

COLLECTED PAPERS (8 April, 2018)

Prof G.Adrian Horridge, FAA, FRS.

E-mail horridge@netspeed.com.au

Cambridge Papers

1951: Editor of "Cambridge Mountaineering" Number for 1951. Pp. 88. Biggleswade, C.Elphick. Including an article "The Longest Day", A Poem, Club Notes, a list of Members, etc.

1956: A visit to the Red Sea. The Eagle (Magazine of St John's College, Cambridge) vol, 57, No.248, Pp. 21-24.

Reprint Nos.

1. 1951 Occurrence of Asparagopsis armata Harv. on the Scilly Isles. Nature, 167, 732-734.
2. 1952 Birds on Palma and Gomera. Ibis, 94, 68-84. Results of a survey on these islands.
3. 1953 An action potential from the motor nerves of the jellyfish Aurellia aurita Lamarck. Nature, 171, 400.
4. 1954 Observations on the nerve fibres of Aurellia aurita. Quart. J. Micr. Sci. 95, 85-92.
5. 1954 The nerves and muscles of medusae. I. Conduction in the nervous system of Aurellia aurita Lamarck. J. exp. Biol. 31, 594-600.
6. 1955 The nerves and muscles of medusae. II. Geryonia proboscidalis Eschscholtz. J. exp. Biol. 32, 555-568.
7. 1955 The nerves and muscles of medusae. III. A decrease in the refractory period following repeated stimulation of the muscle of Rhizostoma pulmo. J. exp Biol. 32, 636-641.
8. 1955 The nerves and muscles of medusae. IV. Inhibition in Aequorea forskalea. J. exp. Biol. 32, 642-648.
9. 1956 The nerves and muscles of medusae. V. Double innervation in Scyphozoa. J. exp. Biol. 33, 366-383.
10. 1956 A polarized-light study of glass-fibre laminates. Brit. J. Applied Physics. 6, 314-319.
11. 1956 The nervous system of the ephyra larva of Aurellia aurita. Quart. J. Micr. Sci. 97. 59-74.
12. 1956 The responses of Heteroxenia (Alcyonaria) to stimulation and to some inorganic ions. J. exp. Biol. 33, 604-614.
13. 1956 A through-conduction system co-ordinating the protective retraction of Alcyonium (Coelenterata). Nature, 178, 1476-1477.
14. 1956 The flight of very small insects. Nature, 178, 1334-1335.

15. 1957 The co-ordination of the protective retraction of coral polyps. *Phil. Trans. R. Soc. B.* 240, 495-529.
16. 1957 Responses of *Cerianthus* (Coelenterata). *Nature*, 180, 1369-1370.
17. 1958 The co-ordination of the responses of *Cerianthus* (Coelenterata). *J. exp. Biol.* 35, 369-382.
18. 1957 (with H. Broch)
A new species of *Solenopodium* (Stonolifera, Octocorallia) from the Red Sea. *Proc. Zool. Lond.* 128/2, 149-160.
19. 1958 Transmission of excitation through the ganglia of *Mya* (Lamellibranchiata). *J. Physiol.* 143, 553-572.
20. 1959 The nerves and muscles of medusae. VI. The rhythm. *J. exp. Biol.* 36, 72-91.

St Andrews papers

21. 1959 Analysis of the rapid responses of *Nereis* and *Harmothoe* (Annelida). *Proc. R. Soc. Lond. B.* 150, 245-262.
22. 1960 Pitch discrimination in Orthoptera (Insecta) demonstrated by responses of central auditory neurones. *Nature*, 185, 623-624.
23. 1961 The centrally determined sequence of impulses initiated from a ganglion of the clam *Mya*. *J. Physiol.* 155, 320-336.
24. 1961 Pitch discrimination in locusts. *Proc. R. Soc. Lond. B.* 155, 218-231.
25. 1960 (with M.S.V. Roberts)
Neuro-muscular transmission in the earthworm. *Nature*, 186, 650.
26. 1961 The organization of the primitive central nervous system as suggested by examples of inhibition and the structure of neuropile. Reprinted from "Nervous Inhibition". Ed. E. Florey. Pergamon Press.
27. 1962 Learning of leg position by headless insects. *Nature*, 193, 697-698.
28. 1962 Naked axons and symmetrical synapses in an elementary nervous system. *Nature*, 193, 899-900.
29. 1962 An annelid proprioceptor. *Nature*, 195, 403.
30. 1962 Learning of leg position by the ventral nerve cord in headless insects. *Proc. R. Soc. B.* 157, 33-52.
31. 1962 (with B.M. MacKay)
Naked axons and symmetrical synapses in coelenterates. *Quart. J. Micr. Sci.* 103, 531-541.

