

Elizabeth A. Bernays Entomological Publications

Books

- R.F. Chapman, E.A. Bernays, and J.G. Stoffolano (Eds) *Topics in Feeding Behavior and Physiology*. Springer-Verlag.
- E.A. Bernays (Ed.) *Insect-Plant Interactions Vol.I* 1989. CRC Press
- E.A. Bernays (Ed.) *Insect-Plant Interactions Vol.II* 1990. CRC Press
- E.A. Bernays (Ed.) *Insect-Plant Interactions Vol.III* 1991. CRC Press
- E.A. Bernays (Ed.) *Insect-Plant Interactions Vol.IV* 1992. CRC Press
- E.A. Bernays (Ed.) *Insect-Plant Interactions Vol.V* 1993. CRC Press
- E.A. Bernays and R.F. Chapman, 1994. *Hostplant Selection by Phytophagous Insects*, Chapman & Hall

Key Research Papers

- Bernays, E.A. and Woodhead, S. 1982. Plant phenols utilized as nutrients by a phytophagous insect. *Science* 216: 201-203.
- Bernays, E.A. 1986. Diet-induced head allometry among foliage-chewing insects and its importance for graminivores. *Science* 231: 495-497.
- Bernays, E. A. and Graham, M. 1988. On the evolution of host specificity in phytophagous arthropods. *Ecology*. 69: 886-892.
- Bernays, E.A. 1989. Host range in phytophagous insects: The potential role of generalist predators. *Evolutionary Ecology*. 3: 299-311.
- Bernays, E.A. and Wcislo, W. 1994. Sensory capabilities, information processing and resource specialization. *Quarterly Review of Biology* 69: 187-204.
- Bernays, E.A. 1998. The value of being a resource specialist: behavioral support for a neural hypothesis. *American Naturalist* 151: 451-464
- Bernays, E.A. and Funk, D. 1999. Specialists make faster decisions than generalists: experiments with aphids. *Proceedings of the Royal Society of London B* 266: 151-156.
- Bernays, E.A., Chapman, R.F. and Singer, M.S. 2000. Sensitivity to chemically diverse phagostimulants in a single gustatory neuron of a polyphagous caterpillar. *Journal of Comparative Physiology* 186: 13-19.

Complete list of Research and Review Papers

Eggs and hatching in locusts

- Bernays, E.A. 1970. Water uptake and exchange in the eggs of *Schistocera gregaria* at a late stage in development. *Journal of Insect Physiology* 16: 801-812.
- Bernays, E.A. 1971. The vermiform larva of *Schistocerca gregaria* (Forsk.) (Orthoptera): form and activity. *Z. Morph. Tiere*. 70: 183-200.

Bernays, E.A. 1972. The muscles of newly hatched *Schistocerca gregaria* (Forsk.), larvae and their possible functions in hatching, digging and ecdysial movements. *Journal of Zoology* 166: 141-158.

Bernays, E.A. 1972. Hatching in *Schistocerca gregaria* (Forsk.). *Acrida*. 1: 41-60.

Bernays, E.A. 1972. The intermediate moult (first ecdysis) of *Schistocerca gregaria* (Forsk.). *Z. Morph. Tiere* 71: 160-197.

Bernays, E.A. 1972. Changes in the first instar cuticle of *Schistocerca gregaria* before and associated with hatching. *Journal of Insect Physiology* 18: 897-912.

Bernays, E.A. 1972. Some factors affecting size of cuticular parts of first instar larvae of *Schistocerca gregaria*. *Acrida* 1:189-195.

Bernays, E.A., Cook, A.G. and Padgham, D. 1976 A club shaped hair on the first instar nymphs *Schistocerca gregaria*. *Physiological Entomology* 1: 3-13.

General biology

Bernays, E.A. and Chapman, R.F. 1973. Changes in the coloration of *Atractomorpha similis* I. Bolivar (Orthoptera: Pyrgomorphidae). *Australian Entomologists Magazine* 1: 41-43.

Bernays, E.A. 1979. The use of Doppler for measurement of locomotor activity in locust nymphs. *Entomologia Experimentalis et Applicata* 26: 136-141.

Bernays, E.A. 1981 A specialised region of the gastric caeca in *Schistocerca gregaria*. *Physiological Entomology* 6: 1-6.

Chapman, R.F., Page, W.W. and Bernays, E.A. 1981. A novel method of sound production by an acridoid *Zonocerus variegatus* (L.) (Orthoptera: Pyrgomorphidae). *Acrida* 10: 51-59.

Bernays, E.A. 1987. Physiology and behavior in the study of insect ecology. [Address of Pontifical Academy of Science on occasion of receiving 1986 Gold Medal]. Published as a separate by the Academy.

Bernays, E.A. and Wege, P. 1987. Significance levels of inferential statistics and their interpretation: a lesson from feeding deterrent experiments. *Annals of the Entomological Society of America* 80: 9-11.

