns of ecdysone sensitivity. *Develop. Biol.* **54**, 172-186.
60. Enslee, E. C. and Riddiford, L. M. (1977). Morphological effects of juvenile hormone mimics on embryonic development in the bug, *Pyrrhocoris apterus*. *Wilh. Roux's Arch.* **181**, 163-181.
61. Gibbs, D. and Riddiford, L. M. (1977). Prothoracicotropic hormone in *Manduca sexta*: localization by a larval assay. *J. Exp. Biol.* **66**, 255-266.
62. Fain, M. J. and Riddiford, L. M. (1977). Requirements for molting of the crochete epidermis of the tobacco hornworm larva *in vivo* and *in vitro*. *Wilh. Roux's Archiv.* **181**, 285-307.
63. Riddiford, L. M. (1978). The role of the corpora cardiaca in sex pheromone release by female saturniid moths. In *Insect Chemoreception*, No. 3 (ed., A. Skirkevicius), pp. 9-16. Lithuanian Academy of Sciences, Mokslo Publishers.
64. Rankin, M. A. and Riddiford, L. M. (1977). The hormonal control of migratory flight in *Oncopeltus fasciatus*: the effects of the corpus cardiacum, corpus allatum and starvation on migration and reproduction. *Gen. Comp. Endocrin.* **33**, 309-321.
65. Riddiford, L. M. (1977). Review of *Animal Communication by Pheromones* by H. H. Shorey. *Amer. Scientist* **65**, 364-365.
66. Truman, J. W. and Riddiford, L. M. (1977). Invertebrate systems for the study of hormonal effects on behavior. *Vitamins and Hormones* **35**, 283-315.
67. Riddiford, L. M. and Truman, J. W. (1978). Biochemistry of insect hormones and insect growth regulators. In *Biochemistry of Insects* (ed. M. Rockstein), pp. 307-357. Academic Press, New York.
68. Rankin, M. A. and Riddiford, L. M. (1978). The significance of hemolymph juvenile hormone titer changes in the timing of migration and reproduction in adult *Oncopeltus fasciatus*. *J. Insect Physiol.* **24**, 31-38.

69. Mitsui, T. and Riddiford, L. M. (1978). Hormonal requirements for the larval-pupal transformation of the epidermis of *Manduca sexta* *in vitro*. *Devel. Biol.* **62**, 193-205.
70. Beckage, N. E. and Riddiford, L. M. (1978). Developmental interactions between the tobacco hornworm *Manduca sexta* and its braconid parasite *Apanteles congregatus*. *Ent. Exp. Appl.* **23**, 139-151.
71. Riddiford, L. M. and Curtis, A. T. (1978). Hormonal control of epidermal detachment during the final feeding stage of the tobacco hornworm larva. *J. Insect Physiol.* **24**, 561-568.
72. Riddiford, L. M. (1978). Ecdysone-induced change in cellular commitment of the epidermis of the tobacco hornworm, *Manduca sexta*, at the initiation of metamorphosis. *Gen. Comp. Endocrin.* **34**, 438-446.
73. Kiguchi, K. and Riddiford, L. M. (1978). The role of juvenile hormone in pupal development of the tobacco hornworm, *Manduca sexta*. *J. Insect Physiol.* **24**, 673-680.
74. Riddiford, L. M., Curtis, A. T., and Kiguchi, K. (1979). Culture of the epidermis of the tobacco hornworm, *Manduca sexta*. *Tissue Culture Assn. Man.* **5**, 975-985.
75. Mitsui, T., Riddiford, L. M., and Bellamy, G. (1979). Metabolism of juvenile hormone by the epidermis of the tobacco hornworm, *Manduca sexta*. *Insect Biochem.* **9**, 637-643.
76. Nijhout, M. M. and Riddiford, L. M. (1979). Juvenile hormone and ovarian growth in *Manduca sexta*. *J. Invert. Reprod.* **1**, 209-219.
77. Riddiford, L. M., Kiguchi, K., Roseland, C. R., Chen, A. C., and Wolfgang, W. J. (1980). Cuticle formation and sclerotization *in vitro* by the epidermis of the tobacco hornworm, *Manduca sexta*. In *Invertebrate Systems In Vitro* (eds., E. Kurstak, K. Maramorosch, and A. Dubendorfer), pp. 103-115. Elsevier/North Holland, Amsterdam.
78. Roseland, C. R. and Riddiford, L. M. (1980). Analysis of a cuticular spacing pattern after metamorphosis *in vitro* of larval integument. In *Invertebrate Systems In Vitro* (eds., E. Kurstak, K. Maramorosch, and A. Dubendorfer), pp. 117-123. Elsevier/North Holland, Amsterdam.
79. Riddiford, L. M. (1980). Interaction of ecdysteroids and juvenile hormone in the regulation of larval growth and metamorphosis of the tobacco hornworm. In *Progress in Ecdysone Research* (ed., J. A. Hoffmann), pp. 409-430. Elsevier/North Holland, Amsterdam.
80. Riddiford, L. M. (1980). Insect endocrinology: action of hormones at the cellular level. *Ann. Rev. Physiol.* **42**, 511-528.
81. Mitsui, T., Nobusawa, C., Fukami, J., Collins, J., and Riddiford, L. M. (1980). Inhibition of chitin synthesis by diflubenzuron in *Manduca* larvae. *J. Pestic. Sci.* **5**, 335-341.
82. Riddiford, L. M. (1980). The hormonal control of morphogenesis of lepidopteran epidermal cell. In *Insect Biology in the Future* (eds., M. Locke and D. S. Smith), pp. 403-421. Academic Press, New York.
83. Riddiford, L. M. (1980). Prothoracicotropic hormone-secreting cells in the insect brain. *Nature* **285**, 615-616. (News and Views article; invited).
84. Riddiford, L. M. (1980). Review of *Cellular Recognition* by M. F. Greaves. *Gen. Compar.*

Endocrinol. **42**, 420.

85. Riddiford, L. M. and Kiely, M. L. (1981). The hormonal control of commitment in the insect epidermis--cellular and molecular aspects. In *Regulation of Insect Development and Behaviour* (eds., F. Sehnal, A. Zabza, J. J. Menn, and B. Cymborowski), pp. 485-496. Wroclaw Technical University Press, Wroclaw.
86. Vogt, R. G. and Riddiford, L. M. (1981). Pheromone deactivation by antennal proteins of Lepidoptera. In *Regulation of Insect Development and Behaviour* (eds., F. Sehnal, A. Zabza, J. J. Menn, and B. Cymborowski), pp 955-965. Wroclaw Technical University Press, Wroclaw.
87. Mitsui, T., Fukami, J., and Riddiford, L. M. (1981). Inhibition of chitin synthesis by diflubenzuron on *Manduca* and *Mamestra* larvae. In *Regulation of Insect Development and Behaviour* (eds., F. Sehnal, A. Zabza, J. J. Menn, and B. Cymborowski), pp. 1131-1137. Wroclaw Technical University Press, Wroclaw.
88. Riddiford, L. M., Chen, A. C., Graves, B. J., and Curtis, A. T. (1981). RNA and protein synthesis during the change to pupal commitment of *Manduca sexta* epidermis. *Insect Biochem.* **11**, 121-127.
89. Chen, A. C. and Riddiford, L. M. (1981). Messenger RNA and the cellular commitment of *Manduca sexta*. *Gen. Comp. Endocrinol.* **43**, 315-324.
90. Dyer, K. A., Thornhill, W. A., and Riddiford, L. M. (1981). DNA synthesis during the change to pupal commitment of *Manduca* epidermis. *Devel. Biol.* **84**, 425-431.
91. Enslee, E. C. and Riddiford, L. M. (1981). Blastokinesis in embryos of the bug, *Pyrrhocoris apterus*: a light and electron microscopic study. I. Normal blastokinesis. *J. Exp. Embryol. Morph.* **61**, 35-49.
92. Riddiford, L. M. (1981). Review of *Laboratory Methods Manual for Hormone Action and Molecular Endocrinology*. *Gen. Compar. Endocrin.* **44**, 265-266.
93. Hori, M. and Riddiford, L. M. (1981). Isolation of ommochromes and 3-hydroxykynurenine from the tobacco hornworm, *Manduca sexta*. *Insect Biochem.* **11**, 507-513.
94. Riddiford, L. M. (1981). Hormonal control of epidermal cell development. *Amer. Zool.* **21**, 751-762.
95. Vogt, R. G. and Riddiford, L. M. (1981). Pheromone binding and inactivation by moth antennae. *Nature* **293**, 161-163.
96. Wolfgang, W. J. and Riddiford, L. M. (1981). Cuticular morphogenesis during continuous growth of the final instar larva of a moth. *Tiss. Cell* **13**, 757-772.
97. Riddiford, L. M. and Hori, M. (1981). Control of larval cuticle formation and pigmentation by juvenile hormone. In *Juvenile Hormone Biochemistry: Action, Agonism, Antagonism* (eds., G. E. Pratt and G. T. Brooks), pp. 241-250. Elsevier/North Holland, Amsterdam.
98. Cymborowski, B., Bogus, M., Beckage, N. E., Williams, C. M., and Riddiford, L. M. (1982). Juvenile hormone titers and metabolism during starvation-induced supernumerary larval moulting of the tobacco hornworm, *Manduca sexta* L. *J. Insect Physiol.* **28**, 129-135.