32. 1963 Proprioceptors, bristle receptors, efferent sensory impulses, neurofibrils and number of axons in the parapodial nerve of the polychaete Harmothoe. Proc. R. Soc. 157, 199-222.
33. 1963 Comparative physiology: Integrative action of the nervous system. Ann. Rev. Physiol. 25, 523-544.
34. 1964 Non-specific systems and differences between neurons in lower animals in "Comparative Neurochemistry". Ed. S. Richter, Pergamon Press.
35. 1964 (with J.M. Armson)
An investigation of Factor S of Crustacea, J. Neurochem. 11, 387-395.
36. 1964 Multimodal interneurons of locust optic lobe. Nature, 204, 499-500.
37. 1964 Presumed photoreceptive cilia in a ctenophore. Quart. J. Micr. Sci. 105, 311-317.
38. 1964 (with R.A. Chapman)
Sheaths of the motor axons of the crab Carcinus. Quart. J. Micr. Sci. 105, 175-181.
39. 1964 (with B.M. MacKay)
Neurociliary synapses in Pleurobrachia (Ctenophora). Quart. J. Micro. Sci. 105, 163-174.
40. 1964 (with D.C. Sandeman)
Nervous control of optokinetic responses in the crab Carcinus. Proc. R. Soc. B. 161, 216-246.
41. 1964 The giant mitochondria of ctenophore comb plates. Quart. J. Micr. Sci. 105, 301-310.
42. 1965 Intracellular action potentials associated with the beating of the cilia in ctenophore comb plate cells. Nature, 205, 602.
43. 1965 (with J.W.P. Barnes)
A neuropharmacologically active substance from jellyfish ganglia. J. exp. Biol. 42, 257-287.
44. 1965 Non-motile sensory cilia and neuromuscular junctions in a ctenophore independent effector organ. Proc. R. Soc. B. 162, 333-350.
45. 1965 Macrocilia with numerous shafts from the lips of the ctenophore Beroe. Proc. R. Soc. B. 162, 351-364.
46. 1965 (with T.H. Bullock)
"Structure and Function in the Nervous System of Invertebrates". pp. 1722. (G.A.H. has contributed about a third of this book). Freeman & Co., San Francisco.
47. 1965 (with J.H. Scholes, S. Shaw and J. Tunstall)
Extracellular recordings from single neurones in the optic lobe and brain of the locust in "The Physiology of the Insect Central System". Ed. J.E. Treherne and J.S.C. Beament.