Bernays, E.A. 1987. Evolutionary contrasts in insects: nutritional advantages of holometabolous development. *Physiological Entomology* 11: 377-382.

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- REVIEW: Bernays, E.A. 1991. Insect and plant interactions In: *Emerging Technologies and Challenges*. Centennial Publication of the Entomological Society of America. eds. S. B. Vinson and R. Metcalf pp 207-227.
- Bernays, E.A. 1992. Interaction of insects and plants. *Science Progress, Oxford* 76, 247-271.
- Augner, M. and Bernays, E. A. 1998. Plant defense signals and Batesian mimicry. *Evolutionary Ecology* 12: 667-680
- Bernays, E.A. 1998. Evolution of feeding behavior in insect herbivores. *BioScience* 48: 35-44.
- Bernays, E.A. and Singer, M. S. 1998. A rhythm structuring foraging behavior in a polyphagous caterpillar. *Physiological Entomology* 23: 295-302.
- Bernays, E.A. and Woods, A. 2000. Foraging in nature by larvae of *Manduca sexta* - influenced by an endogenous oscillation. *Journal of Insect Physiology* 46: 825-836.
- Woods, H.A. and Bernays, E.A. 2000. Modulation of fecal water loss by wild larvae of *Manduca sexta*. *Physiological Entomology* 25: 83-88.
- Bernays, E.A.. 2000 Plant Insect Interactions: a synthesis. Abstract International Congress of Entomology 2000 vol I pp 8-13.
- Bernays, EA and Klein, B 2002. Nutrient budgets in *Uroleucon ambrosiae* on the relatively unfavorable host plant *Tithonia*. *Physiol Ent.*27,275-284.
- Bernays, E.A., Singer, MS and Rodrigues, D. 2004. Trenching behavior by caterpillars of the *Euphorbia* specialist, *Pygarctia roseicapitis*: a field study *J.Insect Behavior* 17, 41-52.
- Bernays, E.A.2003. Phytophagous Insects: 10 page entry for *Encyclopedia of Insects* (eds Carde and Resh)
- Bernays E.A. 2003. Host seeking : plants: 10 page entry for *Encyclopedia of Insects* (eds Carde and Resh)
- Bernays, E.A. 2004 Foraging Behavior: 5 page entry for *Encyclopedia of Entomology* (ed.J.Capinera) Kluwer,
- Bernays E.A. and Chapman RF. Chemoreception: 20,000 word entry for *Encyclopedia Britannica*

Reisenman, Carolina E, Riffell, Jeffrey A, Bernays, Elizabeth A, et al. 2010. Antagonistic effects of floral scent in an insect-plant interaction. *Proceedings of the Royal Society B*: 277, 2371-2379.

Control of feeding in locusts and grasshoppers

Bernays, E.A. and Chapman, R.F. 1970. Food selection by *Chorthippus parallelus* (Zetterstedt) (Orthoptera-Acrididae) in the field. *Journal of Animal Ecology* 39: 383-394.

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Baines, D.M., Bernays, E.A. and Leather, E.M. 1974. Movement of food through the gut of fifth instar males of *Locusta migratoria migratorioides* (R.& F.) *Acrida* 2: 319-332.

REVIEW: Bernays, E.A. and Chapman, R.F. 1974. Regulation of food intake. In: *Experimental Analysis of Insect Behaviour*, ed L.Barton Browne, Springer Verlag, Berlin, 47-59.

- Bernays, E.A. and Chapman, R.F. 1974. Changes in haemolymph osmotic pressure in *Locusta migratoria* (L.) nymphs in relation to feeding. *Journal of Entomology* (A) 48: 149-155.
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- REVIEW: Bernays, E.A. 1985. Regulation of feeding behavior, In: Comprehensive Insect Pharmacology, Biochemistry and Physiology. Vol. 4 pp. 1-32. eds. G.A. Kerkut and L.I. Gilbert, Pergamon Press.
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- REVIEW: Bernays, E.A. and Simpson, S.J. 1990. Nutrition. In: Biology of Grasshoppers, eds. R. F. Chapman and A. Joern, Wiley and Son. pp. 105-128.

Plant chemicals and feeding in locusts and grasshoppers

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- REVIEW: Bernays, E.A. and Chapman, R.F. 1978. Plant chemistry and acridoid feeding behavior, In: Coevolution of Plants and Animals. ed. J. Harborne. pp. 99-141.
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- REVIEW: Bernays, E.A. and Chapman, R.F. 1987. Chemical deterrence of plants. *UCLA Symposia on Molecular and Cellular Biology*. Alan R. Liss, Inc., N.Y. pp. 107-116. Ed. J. Law.
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Agriculture

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Learning in insects

Jermey, T., Bernays, E.A. and Szentesi, A. 1982. The effect of repeated exposure to feeding deterrents on their acceptability to phytophagous insects. In: Proc. Vth. Int. Symp. on Insect/Plant Regulations. ed. H. Visser and A. Minks. Pudoc, Wageningen. pp. 25-32.

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Mechanics of feeding and leaf toughness

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