99. Beckage, N. E. and Riddiford, L. M. (1982). Effects of methoprene and juvenile hormone on larval ecdysis, emergence, and metamorphosis of the endoparasitic wasp, *Apanteles congregatus*. *J. Insect Physiol.* **28**, 329-334.
100. Hori, M. and Riddiford, L. M. (1982). Regulation of ommochrome biosynthesis in the tobacco hornworm, *Manduca sexta*, by juvenile hormone. *J. Comp. Physiol. B* **147**, 1-9.
101. Beckage, N. E. and Riddiford, L. M. (1982). Effects of parasitism by *Apanteles congregatus* on the endocrine physiology of the tobacco hornworm, *Manduca sexta*. *Gen. Comp. Endocrin.* **47**, 308-322.
102. Riddiford, L. M. (1982). Changes in translatable mRNAs during the larval-pupal transformation of the epidermis of the tobacco hornworm. *Devel. Biol.* **92**, 330-342.
103. Beckage, N. E. and Riddiford, L. M. (1983). Lepidopteran anti-juvenile hormones: effects on the development of *Apanteles congregatus* in *Manduca sexta*. *J. Insect Physiol.* **29**, 633-637.
104. Riddiford, L. M., Roseland, C. R., Thalberg, S., and Curtis, A. T. (1983). Action of two juvenile hormone antagonists on lepidopteran epidermis. *J. Insect Physiol.* **29**, 281-286.
105. Sparks, T. C., Hammock, B. D., and Riddiford, L. M. (1983). The haemolymph juvenile hormone esterase of *Manduca sexta* (L.): inhibition and regulation. *Insect Biochem.* **13**, 529-541.
106. Beckage, N. E. and Riddiford, L. M. (1983). Growth and development of the endoparasitic wasp, *Apanteles congregatus*: dependence on host nutritional status and parasite load. *Physiol. Entomol.* **8**, 231-241.
107. Sasaki, M., Riddiford, L. M., Truman, J. W., and Moore, J. K. (1983). Re-evaluation of the role of the corpora cardiaca in calling and oviposition behavior of giant silk moths. *J. Insect Physiol.* **29**, 695-705.
108. Riddiford, L. M. and Law, J. H. (1983). Larval serum proteins of Lepidoptera. In *The Larval Serum Proteins of Insects: Function, Biosynthesis, Genetic* (ed. K. Scheller), pp. 75-85. Georg-Thieme Verlag, Stuttgart.
109. Riddiford, L. M. and Hiruma, K. (1984). Hormonal control of pigmentation in *Manduca sexta*. In *Progress in Tryptophan and Serotonin Research* (eds., H. G. Schlossberger, W. Kochen, B. Linzen, and H. Steinhart), pp. 723-731. Walter deGruyter, Berlin.
110. Sasaki, M. and Riddiford, L. M. (1984). Regulation of reproductive behavior and egg maturation in the tobacco hawk moth, *Manduca sexta*. *Physiol. Entomol.* **9**, 315-327.
111. Hori, M., Hiruma, K., and Riddiford, L. M. (1984). Cuticular melanization in the tobacco hornworm larva. *Insect Biochem.* **14**, 267-274.
112. Curtis, A. T., Hori, M., Green, J. M., Wolfgang, W. J., Hiruma, K., and Riddiford, L. M. (1984). Ecdysteroid regulation of the onset of cuticular melanization in allatectomized and black mutant *Manduca sexta* larvae. *J. Insect Physiol.* **30**, 597-606.
113. Hiruma, K. and Riddiford, L. M. (1984). Regulation of melanization of tobacco hornworm larval cuticle *in vitro*. *J. Exp. Zool.* **230**, 393-403.

114. Riddiford, L. M. (1984). Hormonal control of sequential gene expression in insect epidermis. In *Biosynthesis, Metabolism and Mode of Action of Invertebrate Hormones* (eds., J. A. Hoffmann and M. Porchet), pp. 265-272. Springer-Verlag, Heidelberg.
115. Riddiford, L. M. (1985). Hormonal control of epidermal polymorphism. In *Current Trends in Comparative Endocrinology* (eds., B. Lofts and W. N. Holmes), pp. 1171-1174. Hong Kong University Press, Hong Kong.
116. Riddiford, L. M. (1985). *Hyalophora cecropia*. In *Handbook of Insect Rearing*, vol. 2 (eds., P. Singh and R. F. Moore), pp. 335-343. Elsevier Science Publishers B.V., Amsterdam.
117. Riddiford, L. M. (1985). Hormone action at the cellular level. In *Comprehensive Insect Physiology, Biochemistry, and Pharmacology*, vol. 8 (eds., G. A. Kerkut and L. I. Gilbert), pp. 37-84. Pergamon Press, Oxford.
118. Riddiford, L. M. and Hice, R. H. (1985). Developmental profiles of the mRNAs for *Manduca* arylphorin and two other storage proteins during the final larval instar of *Manduca sexta*. *Insect Biochem.* **15**, 489-502.
119. Hiruma, K. and Riddiford, L. M. (1985). Hormonal regulation of dopa decarboxylase during a larval molt. *Devel. Biol.* **110**, 509-513.
120. Stringer, I. A. N., Giebultowicz, J. and Riddiford, L. M. (1985). Role of the bursa copulatrix in egg maturation and reproductive behavior of the tobacco hawk moth, *Manduca sexta*. *Internat. J. Invert. Reprod. Develop.* **8**, 83-91.
121. Hiruma, K., Riddiford, L. M., Hopkins, T. L., and Morgan, T. D. (1985). Roles of dopa decarboxylase and phenoloxidase in the melanization of the tobacco hornworm and their control by 20-hydroxyecdysone. *J. Comp. Physiol.* **155B**, 659-669.
122. Kiely, M. L. and Riddiford, L. M. (1985). Temporal programming of epidermal cell protein synthesis during the larval-pupal transformation of *Manduca sexta*. *Roux's Arch. Dev. Biol.* **194**, 325-335.
123. Kiely, M. L. and Riddiford, L. M. (1985). Temporal patterns of protein synthesis in *Manduca* epidermis during the change to pupal commitment *in vitro*: their modulation by 20-hydroxyecdysone and juvenile hormone. *Roux's Arch. Dev. Biol.* **194**, 336-343.
124. Vogt, R. G., Riddiford, L. M., and Prestwich, G. D. (1985). Kinetic properties of a sex pheromone degrading enzyme: The sensillar esterase of *Antheraea polyphemus*. *Proc. Nat. Acad. Sci. U.S. A.* **82**, 8827-8831.
125. Hiruma, K. and Riddiford, L. M. (1986). Inhibition of dopa decarboxylase synthesis by 20-hydroxyecdysone during the last larval molt of *Manduca sexta*. *Insect Biochem.* **16**, 225-231.
126. Wolfgang, W. J. and Riddiford, L. M. (1986). Larval cuticular morphogenesis in the tobacco hornworm, *Manduca sexta*, and its hormonal regulation. *Devel. Biol.* **113**, 305-316.
127. Vogt, R. G. and Riddiford, L. M. (1986). Scale esterase: a pheromone degrading enzyme from the wing scales of a silk moth. *J. Chem. Ecol.* **12**, 469-482.
128. Prestwich, G. D., Vogt, R. G., and Riddiford, L. M. (1986). Binding and hydrolysis of radiolabeled pheromone and several analogs by male-specific antennal proteins of the moth *Antheraea polyphemus*. *J. Chem. Ecol.* **12**, 323-333.