48. 1965 (with D.J. Rutherford)
The rhabdom of the lobster eye. *Quart. J. Micr. Sci.* 106, 119-130.
49. 1965 (with P.B.T. Barnard)
Movement of palisade in locust retinula cells when illuminated. *Quart. J. Micr. Sci.* 106, 131-135.
50. 1965 The electrophysiological approach to learning in isolatable ganglia. *Animal behaviour*, Suppl. I, 163-182.
51. 1965 Relations between nerves and cilia in ctenophores. *Amer. Zool.* 5, 357-375.
52. 1965 A direct response of the crab Carcinus to the movement of the sun. *Nature*, Lond. 207, 1413-1414.
53. 1966 Some recently discovered underwater vibration receptors in invertebrates, in "Some Contemporary Studies in Marine Science", pp. 395-405. Ed. H. Barnes, Allen & Unwin, Lond.
54. 1966 Pathways of co-ordination in ctenophores. *Symp. Zool. Soc. Lond.* No.16, pp. 247-266. Academic Press, London and New York.
55. 1966 (with P.R.B. Shephard)
Perception of movement by the crab. *Nature*, Lond. 209, 267-269.
56. 1966 Optokinetic memory in the crab Carcinus. *J. exp. Biol.* 44, 233-245.
57. 1966 Perception of edges versus areas by the crab Carcinus. *J. exp. Biol.* 44, 247-254.
58. 1966 Optokinetic memory in the locust. *J. exp. Biol.* 44, 255-261.
59. 1966 Optokinetic responses of the crab Carcinus to a single moving light. *J. exp. Biol.* 44, 263-274.
60. 1966 Direct response of the crab Carcinus to the movement of the sun. *J. exp. Biol.* 44, 275-283.
61. 1966 Adaptation and other phenomena in the optokinetic response of the crab Carcinus. *J. exp. Biol.* 44, 285-295.
62. 1966 (with J. Hamori)
The lobster optic lamina. I. General organization. *J. Cell Sci.* 1, 249-256.
63. 1966 (with J. Hamori)
The lobster optic lamina. II. Types of synapses. *J. Cell Sci.* 1, 257-270.
64. 1966 (with J. Hamori)
The lobster optic lamina. III. Degeneration of retinula cell endings. *J. Cell Sci.* 1, 271-274.
65. 1966 (with J. Hamori)
The lobster optic lamina. IV. Glial cells. *J. Cell Sci.* 1, 275-280.

66. 1966 Study of a system as illustrated by the optokinetic response. *Symp. Soc. exp. Biol.* 20, 179-198.
67. 1966 The retina of the locust, in "Symposium on the Compound Eye". Ed. C.G. Bernhard. Pergamon Press, 1966, 513-541.
68. 1966 The optomotor response of the crab Carcinus, pp. 57-74, in "Proc. Symp. Information Processing in Sight Sensory Systems". Cal. Tech. Pasadena, 1965.
69. 1967 (with J. Tunstall)
Electrophysiological investigation of the optics of the locust retina. *Zeit. vergl. Physiol.* 55, 167-182.
70. 1967 Perception of polarization plane, colour and movement in two dimensions by the crab Carcinus. *Zeit. vergl. Physiol.* 55, 207-224.
71. 1967 (with R.R. Bennett & J. Tunstall)
Spectral sensitivity of single retinula cells of the locust. *Zeit. vergl. Physiol.* 55, 195-206.
72. 1967 (with S. Boulton)
Prey detection by Chaetognatha by a vibration sense. *Proc. R. Soc. B.* 168, 413-419.
73. 1967 Position of onset of fast phase in optokinetic nystagmus. *Nature*, 216, 1004-1005.
74. 1968 Five types of memory in crab eye responses. In: "Physiological and Biochemical Aspects of Nervous Integration", pp. 245-265. Proc. of symposium at Woods Hole Marine Laboratory held by Soc. of Gen. Phys., Ed. F.D. Carlson. New Jersey, Prentice-Hall.
75. 1968 (with J. Hamori)
Synaptic organization of the lobster optic lamina. *Symp. on Neurobiology of Invertebrates 1967*. 111-122. Publ. Hungarian Acad. of Sciences.
76. 1969 The interpretation of behaviour in terms of interneurons, in "The Interneuron", Proceedings of a conference sponsored by the Brain Research Institute, Los Angeles, 1967. Ed. M.A.B. Brazier, 1-20.
77. 1968 Primitive examples of gravity receptors and their evolution. Symposium held by the Space Research Council of the USA on Gravity and the Organism. Ed. M.J. Cohen. New York, pp. 203-221.
78. 1968 The origins of the nervous system. In: "Structure and Function of the Nervous System". Ed. G.H. Bourne, 1-31.
79. 1968 Some recent physiological results of interest to Marine Biologists. Special Lecture. *Rep. Chall. Soc.* 3, 35-37.
80. 1968 Affinity of neurons in regeneration. *Nature*, 219, 737-740.
81. 1968 (with M. Burrows)
The action of the eyecup muscles of the crab, Carcinus, during optokinetic movement. *J. exp. Biol.* 49, 223-250.
82. 1968 (with M. Burrows)

Motoneuron discharges to the eyecup muscles of the crab Carcinus, J. exp. Biol. 49, 251-267.

83. 1968 (with M. Burrows)
Tonic and phasic systems in parallel in the eyecup responses of the crab, Carcinus, J. exp. Biol. 49, 269-284.
84. 1968 (with M. Burrows)
Eyecup withdrawal in the crab, Carcinus, and its interaction with the optokinetic response. J. exp. Biol. 49, 285-297.
85. 1968 (with M. Burrows)
The onset of the fast phase in the crab's optokinetic response of the crab, Carcinus, J. exp. Biol. 49, 299-313.
86. 1968 (with M. Burrows)
Efferent copy and voluntary eye movement in the crab, Carcinus. J. exp. Biol. 49, 315-324.
87. 1968 "Interneurons". A book on the mechanisms of the central nervous system and their evolution. London and San Francisco. Freeman. pp. 418.
88. 1968 The eye of the firefly Photuris. Proc. R. Soc. Lond. B. 171, 445-463.
89. 1968 Pigment movement and the crystalline threads of the firefly eye. Nature. 218, 778-779.
90. 1968 A note on the number of retinula cells of Notonecta. Z. vergl. Physiol. 61, 259-262.
91. 1969 Statocysts of medusae and evolution of stereocilia. Tiss. & Cell, 1, 341-353.
92. 1969 (with J. Barnes)
Interaction of the movements of the two eyecups in the crab Carcinus. J. exp. Biol. 50, 651-671.
93. 1969 (with J. Barnes)
Two dimensional records of the eyecup movements of the crab Carcinus maenas. J. exp. Biol. 50, 673-682.
94. 1969 (with S. Tamm)
Critical point drying for SEM study of ciliary motion. Science, 163, 817.
95. 1969 Unit studies of the retina of dragonflies. Z. vergl. Physiol. 62, 1-37.
96. 1969 The eye of Dytiscus (Coleoptera). Tiss. & Cell, 1, 425-442.
97. 1970 (with B. Walcott & A.C. Ioannides)
The tiered retina of Dytiscus: a new type of compound eye. Proc. R. Soc. B. 175, 83-94.
98. 1970 (with I.A. Meinertzhagen)
The accuracy of the patterns of connexions of the first- and second-order neurons of the visual system of Calliphora. Proc. R. Soc. B. 175, 69-82.
99. 1970 (with I.A. Meinertzhagen)

The exact neural projection of the visual fields upon the first and second ganglia of the insect eye. *Z. vergl. Physiol.* 66, 369-378.

100. 1970 (with S. Tamm)
The relation between the orientation of the central fibrils and the direction of beat in cilia of *Opalina*. *Proc. R. Soc. B.* 175, 219-233.
101. 1971 Biological Systems. Chapter 8 in "Information, Computers, Machines and Man". Ed. R.M. Huey.
102. 1971 The Crab Eye. Chapter 21 in "Information, computers, Machines and Man". Ed. R.M. Huey.
103. 1971 Integration in nervous systems. Chapter 3, V.3 of "Handbook of Perception". Ed. E.C. Carterette and M.P. Friedman. New York. Academic Press.