129. Vogt, R. G. and Riddiford, L. M. (1986). Pheromone reception: A kinetic equilibrium. In *Mechanisms of Perception and Orientation to Insect Olfactory Signals* (eds. T. Payne and M. Birch), pp. 201-208. Oxford University Press, Oxford University Press, Oxford.
130. Roseland, C. R., Green, J. M., and Riddiford, L. M. (1986). Effects of catecholamines and β -alanine in tanning of pupal cuticle of *Manduca sexta* *in vitro*. *J. Insect Physiol.* **32**, 473-478.
131. Riddiford, L. M., Kiely, M. L., and Wolfgang, W. J. (1986). Hormonal regulation of larval-specific protein synthesis in *Manduca* epidermis. In *Techniques in the Life Sciences, Cell Biology, vol C2: Techniques in Vitro Invertebrate Hormones and Genes* (eds. E. Kurstak and H. Oberlander), C203, pp. 1-11. Elsevier/North Holland, Amsterdam.
132. Riddiford, L. M. (1986). Hormonal regulation of sequential larval cuticular gene expression. *Arch. Insect Biochem. Physiol.*, **Supp. 1**, 75-86.
133. Lane, S., Riddiford, L. M., Truman, J. W., and Conitz, J. (1986). Development of the prepupal Verson's gland of the tobacco hornworm, *Manduca sexta*, and its hormonal control. *J. Exp. Zool.* **240**, 83-94.
134. Riddiford, L. M., Baeckmann, A., Hice, R. H., and Rebers, J. (1986). Developmental expression of three genes for larval cuticular proteins of the tobacco hornworm, *Manduca sexta*. *Devel. Biol.* **118**, 82-94.
135. Matolcsy, G., Ujvary, I., Riddiford, L. M., and Hiruma, K. (1986). Alkylene-bis-isothiocyanates: Novel insect growth regulators. *Z. Naturforsch.* **41c**, 1069-1072.
136. Riddiford, L. M. (1987). Hormonal control of sequential gene expression in insect epidermis. In *Molecular Entomology* (ed., J.H. Law), pp. 211-222. Alan R. Liss, New York.
137. Rebers, J., Horodyski, F. L., Hice, R. H., and Riddiford, L. M. (1987). Genomic cloning of developmentally regulated larval cuticle genes from the tobacco hornworm, *Manduca sexta*. In *Molecular Entomology* (ed. J.H. Law), pp. 201-210. Alan R. Liss, New York.
138. Ujvary, I., Hiruma, K., Riddiford, L. M., Matolcsy, G., Roseland, C. R., and Kramer, K. J. (1987). Role of β -alanine in pupal cuticle coloration in the tobacco hornworm, *Manduca sexta*: Effects of β -alanine analogues on melanization and catecholamine levels. *Insect Biochem.* **17**, 389-399.
139. Kato, Y., Nair, K. K., Dyer, K. A., and Riddiford, L. M. (1987). Changes in ploidy level of epidermal cells during the last larval instar of the tobacco hornworm, *Manduca sexta*. *Development* **99**, 137-143.
140. Wolfgang, W. J. and Riddiford, L. M. (1987). Cuticular mechanics during larval development of the tobacco hornworm, *Manduca sexta*. *J. Exp. Biol.* **128**, 19-33
141. Kato, Y. and Riddiford, L. M. (1987). The role of 20-hydroxyecdysone in stimulating epidermal mitoses during the larval-pupal transformation of the tobacco hornworm, *Manduca sexta*. *Development* **100**, 227-236.
142. Riddiford, L. M., Osir, E. O., Fittinghoff, C. M., and Green, J. M. (1987). Juvenile hormone analogue binding in *Manduca* epidermis. *Insect Biochem.* **17**, 1039-1043.

143. Hatakoshi, M., Nakayama, I., and Riddiford, L. M. (1987). Penetration and stability of juvenile hormone analogues in *Manduca sexta*. *Appl. Ent. Zool.* **22**, 641-644.
144. Riddiford, L. M. and Hiruma, K. (1988). Regulation of melanization in insect cuticle. In *Advances in Pigment Cell Research* (ed, J.T. Bagnara). pp 423-436. Alan R. Liss, New York.
145. Vogt, R. G., Prestwich, G. D., and Riddiford, L. M. (1988). Sex pheromone receptor proteins: visualization using a radiolabeled photoaffinity analog. *J. Biol. Chem.* **263**, 3952-3959.
146. Hatakoshi, M., Nakayama, I., and Riddiford, L. M. (1988). The induction of an imperfect supernumerary larval moult by juvenile hormone analogues in *Manduca sexta*. *J. Insect Physiol.* **34**, 373-378.
147. Shaaya, E. and Riddiford, L. M. (1988). Depressed RNA synthesis in the early stages of the larval-pupal transformation of Lepidoptera: the role of 20-hydroxyecdysone. *J. Insect Physiol.* **34**, 655-659.
148. Horodyski, F. M., Rebers, J. E., Hice, R. H., and Riddiford, L. M. (1988). Molecular analysis of cuticular protein genes in the tobacco hornworm, *Manduca sexta*. In *Endocrinological Frontiers in Physiological Insect Ecology* (eds., F. Sehnal, A. Zabza, and D.L. Denlinger), pp. 497-504. Wroclaw Technical University Press, Wroclaw.
149. Ujvary, I., Matolcsy, G., Hiruma, K., and Riddiford, L. M. (1988). Novel type of insect growth regulators affecting spiracle and crochets formation: Structure-activity studies. In *Endocrinological Frontiers in Physiological Insect Ecology* (eds., F. Sehnal, A. Zabza and D.L. Denlinger), pp. 593-600. Wroclaw Technical University Press, Wroclaw.
150. Huebers, H. A., Huebers, E., Finch, C. A., Webb, B. A., Truman, J. W., Riddiford, L. M., Martin, A. W., and Massover, W. (1988). Iron binding proteins and their roles in the tobacco hornworm, *Manduca sexta* (L.). *J. Comp. Physiol. B* **158**, 291-300.
151. Hiruma, K., and Riddiford, L. M. (1988) Granular phenoloxidase involved in cuticular melanization in the tobacco hornworm: regulation of its synthesis in the epidermis by juvenile hormone. *Devel. Biol.* **130**, 87-97.
152. Osir, E. O. and Riddiford, L. M. (1988). Nuclear binding of juvenile hormone and its analogs in the epidermis of the tobacco hornworm. *J. Biol. Chem.* **263**, 13812-13818.
153. Rebers, J. E. and Riddiford, L. M. (1988). Structure and expression of a *Manduca sexta* larval cuticle gene homologous to *Drosophila* cuticle genes. *J. Mol. Biol.* **203**, 411-423.
154. Horwath, K. L. and Riddiford, L. M. (1988). Stage and segment specificity of the secretory cell of the dermal glands of the tobacco hornworm, *Manduca sexta*. *Devel. Biol.* **130**, 365-373.
155. Webb, B. A. and Riddiford, L. M. (1988). Synthesis of two storage proteins during larval development of the tobacco hornworm, *Manduca sexta*. *Devel. Biol.* **130**, 671-681.
156. Webb, B. A. and Riddiford, L. M. (1988). Regulation of expression of arylphorin and female-specific protein mRNAs in the tobacco hornworm, *Manduca sexta*. *Devel. Biol.* **130**, 682-692.
157. Horodyski, F. M. and Riddiford, L. M. (1989). Expression and hormonal control of a new