Canberra papers

104. 1971 (with C. Giddings)
The ommatidium of the termite *Mastotermes darwiniensis*. *Tiss & Cell*, 3, 463-476.
105. 1971 (with B. Walcott)
The compound eye of *Archichauliodes* (Megaloptera). *Proc. R. Soc. B.* 179, 65-72.
106. 1971 (with C. Giddings)
Movement on dark-light adaptation in beetle eyes of the neuropteran type. *Proc. R. Soc. B.* 179, 73-85.
107. 1971 (with C. Giddings)
The retina of *Epehstia* (Lepidoptera). *Proc. R. Soc. B.* 179, 87-95.
108. 1971 Alternatives to superposition images in clear-zone compound eyes. *Proc. R. Soc. B.* 179, 97-124.
109. 1971 (with P.M. Shelton and I.A. Meinertzhagen)
Reconstruction of synaptic geometry and neural connections from serial thick sections examined by the medium high voltage electron microscope. *Brain Res.* 29, 373-377.
110. 1971 (with S.B. Laughlin)
Angular sensitivity of the retinula cells of dark-adapted worker bees. *Z. vergl. Physiol.* 74, 329-339.
111. 1972 (with B.W. Ninham and M.O. Diesendorf)
Theory of the summation of scattered light in clear-zone compound eye. *Proc. R. Soc. B.* 181, 137-156.
112. 1972 Further observations on the clear-zone eye of *Epehstia*. *Proc. R. Soc. B.* 181, 157-173.
113. 1972 Constancy of neurons, precision of connectivity patterns and specificity as a product of neuron differentiation in invertebrates, in "Cell Interactions", proceedings of the 3rd Lepetit Colloquium, London, 1971. Ed. L.G. Silvestri. North Holland. 14-30.
114. 1972 (with C. Giddings & G. Stange)

The superposition eye of skipper butterflies. Proc. R. Soc. B. 182, 475-495.

115. 1972 (with A.W. Snyder)

The optical function of changes in the medium surrounding the cockroach rhabdom. J. comp. Physiol. 81, 1-8.

116. 1974 Recent studies on the Ctenophora, in "Biology of Coelenterates". Ed. L. Muscatine. Academic Press.

117. 1973 (with M.O. Diesendorf)

Two models of the partially focused clear zone compound eye. Proc. R. Soc. B. 183, 141-158.

118. 1973 (with R.G. Butler)

The electrophysiology of the retina of Periplaneta americana L. I. Changes in receptor acuity upon light/dark adaptation. J. comp. Physiol. 83, 263-278.

119. 1973 (with R.G. Butler)

The electrophysiology of the retina of Periplaneta americana L. II. Receptor sensitivity. J comp. Physiol. 83, 279-288.

120. 1973 Closing remarks: An Impossible Task. In: "Symposium on Biological Memory", a report of a symposium held by the Australian Academy of Science, April 1972. Australian Academy of Science.

121. 1973 Specificity of neurons as a problem in defining subclasses. In: "Developmental Neurobiology of Arthropods". Ed. D. Young. Cambridge Univ. Press.

122. 1974 "The Compound Eye and Vision of Insects". Ed. G.A. Horridge, Oxford Univ. Press.

123. 1974 Optical mechanisms of clear-zone eyes. In: "The Compound Eye and Vision of Insects". Ed. G.A. Horridge, Oxford Univ. Press. 255-298.

124. 1974 (with M. Burrows)

Synapses upon motoneurons of locusts during retrograde degeneration. Phil. Trans. R. Soc. Lond. B. 269, 95-108.

125. 1974 (with M. Burrows)

The organization of inputs to motoneurons of the locust metathoracic leg. Phil. Trans R. Soc. Lond. B. 269, 49-94.

126. 1974 "Insect Vision", section of "Insects of Australia", Published by CSIRO.

127. 1975 (with M.O. Diesendorf)

A selective advantage for layered rhabdoms. J. math. Biol.

128. 1975 (with V.B. Meyer-Rochow)

The eye of Anoplognathus (Coleoptera, Scarabaeidae). Proc R. Soc. Lond. B. 188, 1-30.

129. 1975 Arthropod receptor optics. In: Photoreceptor Optics (eds. A.W. Snyder and R. Menzel), 459-478, Springer, Berlin.