- larval cuticular multigene family at the onset of metamorphosis of the tobacco hornworm. *Devel. Biol.* **132**, 292-303.
158. Truman, J. W. and Riddiford, L. M. (1989). Development of the insect neuroendocrine system. In *Development, Maturation and Senescence of Neuroendocrine Systems: A Comparative Approach*, (M. P. Schreibman and C. G. Scanes, eds.), pp. 9-22. Academic Press, New York.
 159. Riddiford, L. M. (1989). The epidermis as a model system for ecdysteroid action. In *Ecdysone: from Chemistry to Mode of Action* (ed. J. A. Koolman), pp. 407-413. Georg Thieme, Stuttgart.
 160. Horodyski, F. M., Riddiford, L. M. and Truman, J. W. (1989). Isolation and expression of the eclosion hormone gene from the tobacco hornworm, *Manduca sexta*. *Proc. Nat. Acad. Sci. U. S. A.* **86**, 8123-8127.
 161. Ujvary, I., Matolcsy, G., Riddiford, L. M., Hiruma, K. and Horwath, K. L. (1989). Inhibition of spiracle and crochete formation and juvenile hormone activity of isothiocyanate derivatives in the tobacco hornworm, *Manduca sexta*. *Pest. Biochem. Physiol.* **35**, 259-274.
 162. Hiruma, K. and Riddiford, L. M. (1990). Hormonal control of cuticular melanization *in vitro*. In *Invertebrate Cell Systems in Applications*, vol. 1 (ed., J. Mitsuhashi), pp. 127-131. CRC Press, Boca Raton.
 163. Palli, S. R., Osir, E. O., Eng, W.-s., Boehm, M. F., Edwards, M., Kulcsar, P., Ujvary, I., Hiruma, K., Prestwich, G. D. and Riddiford, L. M. (1990). Juvenile hormone receptors in larval insect epidermis: identification by photoaffinity labeling. *Proc. Nat. Acad. Sci. U. S. A.* **87**, 796-800.
 164. Hiruma, K. and Riddiford, L. M. (1990). Regulation of dopa decarboxylase gene expression in the larval epidermis of the tobacco hornworm by 20-hydroxyecdysone and juvenile hormone. *Dev. Biol.* **138**, 214-224.
 165. Riddiford, L. M., Palli, S. R. and Hiruma, K. (1990). Hormonal control of sequential gene expression in *Manduca* epidermis. In *Progress in Comparative Endocrinology* (eds., A. Eppler, C. G. Scanes, and M. H. Stetson), pp. 226-231. Wiley-Liss, New York.
 166. Riddiford, L. M. and Hiruma, K. (1990). Hormonal control of sequential gene expression in lepidopteran epidermis. In *Molting and Metamorphosis* (eds., E. Ohnishi and H. Ishizaki), pp. 207-222. Japan Scientific Societies Press, Tokyo and Springer-Verlag, Berlin.
 167. Riddiford, L. M. and Palli, S. R. (1990). Molecular aspects of juvenile hormone reception and action. In *Molecular Insect Science* (eds. H. Hagedorn, J. G. Hildebrand, M. G. Kidwell, and J. H. Law), pp. 77-81. Plenum Press, New York.
 168. Truman, J. W., Horodyski, F. M., Morton, D. B. and Riddiford, L. M. (1990). Molecular approaches to the production and action of eclosion hormone. In *Molecular Insect Science* (eds. H. Hagedorn, J. G. Hildebrand, M. G. Kidwell, and J. H. Law), pp. 223-229. Plenum Press, New York.
 169. Fittinghoff, C. M. and Riddiford, L. M. (1990). Heat sensitivity and protein synthesis during heat-shock in the tobacco hornworm, *Manduca sexta*. *J. Comp. Physiol. B* **160**, 349-356.

170. Horodyski, F. M., Riddiford, L. M. and Truman, J. W. (1990). Expression of the eclosion hormone gene in the brain of *Manduca sexta*. In *Insect Neurochemistry and Neurophysiology* (eds., A. B. Borkovec and E. P. Masler), pp. 215-218. Humana Press, Clifton.
171. Riddiford, L. M., Palli, S. R., Hiruma, K., Li, W-c., Green, J., Hice, R. H., Wolfgang, W. J. and Webb, B. A. (1990). Developmental expression, synthesis and secretion of insecticyanin by the epidermis of the tobacco hornworm, *Manduca sexta*. *Arch. Insect Biochem. Physiol.* **14**, 171-190.
172. Riddiford, L. M. and Dhadialla, T. S. (1990). Protein synthesis by the milk gland and fat body of the tsetse fly, *Glossina pallidipes*. *Insect Biochem.* **20**, 493-500.
173. Riddiford, L. M. and Ashburner, M. (1991). Effects of juvenile hormone mimics on larval development and metamorphosis of *Drosophila melanogaster*. *Gen. Comp. Endocrin.* **82**, 172-183.
174. Palli, S. R., Riddiford, L. M., and Hiruma, K. (1991). Juvenile hormone and "retinoic acid" receptors in *Manduca* epidermis. *Insect Biochem.* **21**, 7-15.
175. Riddiford, L. M. (1991). Hormonal control of sequential gene expression in insect epidermis. In *Physiology of the Insect Epidermis* (eds., K. Binnington and A. Retnakaran), pp. 46-54. CSIRO Publications, East Melbourne.
176. Horwath, K.L. and Riddiford, L.M. (1991). Cellular differentiation of specialized epidermal cells: The dermal glands. In *Physiology of the Insect Epidermis* (eds., K. Binnington and A. Retnakaran), pp. 185-194. CSIRO Publications, East Melbourne.
177. Truman, J. W., Horodyski, F. M., Hewes, R. S. and Riddiford, L. M. (1991). Eclosion hormones: From genes to behavior. In *Biologically Active Peptides in Insects* (eds. J. J. Menn, T. J. Kelly, and E. P. Masler), pp. 95-99. ACS Books, Washington.
178. Eldridge, R., Horodyski, F. M., Morton, D. B., O'Reilly, D. R., Truman, J. W., Riddiford, L. M. and Miller, L. K. (1991). Expression of an eclosion hormone gene in insect cells using baculovirus vectors. *Insect Biochem.* **21**, 341-351.
179. Hiruma, K., Hardie, J., and Riddiford, L. M. (1991). Hormonal control of metamorphosis of tobacco hornworm epidermis *in vitro*: regulation of expression of a larval-specific cuticle gene. *Devel. Biol.* **144**, 369-378.
180. Nagy, L. M., Booker, R. and Riddiford, L. M. (1991). Isolation and embryonic expression of an *abdominal-A-like* gene from the lepidopteran, *Manduca sexta*. *Development* **112**, 119-129.
181. Palli, S. R., McClelland, S., Hiruma, K., Latli, B. and Riddiford, L. M. (1991). Developmental expression and hormonal regulation of the nuclear 29 kDa juvenile hormone-binding protein in *Manduca sexta* larval epidermis. *J. Exp. Zool.* **260**, 337-344.
182. Palli, S. R., Hiruma, K. and Riddiford, L. M. (1992). An ecdysteroid-inducible *Manduca* gene similar to the *Drosophila* DHR3 gene, a member of the steroid hormone receptor superfamily. *Dev. Biol.* **150**, 306-318.
183. Li, W-c. and Riddiford, L. M. (1992). Two distinct genes encode two major isoelectric forms of insecticyanin in the tobacco hornworm, *Manduca sexta*. *Eur. J. Biochem.* **205**, 491-499.