130 1975 (with A. Ioannides)

- The organization of visual fields in the hemipteran acone eye. Proc. R. Soc. Lond. B. 190, 373-391.
131. 1975 Contributions to "The Web of Life", a consolidated multi-author biology text for Australian schools.
132. 1975 (with K. Mimura)
Fly photoreceptors. I. Physical separation of two visual pigments in Calliphora retinula cells 1-6. Proc. R. Soc. Lond. B. 190, 211-224.
133. 1975 (with K. Mimura & Y. Tsukahara)
Fly photoreceptors. II. Spectral and polarized light-sensitivity in the drone fly Eristalis. Proc. R. Soc. Lond. B. 190, 225-237.
134. 1975 (with K. Mimura & R.C. Hardie)
Fly photoreceptors. III. Angular sensitivity as a function of wavelength and the limits of resolution. Proc. R. Soc. Lond. B. 194, 151-177.
135. 1977 (with M. McLean, G. Stange, & P.G. Lillywhite)
A diurnal moth superposition eye with high resolution, Phalaenoides tristifica (Agaristidae). Proc. R. Soc. Lond. B. 196, 233-250.
136. 1977 (with Y. Tsukahara)
Visual pigment spectra from sensitivity measurements after chromatic adaptation of single dronefly retinula cells. J. comp. Physiol. 114, 233-251.
137. 1976 The ommatidium of the dorsal eye of Cloeon (Ephemeroptera) as a specialization for photoreisomerization. Proc. R. Soc. Lond. B 193, 17-29.
138. 1976 (with I. Henderson)
The ommatidium of the lacewing Chrysopa (Neuroptera). Proc. R. Soc. Lond. B. 192, 259-271.
139. 1977 (with Y. Tsukahara & D. Stavenga)
Afterpotentials in dronefly retinula cells. J. comp. Physiol. 114, 253-266.
140. 1977 (with Y. Tsukahara)
Interaction between two retinula cell types in the anterior eye of the dronefly Eristalis. J. comp. Physiol. 115, 187-298.
141. 1977 Insects which turn and look. Endeavour, New Series V.11, No.1, 7-17.
142. 1977 The compound eye of insects. Sci. Amer. 237 (July), 108-120.
143. 1977 (with Y. Tsukahara)
Miniature potentials, light adaptation and afterpotentials in locust retinula cells. J. exp. Biol. 68, 137-150.
144. 1978 (with M. McLean)
Structural changes in light- and dark-adapted compound eyes of the Australian earwig Labidura riparia truncata (Dermaptera). Tiss. & Cell 9/4, 653-666.
145. 1977 Mechanistic Teleology and Explanation in Neurobiology: Understanding the Origins of Behaviour. In: "Identified neurons and behaviour of arthropods". Festschrift for C.A.G. Wiersma (ed. G. Hoyle). Plenum Press.

146. 1978 (with Y. Tsukahara)
The distribution of bumps in the tail of the locust photoreceptor afterpotential. *J. exp. Biol.* 73, 1-14.
147. 1977 Mechanistic teleology and explanation in neuroethology. *Biosci.* 27(11), 725-732 (reprint of No.145).
148. 1978 (with M. McLean)
The dorsal eye of the mayfly *Atalophlebia* (Ephemeroptera). *Proc. R. Soc. Lond. B* 200, 137-150.
149. 1978 A different kind of vision: the compound eyes. In: *Handbook of Perception*. Vol.8 (eds. E. Carterette & M. Friedman). Academic Press, 4-82.
150. 1978 The separation of visual axes in apposition compound eyes. *Phil. Trans. R. Soc. Lond. B* 285, 1-59.
151. 1977 (with J.L. Denburg & R.L. Seecof)
The path and rate of growth of regenerating motor neurons in the cockroach. *Brain Res.* 125, 213-226.
152. 1979 (with C. Giddings & M. Wilson)
The eye of the soldier beetle *Chaulioqnathus pulchellus* (Cantharidae). *Proc. R. Soc. Lond. B* 203, 361-378.
153. 1979 (with P. Duelli)
Anatomy of the regional differences in the eye of the mantis *Ciulfina*. *J. exp. Biol.* 80, 165-190.
154. 1980 Apposition eyes of large diurnal insects as organs adapted to seeing. *Proc. R. Soc. Lond. B* 207, 287-309.
155. 1980 (with A.D. Blest)
The Compound Eye. In: *VMB 80: The future of Insect Biology*. Essays presented to Sir Vincent Wigglesworth on his 80th birthday. (eds. D.S. Smith & M.J. Locke). Academic Press, N.Y.
156. 1980 (with L. Marcelja & J. Duniec)
A diurnal rhythm of rhabdom size in locust and mantis compound eyes. In: *Tihany Symposium on Invertebrate Neurobiol.* (ed. J. Salanki).
157. 1981 Concluding remarks: The state of the art as illustrated by this symposium at Tihany. *Adv. Physiol. Sci.* 23, 573-578 (ed. J. Salanki). Hungarian Acad. Sci. Budapest.
158. 1981 (J. Duniec & L. Marcelja)
A 24 hour cycle in single locust and mantid photoreceptors. *J. exp. Biol.* 91, 307-322.
159. 1981 (with 10 others)
Laporan Ekspedisi Rumphius III (3 Oct - 15 Nov 1977): Report of this expedition (in Malay with English summary).
Oseanologi di Indonesia 13, 1-69.
160. 1982 (Horridge, G.A. with L. Marcelja and Jahnke, R.) Light guides in the dorsal eye of the male mayfly. *Proc. R. Soc. Lond. B* 216, 25-51.
161. 1983 Neuron function and behaviour: which explains which?