184. Fittinghoff Lohman, C. M. and Riddiford, L. M. (1992). Synthesis and secretion of low molecular weight cuticular proteins during heat shock in the tobacco hornworm *Manduca sexta*. *J. Exp. Zool.* **262**, 374-382.
185. Riddiford, L. M. (1992). Molecular approaches to insect endocrinology. In *Insect Molecular Science* (eds. J. M. Crampton and P. Eggleston), pp. 226-240. Academic Press, London.
186. Lohman, C. M. F. and Riddiford, L. M. (1992). The heat-shock response and heat sensitivity of *Bombyx mori*. *Sericologia* **32**, 533-537.
187. Hiruma, K., Norman, A., and Riddiford, L. M. (1993). A neuroendocrine factor essential for cuticular melanization in the tobacco hornworm, *Manduca sexta*. *J. Insect Physiol.* **39**, 353-360.
188. Riddiford, L. M. and Truman, J. W. (1993). Hormone receptors and the regulation of insect metamorphosis. *Amer. Zool.* **33**, 340-347.
189. Hiruma, K. and Riddiford, L. M. (1993). Molecular mechanisms of cuticular melanization in the tobacco hornworm, *Manduca sexta* (L) (Lepidoptera: Sphingidae). *Int. J. Insect Morphol. Embryol.* **22**, 103-117.
190. Horodyski, F. M., Ewer, J., Riddiford, L. M., and Truman, J. W. (1993). Isolation, characterization, and expression of the eclosion hormone gene of *Drosophila melanogaster*. *Eur. J. Biochem.* **215**, 221-228.
191. Riddiford, L. M. (1993). Hormones and *Drosophila* development. In *The Development of Drosophila* (eds., M. Bate and A. Martinez-Arias), pp. 899-939. Cold Spring Harbor Laboratory Press, Cold Spring Harbor.
192. Callard, I., Riddiford, L., and Scanes, C. G. (1993). Use of nonmammalian animal models in endocrine investigation. In *Handbook of Endocrine Research Techniques* (eds., F. de Pablo, C. G. Scanes, and B. D. Weintraub), pp. 529-553. Academic Press, San Diego.
193. Riddiford, L. M. (1993). Hormone receptors and the regulation of insect metamorphosis. *Receptor* **3**, 203-209.
194. Riddiford, L. M. (1994). Cellular and molecular actions of juvenile hormone. I. General considerations and premetamorphic actions. *Adv. Insect Physiol.* **24**, 213-274.
195. Riddiford, L. M. and Truman, J. W. (1994). Hormone receptors and the orchestration of development during insect metamorphosis. In *Perspectives in Comparative Endocrinology* (eds., K. G. Davey, S. S. Tobe, and R. G. Peter), pp. 389-394. NRC, Ottawa.
196. Palli, S. R., Touhara, K., Charles, J-P., Bonning, B. C., Atkinson, J. K., Trowell, S. C., Hiruma, K., Goodman, W. G., Kyriakides, T., Prestwich, G. D., Hammock, B. D. and Riddiford, L. M. (1994). A nuclear juvenile hormone-binding protein from larvae of *Manduca sexta*: A putative receptor for the metamorphic action of juvenile hormone. *Proc. Natl. Acad. Sci. USA* **91**, 6191-6195.
197. Riddiford, L. M., Hewes, R. S., and Truman, J. W. (1994). Dynamics and metamorphosis of an identifiable peptidergic neuron in an insect. *J. Neurobiol.* **25**, 819-830.

198. Jindra, M., Sehna, F., and Riddiford, L. M. (1994). Isolation, characterization and developmental expression of the ecdysteroid-induced *E75* gene of the wax moth *Galleria mellonella*. *Eur. J. Biochem.* **221**, 665-675.
199. Granger, N.A., MacDonald, J. D., Menold, M., Ebersohl, R., Hiruma, K., Cann, C. L. and Riddiford, L.M. (1994). Evidence of a stimulatory effect of cyclic AMP on the corpus allatum in *Manduca sexta*. *Mol. Cell. Endocrin.* **103**, 73-80.
200. Li, W-C. and Riddiford, L. M. (1994). The two duplicated insecticyanin genes, *ins-a* and *ins-b* are differentially expressed in the tobacco hornworm, *Manduca sexta*. *Nucl. A. Res.* **22**, 2945-2950.
201. Jindra, M., Sehna, F., and Riddiford, L. M. (1994). Isolation and developmental expression of the ecdysteroid-induced *GHR3* gene of the wax moth, *Galleria mellonella*. *Insect Biochem. Mol. Biol.* **24**, 763-773.
202. Prestwich, G. D., Touhara, K., Riddiford, L. M., and Hammock, B. D. (1994). Larva lights: A decade of photoaffinity labeling with juvenile hormone analogues. *Insect Biochem. Mol. Biol.* **24**, 747-761.
203. Nagy, L., Riddiford, L., and Kiguchi, K. (1994). Morphogenesis in the early embryo of the lepidopteran *Bombyx mori*. *Dev. Biol.* **165**, 137-151.
204. Riddiford, L. M. (1995). Hormonal regulation of gene expression during lepidopteran development. In *Molecular Model Systems in the Lepidoptera* (eds., M. R. Goldsmith and A. S. Wilkins), pp. 293-322. Cambridge University Press, Cambridge.
205. Retnakaran, A., Hiruma, K., Palli, S. R., and Riddiford, L. M. (1995). Molecular analysis of the mode of action of RH-5992, a lepidopteran-specific, non-steroidal ecdysteroid agonist. *Insect Biochem. Mol. Biol.* **25**, 109-117.
206. Hiruma, K., Carter, M. S., and Riddiford, L. M. (1995). Characterization of the dopa decarboxylase gene of *Manduca sexta* and its suppression by 20-hydroxyecdysone. *Dev. Biol.* **169**, 195-209.
207. Fujiwara, H., Jindra, M., Newitt, R., Palli, S. R., Hiruma, K., and Riddiford, L. M. (1995). Cloning of an ecdysone receptor homolog from *Manduca sexta* and the developmental profile of its mRNA in wings. *Insect Biochem. Mol. Biol.* **25**, 845-856.
208. Li, W-c., Hiruma, K., and Riddiford, L. M. (1995). Hormonally regulated differential expression of the two duplicated insecticyanin genes, *ins-a* and *ins-b*, during development of the tobacco hornworm, *Manduca sexta*. *Wilh. Roux Arch.* **205**, 81-88.
209. Ujvary, I, Matolcsy, G., Hiruma, K. and Riddiford, L. M. (1995). New insect growth regulators: Homobifunctional compounds interfering with cuticle formation and larval development of the tobacco hornworm, *Manduca sexta*. In *Insects: Chemical, Physiological and Environmental Aspects, 1994* (eds., Konopinska, D., Goldsworthy, G, Nachman, R. J., Nawrot, J., Orchard, I., Rosinski, G., and Sobotka, W.), pp. 293-298. University of Wroclaw Press, Wroclaw.
210. Hiruma, K. and Riddiford, L. M. (1995). A 20-hydroxyecdysone-induced protein suppresses dopa decarboxylase gene expression. In *Molecular Mechanisms of Insect Metamorphosis and Diapause* (eds., A. Suzuki, S. Matsumoto, and H. Kataoka), pp. 309-321. Industrial Publishing & Consulting, Tokyo.

211. Kiguchi, K., Truman, J. W., Riddiford, L. M., Asaoka, K., Chandrashekharaiiah, Kataoka, H., and Suzuki, A. (1995). Development and function of the neuroendocrine system during embryogenesis of the silkworm, *Bombyx mori*, with special reference to the embryonic molt. In *Molecular Mechanisms of Insect Metamorphosis and Diapause* (eds., A. Suzuki, S. Matsumoto, and H. Kataoka), pp. 139-147. Industrial Publishing & Consulting, Tokyo.
212. Riddiford, L. M. (1996). Molecular aspects of juvenile hormone action in insect metamorphosis. In *Metamorphosis: Post-embryonic Reprogramming of Gene Expression in Amphibian and Insect Cells* (eds., L. I. Gilbert and J. R. Tata), pp. 223-251. Academic Press, San Diego.
213. Charles, J-P., Wojtasek, H., Lentz, A. J., Thomas, B. A., Bonning, B. C., Palli, S. R., Parker, A. G., Dorman, G., Hammock, B. D., Prestwich, G. D., and Riddiford, L. M. (1996). Purification and reassessment of ligand binding by the recombinant, putative juvenile hormone receptor of the tobacco hornworm, *Manduca sexta*. *Arch. Insect Biochem. Physiol.* **31**, 371-393.
214. Riddiford, L. M. (1996). Juvenile hormone: The status of its "status quo" action. *Arch. Insect Biochem. Physiol.* **32**, 271-286.
215. Jindra, M., Malone, F., Hiruma, K., and Riddiford, L. M. (1996). Developmental profiles and ecdysteroid regulation of the mRNAs for two ecdysone receptor isoforms in the epidermis and wings of the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **180**, 258-272.
216. Jindra, M. and Riddiford, L. M. (1996). Expression of ecdysteroid-inducible transcripts in the silk gland of the wax moth, *Galleria mellonella*. *Dev., Genes, Evol.* **206**, 305-314.
217. Lan, Q., Wu, Z-n., and Riddiford, L. M. (1997). Regulation of the ecdysone receptor, USP, E75, and MHR3 mRNAs by 20-hydroxyecdysone in the GV1 cell line of the tobacco hornworm, *Manduca sexta*. *Insect Mol. Biol.* **6**, 3-10.
218. Jindra, M., Huang, J-Y., Malone, F., Asahina, M., and Riddiford, L. M. (1997). Identification and mRNA developmental profiles of two Ultraspiracle isoforms in the epidermis and wings of *Manduca sexta*. *Insect Mol. Biol.* **6**, 41-53.
219. Rebers, J. E., Niu, J., and Riddiford, L. M. (1997). Structure and spatial expression of the *Manduca sexta* MSCP14.6 cuticle gene. *Insect Biochem. Mol. Biol.* **27**, 229-240.
220. Lan, Q. and Riddiford, L. M. (1997). DNA transfection in the ecdysteroid-responsive GV1 cell line from the tobacco hornworm, *Manduca sexta*. *In vitro Cell. Devel. Biol.* **33**, 615-621.
221. Shinoda, T., Hiruma, K., Charles, J-P., and Riddiford, L. M. (1997). Hormonal regulation of JP29 during larval development and metamorphosis in the tobacco hornworm, *Manduca sexta*. *Arch. Insect Biochem. Physiol.* **34**, 409-428.
222. Hiruma, K., Böcking, D., Lafont, R., and Riddiford, L. M. (1997). Action of different ecdysteroids on the regulation of mRNAs for the ecdysone receptor, MHR3, dopa decarboxylase, and a larval cuticle protein in the larval epidermis of the tobacco hornworm, *Manduca sexta*. *Gen. Comp. Endocrinol.* **107**, 84-97.
223. Charles, J-P., Chihara, C., Nejad, S., and Riddiford, L. M. (1997). A cluster of cuticle protein genes of *Drosophila melanogaster* at 65A: Structure, sequence and evolution. *Genetics* **147**, 1213-1224.