Fortschritte der Zoologie 28, 369-383.

162. 1983 (with L. Marcelja & R. Jahnke)
Retinula cell responses in a moth superposition eye.
Proc. R. Soc. Lond. B 220, 47-68.
163. 1983 (with L. Marcelja, R. Jahnke & P. McIntyre)
Daily changes in the compound eye of a beetle (Macrogyrus).
Proc. R. Soc. Lond. B 217, 265-285.
164. 1983 (with L. Marcelja, R. Jahnke & T. Matic)
Single electrode studies on the retina of the butterfly, Papilio.
J. comp. Physio. A 150, 271-294.
165. 1984 (with L. Marcelja & R. Jahnke)
Colour vision in butterflies I. Single colour experiments.
J. comp. Physiol. A 155, 529-542.
166. 1985 (with D. Osorio & W.G. Wu)
A reconsideration of three visual responses of locust and butterfly. Proceedings, IEEE SMC
Conference, Tucson, Arizona, 854-856.
167. 1986 A theory of insect vision: velocity parallax.
Proc. R. Soc. Lond. B 229, 13-27.
168. 1987 The evolution of visual processing and the construction of seeing systems.
Proc. R. Soc. Lond. B 220, 279-292.
169. 1987 (with Lehrer M, Srinivasan M V, Zhang S W) "How bees use motion cues to
estimate depth" Proceedings, Neurobiologentagung, Gottingen, June 1987
170. 1988 "Technical perspectives derived from insect vision". Proc. International
Symposium. "The shape of services in the future" published by the National Mobility Centre, Kew,
Victoria.
171. 1988 (with Lehrer M, Srinivasan M V, Zhang S W) "Motion cues provide the
bees' visual world with a third dimension". Nature, 332:356-357.
172. 1988 (with Srinivasan M V, Lehrer M, Kirchner W, Zhang S W) How motion
cues extend honeybee vision into the third dimension. 11th Annual Meeting of The European
Neuroscience Association, Zurich.
173. 1989 Primitive vision based on sensing change. In: Neurobiology of Sensory
Systems. (Eds.), R.N. Singh & N.J. Strausfeld, Plenum Press. pp. 1-16.
174. 1988 (with Srinivasan M V, Zhang S W, Lehrer M) "How honeybees use motion
cues to estimate range and discriminate objects". Proceedings, IEEE Conference on Systems, Man
and Cybernetics, Beijing and Shenyang.
175. 1988 (with Srinivasan M V, Lehrer M, Zhang S W)
"How honeybees measure their distance from objects of unknown size". J. Comp. Physiol. 165, 605-
613.