224. Asahina, M., Jindra, M., and Riddiford, L. M. (1997). Developmental expression of Ultraspiracle proteins in the epidermis of the tobacco hornworm, *Manduca sexta*, during larval life and the onset of metamorphosis. *Dev., Genes, Evol.* **207**, 381-388.
225. McNabb, S. L., Baker, J. D., Agapite, J., Steller, H., Riddiford, L. M., and Truman, J. W. (1997). Disruption of a behavioral sequence by targeted death of peptidergic neurons in *Drosophila*. *Neuron* **19**, 813-823.
226. Charles, J-P., Chihara, C., Nejad, S., and Riddiford, L. M. (1998). Identification of proteins and developmental expression of RNAs encoded by the 65A cuticle protein gene cluster in *Drosophila melanogaster*. *Insect Biochem. Mol. Biol.* **28**, 131-138.
227. Hegstrom, C. D., Riddiford, L. M., and Truman, J. W. (1998). Steroid and neuronal regulation of ecdysone receptor expression during metamorphosis of muscle in the moth, *Manduca sexta*. *J. Neurosci.* **18**, 1786-1794.
228. Zhou, B., Hiruma, K., Jindra, M., Shinoda, T., Segraves, W. A., Malone, F., and Riddiford, L. M. (1998). Regulation of the transcription factor E75 by 20-hydroxyecdysone and juvenile hormone in the epidermis of the tobacco hornworm, *Manduca sexta*, during larval molting and metamorphosis. *Dev. Biol.* **193**, 127-138.
229. Hodin, J. and Riddiford, L. M. (1998). The ecdysone receptor and ultraspiracle regulate the timing and progression of ovarian morphogenesis during *Drosophila* metamorphosis. *Dev., Genes, Evol.* **208**, 304-317.
230. Zhou, B., Hiruma, K., Shinoda, T., and Riddiford, L. M. (1998). Juvenile hormone prevents ecdysteroid-induced expression of Broad Complex RNAs in the epidermis of the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **203**, 233-244.
231. Hiruma, K., Shinoda, T., Malone, F., and Riddiford, L. M. (1999). Juvenile hormone modulates 20-hydroxyecdysone-inducible ecdysone receptor and ultraspiracle gene expression in the tobacco hornworm, *Manduca sexta*. *Dev., Genes, Evol.* **209**, 18-30.
232. Riddiford, L. M., Hiruma, K., Lan, Q. and Zhou, B. (1999). Regulation and role of nuclear hormone receptors during larval molting and metamorphosis of Lepidoptera. *Amer. Zool.* **39**, 736-746.
233. Lan, Q., Hiruma, K., Hu, X., Jindra, M., and Riddiford, L. M. (1999). Activation of a delayed-early gene encoding MHR3 by the ecdysone receptor heterodimer EcR-B1-USP-1 but not by EcR-B1-USP-2. *Mol. Cell. Biol.* **19**, 4897-4906.
234. Hayward, D. C., Bastiani, M. J., Trueman, J. W. H., Truman, J. W., Riddiford, L. M., and Ball, E. E. (1999). The sequence of *Locusta* RXR, homologous to *Drosophila* Ultraspiracle, and its evolutionary implications. *Dev., Genes, Evol.* **209**, 564-571
235. Truman, J. W. and Riddiford, L. M. (1999). The origins of insect metamorphosis. *Nature* **401**, 447-452.
236. LeBlanc, G. A., Campbell, P. M., den Besten, P., Brown, R. P., Chang, E. S., Coats, J. R., de Fur, P. L., Dhadialla, T., Edwards, J., Riddiford, L. M., Simpson, M. G., Snell, T. W., Thorndyke, M., and Matsumara, F. (1999). The endocrinology of invertebrates. In *Endocrine Disruption in Invertebrates: Endocrinology, Testing and Assessment* (DeFur, P. L., M. Crane, C. G. Ingersoll, and L. J. Tattersfield, eds.), pp. 23-106. SETAC Press, Pensacola.

237. Hodin, J. and Riddiford, L. M. (2000). Parallel alterations in the timing of ovarian Ecdysone Receptor and Ultraspiracle expression characterize the independent evolution of larval reproduction in two species of gall midges (Diptera: Cecidomyiidae). *Dev., Genes, Evol.* **210**, 358-372.
238. Hodin, J. and Riddiford, L. M. (2000). Different mechanisms underlie phenotypic plasticity and interspecific variation for a reproductive character in drosophilids (Insecta: Diptera). *Evolution* **54**, 1638-1653.
239. Langelan, R. E., Fisher, J. E., Hiruma, K., Palli, S. R., and Riddiford, L. M. (2000). Patterns of MHR3 expression in the epidermis during a larval molt of the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **227**, 481-494.
240. Riddiford, L. M., Cherbas, P. T., and Truman, J. W. (2001). Ecdysone receptors and their biological actions. *Vit. Horm.* **60**, 1-73.
241. Zhou, B. and Riddiford, L. M. (2001). Hormonal regulation and patterning of the Broad Complex in the epidermis and wing discs of the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **231**, 125-137.
242. Hiruma, K. and Riddiford, L. M. (2001). Regulation of the transcription factors, MHR4 and β FTZ-F1, by 20-hydroxyecdysone during a larval molt in the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **232**, 265-274.
243. Weller, J., Sun, G-C., Zhou, B., Lan, Q., Hiruma, K., and Riddiford, L. M. (2001). Isolation and developmental expression of two nuclear receptors, MHR4 and β FTZ-F1, in the tobacco hornworm, *Manduca sexta*. *Insect Biochem. Mol. Biol.* **31**, 827-837.
244. Truman, J. W. and Riddiford, L. M. (2002). Endocrine insights into the evolution of metamorphosis in insects. *Ann. Rev. Entomol.* **47**, 467-500.
245. Zhou, X. and Riddiford, L. M. (2002). Broad-Complex specifies pupal development and mediates the 'status quo' action of juvenile hormone on the pupal-adult transformation in *Drosophila* and *Manduca*. *Development* **129**, 2259-2269.
246. Uhlirova, M., Asahina, M., Riddiford, L. M., and Jindra, M. (2002). Heat-inducible transgenic expression in the silkworm *Bombyx mori*. *Dev. Genes Evol.* **212**, 145-151.
247. Truman, J. W. and Riddiford, L. M. (2002). Insect developmental hormones and their mechanism of action. In *Hormones, Brain and Behavior* (eds., D. W. Pfaff, A. P. Arnold, A. M. Etgen, S. E. Fahrback, and R. T. Rubin), vol. 2, pp. 841-873. Academic Press, San Diego.
248. Riddiford, L. M. (2003). Molting. In *Encyclopedia of Insects* (V. Resh and R. Carde, Eds.), pp. 733-738. Elsevier Science, San Diego.
249. Stilwell, G. E., Nelson, C., Weller, J., Cui, H., Hiruma, K., Truman, J. W., and Riddiford, L. M. (2003). E74 exhibits stage-specific hormonal regulation in the epidermis of the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **258**, 76-90.
250. Shionoya, M., Matsubayashi, H., Asahina, M., Kuniyoshi, H., Nagata, S., Riddiford, L. M., and Kataoka, H. (2003). Molecular cloning of the prothoracicotropic hormone from the tobacco hornworm, *Manduca sexta*. *Insect Biochem. Mol. Biol.* **33**, 795-801.

251. Du, J., Hiruma, K. and Riddiford, L. M. (2003). A novel gene in the *takeout* gene family is regulated by hormones and nutrients in *Manduca* larval epidermis. *Insect Biochem. Mol. Biol.* **33**, 803-814.
252. Bayer, C., Zhou, X., Zhou, B., Riddiford, L. M., and von Kalm, L. (2003). Evolution of the *Drosophila broad* locus: The *Manduca sexta broad* Z4 isoform has biological activity in *Drosophila*. *Dev., Genes, Evol.* **213**, 471-476.
253. Riddiford, L. M., Hiruma, K., Zhou, X. and Nelson, C. A. (2003). Insights into the molecular basis of the hormonal control of molting and metamorphosis from *Manduca sexta* and *Drosophila melanogaster*. *Insect Biochem. Mol. Biol.* **33**, 1327-1338.
254. Uhlirova, M., Foy, B. D., Beaty, B. J., Olsen, K. E., Riddiford, L. M., and Jindra, M. (2003). Use of Sindbis virus-mediated RNA interference to demonstrate a conserved role of Broad-Complex in insect metamorphosis. *Proc. Nat. Acad. Sci. USA* **100**, 15607-15612.
255. Zhou, X., Zhou, B., Truman, J. W., and Riddiford, L. M. (2004). Overexpression of *Broad*: a new insight into its role in the *Drosophila* prothoracic glands. *J. exp. Biol.* **207**, 1151-1161.
256. Riddiford, L. M. (2004). Insights into the role of juvenile hormone during insect development. In "Trends in Comparative Endocrinology. Proceedings of the Fifth Congress of the Asia and Oceania Society for Comparative Endocrinology" (eds., T. Oishi, K. Tsutsui, S. Tanaka, and S. Kikuyama), pp. 10-12.
257. Shililu, J., Grueber W. B., Mbogo, C. M., Githure, J., Riddiford, L. M. and Beier, J. C. (2004). Development and survival of *Anopheles gambiae* eggs in drying soil: influence of the rate of drying, egg age, and soil type. *J. Amer. Mosquito Control Assn.* **20**, 243-247.
258. Erezyilmaz, D. F., Riddiford, L. M., and Truman, J. W. (2004). Juvenile hormone acts at embryonic molts and induces the nymphal cuticle in the direct-developing cricket. *Dev., Genes, Evol.* **214**, 313-323.
259. Hiruma, K. and Riddiford, L. M. (2004). Differential control of MHR3 promoter activity by isoforms of the ecdysone receptor and inhibitory effects of E75A and MHR3. *Dev. Biol.* **272**, 510-521.
260. Wozniak, M., Chu, Y., Fang, F., Xu, Y., Riddiford, L., Jones, D., and Jones, G. (2004). Alternative farnesoid structures induce different conformational outcomes upon the *Drosophila* ortholog of the retinoid X receptor, ultraspiracle. *Insect Biochem. Mol. Biol.* **34**, 1147-1162.
261. MacWhinnie, S. G. B., Allee, J. P., Nelson C. A., Riddiford, L. M., Truman, J. W., and Champlin, D. T. (2005). The role of nutrition in creation of the eye imaginal disc and initiation of metamorphosis in *Manduca sexta*. *Dev. Biol.* **285**, 285-297.
262. Mirth, C., Truman, J. W., and Riddiford, L. M. (2005). The role of the prothoracic gland in determining critical weight for metamorphosis in *Drosophila melanogaster*. *Curr. Biol.* **15**, 1796-1807 (Commentaries in *Science, Nature Genetics, Cancer Cell, Metabolic Cell*)
263. Keshan, B, Hiruma, K., and Riddiford, L. M. (2006). Developmental expression and hormonal regulation of different isoforms of the transcription factor, E75, in the tobacco hornworm, *Manduca sexta*. *Dev. Biol.* **295**, 623-632.

264. Erezyilmaz, D., Riddiford, L. M., and Truman, J. W. (2006). The pupal specifier *broad* directs progressive morphogenesis in a direct-developing insect. *Proc. Nat. Acad. Sci. USA* **103**, 6925-6930 (commentary in *Science*).
265. Truman, J.W., Hiruma, K., Allee, J. P., MacWhinnie, S. G. B., Champlin, D. T., and Riddiford L. M. (2006). Juvenile hormone is required to couple imaginal disc formation with nutrition in insects. *Science* **312**, 1385-1388. (Commentary by P. Leopold and S. Layalle, *Science* **312**, 1317-1318.)
266. Minakuchi, C. and Riddiford, L. M. (2006). Insect juvenile hormone action as a potential target of pest management. *J. Pesticide Sci.* **31**, 77-84.
267. Ward, E. J., Zhou, X., Riddiford, L. M., Berg, C. A., and Ruohola-Baker, H. (2006). Border of Notch activity establishes a boundary between the two dorsal appendage tube cell types. *Dev. Biol.* **297**, 461-470.
268. Mirth, C. K. and Riddiford, L. M. (2007). Size assessment and growth control: how adult size is determined in insects. *Bioessays* **29**, 344-355.
269. Hiruma, K. and Riddiford, L. M. (2007). The coordination of the sequential appearance of MHR4 and dopa decarboxylase during the decline of the ecdysteroid titer at the end of the molt. *Mol. Cell. Endocrinol.* **276**, 71-79.
270. Truman, J. W. and Riddiford, L. M. (2007). The morphostatic actions of juvenile hormone. *Insect Biochem. Mol. Biol.* **37**, 761-770.
271. Riddiford, L. M. (2007). The control of metamorphosis in the kissing bug (a JEB classics essay). *J. Exp. Biol.* **210**, 3133-3134.
272. Minakuchi, C., Zhou, X., and Riddiford, L. M. (2008). *Krüppel homolog 1 (Kr-h1)* mediates juvenile hormone action during metamorphosis of *Drosophila melanogaster*. *Mech. Dev.* **125**, 91-105.
273. Zhou, X. and Riddiford, L. M. (2008). *rosy* function is required for juvenile hormone effects in *Drosophila melanogaster*. *Genetics* **178**, 273-281.
274. Suzuki, Y., Truman, J. W., and Riddiford, L. M. (2008). The role of the transcription factor Broad in the development and evolution of the holometabolous insect pupa, *Tribolium castaneum*. *Development* **135**, 569-577.
275. Riddiford, L. M. (2008). Juvenile hormone action: A 2007 perspective. *J. Insect Physiol.* **54**, 895-901.
276. Koyama, T., Syropyatova, M. O., and Riddiford, L. M. (2008). Insulin/IGF signaling regulates the change in commitment in imaginal discs and primordia by overriding the effect of juvenile hormone. *Dev. Biol.* **324**, 258-265.
277. Suzuki, Y., Squires, D., and Riddiford, L. M. (2009). Larval leg integrity is maintained by *Distal-less* and is required for proper timing of metamorphosis in the flour beetle, *Tribolium castaneum*. *Dev. Biol.* **326**, 60-67.
278. Reynolds, S. E., Brown, A. M., Seth, R. K., Riddiford, L. M., and Hiruma, K. (2009). Induction of supernumerary larval moulting in the tobacco hornworm *Manduca sexta*:

- interaction of bisacylhydrazine ecdysteroid agonists with endogenous Juvenile Hormone. *Physiol. Entomol.* **34**, 30-38.
279. Hiruma, K. and Riddiford, L. M. (2009). The molecular mechanisms of cuticular melanization: the ecdysone cascade leading to dopa decarboxylase expression in *Manduca sexta*. *Insect Biochem. Mol. Biol.* **39**, 245-253.
 280. Mirth, C. K., Truman, J. W., and Riddiford, L. M. (2009). The Ecdysone receptor controls the post-critical weight switch to nutrition-independent differentiation in *Drosophila* wing imaginal discs. *Development* **136**, 2345-2353.
 281. Cui, H.-Y., Lestrade, M., Bruey-Sedano, N., Charles, J.-P., and Riddiford, L. M. (2009). Elucidation of the regulation of an adult cuticle gene *Acp65A* by the transcription factor Broad. *Insect Mol. Biol.* **18**, 421-429.
 282. Erezyilmaz, D.F.*, Kelstrup, H.*, and Riddiford, L. M. (2009). The nuclear receptor E75A has a novel pair-rule-like function in patterning the milkweed bug, *Oncopeltus fasciatus*. *Dev. Biol.* **334**, 300-310.
 283. Zhou, B., Williams, D. W., Altman, J., Riddiford, L. M., and Truman, J. W. (2009). Temporal patterns of *broad* isoform expression during the development of neuronal lineages in *Drosophila*. *Neural Dev.* **4**, 39.
 284. Erezyilmaz, D.F., Rynerson, M. R., Truman, J. W., and Riddiford, L. M. (2009). The role of the pupal determinant *broad* during embryonic development of a direct-developing insect. *Dev., Genes, Evol.* **219**, 535-544.
 285. Denver, R. J., Hopkins, P. M., McCormick, S. D., Propper, C. R., Riddiford, L., Sower, S. A., and Wingfield, J. C. (2009). Comparative endocrinology in the 21st century. *Integ. Compar. Biol.* **49**, 339-348.
 286. Riddiford, L. M., Truman, J. W., Mirth, C. K., and Shen, Y. (2010). A role for juvenile hormone in the prepupal development of *Drosophila melanogaster*. *Development* **137**, 1117-1126.
 287. Hiruma, K. and Riddiford, L. M. (2010). Developmental expression of mRNAs for epidermal and fat body proteins and hormonally regulated transcription factors in the tobacco hornworm, *Manduca sexta*. *J. Insect Physiol.* **56**, 1390-1395.
 288. Jones, G., Jones, D., Li, X., Tang, L., Ye, L., Teal, P., Riddiford, L., Sandifer, C., Borovsky, D., and Martin, J.-R. (2010). Activities of natural methyl farnesoids on pupariation and metamorphosis of *Drosophila melanogaster*. *J. Insect Physiol.* **56**, 1456-1464.
 289. Harshman, L. G., Song, K.-D., Casas, J., Schuurmans, A., Kuwano, E., Kachman, S. D., Riddiford, L. M., and Hammock, B. D. (2010). Bioassays of compounds with potential juvenoid activity on *Drosophila melanogaster*: Juvenile hormone III, bisepoxide juvenile hormone III and methyl farnesoates. *J. Insect Physiol.* **56**, 1465-1470.
 290. Riddiford, L. M. (2011). When is weight critical? *J. Exp. Biol.* **214**, 1613-1615.
 291. Riddiford, L. M. (2012). How does juvenile hormone control insect metamorphosis and reproduction? *Gen. Comp. Endocrinol.* **179**, 477-484.

292. Jindra, M., Palli, S. R., and Riddiford, L. M. (2013). The juvenile hormone signaling pathway in insect development. *Ann. Rev. Entomol.* **58**, 181-204.
293. Riddiford, L. M. (2013). Microarrays reveal discrete phases in juvenile hormone regulation of mosquito reproduction. *Proc. Natl. Acad. Sci. USA* **110**, 9623–9624.
294. Suzuki, Y.*, Koyama, T.*, Hiruma, K., Riddiford, L. M., and Truman, J. W. (2013). A molt timer is involved in the metamorphic molt in *Manduca sexta* larvae. *Proc. Nat. Acad. Sci. USA* **110**, 12518-12525. (Commentary in *J. Exp. Biol.*)
295. Bilen, J., Atallah, J., Azanchi, R., Levine, J. and Riddiford, L. M. (2013). Regulation of onset of female mating and sex pheromone production by juvenile hormone in *Drosophila melanogaster*. *Proc. Nat. Acad. Sci. USA*. **110**, 18321-18326.
296. Nijhout, H. F.*, Riddiford, L. M.*, Mirth, C., Shingleton, A. W., Suzuki, Y. and Callier, V. (2014). The developmental control of size in insects. *WIREs Dev. Biol.* **3**:113–134.
297. Riddiford, L. M. and Webb, B. A. (2014). NANCY E. BECKAGE 1950-2012: Pioneer in insect host-parasite interactions. *Annu. Rev. Entomol.* **59**, 1-12.
298. Mirth, C. K., Tang, H.Y., Makhon-Moore, S., Salhadar, S., Gokhale, R., Warner, R., Koyama, T., Riddiford, L. M., and Shingleton, A. W. (2014). Juvenile hormone regulates body size and perturbs insulin-signaling in *Drosophila*. *Proc. Nat. Acad. Sci. USA* **111**, 7018-7023.
299. Kelstrup, H. C., Hartfelder, K., Nascimento, F. S. and Riddiford, L. M. (2014). Reproductive status, endocrine physiology and chemical signaling in the Neotropical, swarm-founding eusocial wasp, *Polybia micans*. *J. Exp. Biol.* **217**, 2399-2410.
300. Kelstrup, H. C., Hartfelder, K., Nascimento, F. S. and Riddiford, L. M. (2014). The role of juvenile hormone in dominance behavior, reproduction and cuticular pheromone signaling in the caste-flexible epiponine wasp, *Synoeca surinama*. *Front. Zool.* **11**, 78.
301. Baumann, A. A., Texada, M. J., Chen, H. M., Etheredge, J. N., Miller, D. L., Picard, S., Warner, R., Truman, J. W., and Riddiford, L. M. (2017). Genetic tools to study juvenile hormone action in *Drosophila*. *Sci. Rep.* **7**, 2132.
302. Riddiford, L. M. (2018). Reproduction general, laboratory animals: *Drosophila*, tobacco hornworm, cockroaches. In M. K. Skinner (Ed.), *Encyclopedia of Reproduction*, 2nd edn., vol. 6, pp. 690-695. Academic Press: Elsevier.
303. Riddiford, L. M., Truman, J. W., and Nern, A. (2018). Juvenile hormone reveals mosaic developmental programs in the metamorphosing optic lobe of *Drosophila melanogaster*. *Biol. Open* **7**, bio034025.
304. Truman, J. W. and Riddiford, L. M. (2019). The evolution of insect metamorphosis: A developmental and endocrine view. *Philos. Trans. Roy. Soc. B* **374**, 20190070.
305. Riddiford, L. M. (2020). A life's journey through insect metamorphosis. *Annu. Rev. Entomol.* **65**, 1–16.
306. Riddiford, L. M. (2020). XV International Congress of Entomology, Washington D.C., 19-27 August 1976. In Ridsdill-Smith, J., Whitten, M., and Berenbaum, M. (eds), *An Important*

and Victorious Science: The International Congresses of Entomology, Thomas Say Publications, Entomological Society of America, Lanham, MD, in press.

307. Riddiford, L. M. (2020). *Rhodnius*, Golden Oil, and *Met*: A history of juvenile hormone research. *Front. Cell Dev. Biol.* **8**, 679. doi: 10.3389/fcell.2020.00679.
308. Riddiford, L. M. (2020). Revealing the mysteries of insect metamorphosis. *Curr. Biol* **30**, R1–R3.

Edited Volumes

1. Riddiford, L. M. and Willis, J. H. (1981). Symposium on insect systems: Milestones and new horizons in endocrinology, physiology and development. *Amer. Zool.* **21**, 623-791.
2. Riddiford, L. M. and Willis, J. H. (1996). VI International Conference on the Juvenile Hormones. *Arch. Insect Biochem. Physiol.* **32**, 269-669. (Preface, pp 269-270)