176. 1990 (with Srinivasan, M V, Zhang, SW, Lehrer, M) Visual figure-ground discrimination in the honeybee: The role of motion parallax at boundaries. *Proc. R. Soc. Lond. B.* 238, 331-350.
177. 1989 A template theory to relate visual processing to digital circuitry. *Proc. Roy. Soc. Lond. B.* 239, 17-33.
178. 1990 (with Marcelja, L) Responses of the H1 neuron to jumped edges. *Phil. Trans. Roy. Soc. Lond. B.* 329, 65-73.
179. 1990 (with Marcelja, L) Responses of the H1 neuron of the fly to contrast and moving bars. *Phil. Trans. Roy. Soc. Lond. B.* 329, 75-80.
180. 1990 (with Zhang, S W and Wang, X) Colour inputs to motion and object vision in an insect. *Phil. Trans. Roy. Soc. B.* 329, 257-263.
181. 1990 (with Sobey, P) Implementation of the template model of vision. *Proc. R. Soc. Lond. B.* 240, 211-229.
182. 1991 (with Sobey, P) An artificial seeing system copying insect vision. *J. Optoelectronics.* 6, 177-193.
183. 1991 (with Marcelja, L) A test for multiplication in insect directional-motion detectors. *Phil. Trans. R. Soc. Lond. B.* 331, 199-204.
184. 1991 Ratios of template responses as the basis for semivision. *Phil. Trans. R. Soc. Lond. B.* 331, 189-198.
185. 1991 The evolution of visual processing. pp. 229-270. In: Gregory, R. and Cronly-Dillon, J.R. (eds.) *Vision and Visual Dysfunction. Vol. 2. Evolution of the Eye and Visual System.* London, MacMillan.
186. 1991 (with Shi Jian). The H1 neuron measures change in velocity irrespective of contrast frequency, mean velocity or velocity modulation frequency. *Phil. Trans. R. Soc. Lond. B.* 331, 205-211.
187. 1992 Insect vision is active only. *Proc 3rd Internat. Cong. Neuroethology.* Montreal p.56.
188. 1991. The compromise between seeing spatial layout and making visual discriminations. *Current Science*, 60, 686-693.
189. 1992 (with Marcelja, L) On the existence of "fast" and "slow" directionally-sensitive motion detector neurons in insects. *Proc. R. Soc. Lond. B.* 248, 47-54.
190. 1992 (with Zhang & Srinivasan) Pattern recognition in honeybees: local and global analysis. *Proc. R. Soc. Lond. B.* 248, 55-61.
191. 1992 (with Zhang & Lehrer) Bees can combine range and visual angle to estimate absolute size. *Phil. Trans. R. Soc. Lond. B.* - 337, 49-57.

192. 1992 (with Zhang and O'Carroll) Insect perception of illusory contours. *Phil. Trans R. Soc. Lond. B.* 337, 59-64.
193. 1992 (with Zhang) Pattern recognition in honeybees: Size of regions in spatial layout. *Phil. Trans. R. Soc. Lond. B.* 337, 65-71.
194. 1992 Insect motion perception. *Acta. Biol. Hungarica* 43, 299-313.
195. 1992 What can engineers learn from insect vision. *Phil. Trans R. Soc. Lond. B.* 337, 271-282.
196. 1993 (joint editor) Natural and low level seeing systems. Clarendon Press, Oxford, pp. 193.
197. 1993 What can engineers learn from insect vision? 1993 IEEE Systems, Man & Cybernetics. Le Touquet. France. October 17-20.
- Post retirement Papers**
198. 1994 Bee vision of pattern and 3D: The Bidder Lecture for 1994. *Bioessays.* 16, 877-884.
199. 1994 (with Lehrer, Zhang, Gadagkar). Pattern vision in bees: preference for flower-like patterns. *Phil. Trans. R. Soc. Lond. B.* 347, 123-137.
200. 1995 (with Zhang Shao Wu) Pattern vision in honeybees (*Apis mellifera*): Flower-like patterns with no predominant orientation. *J. Insect Physiol.* 41, 681-688.
201. 1995 Target size, spatial layout and filters in honeybee vision. In: "Nervous Systems and Behaviour" (Ed. Burrows M, Matheson T, Newland PL, Schuppe H). *Proceedings: 4th International Congress Neuroethology.* p.271.
202. 1996 "The nervous systems of invertebrates: An evolutionary and comparative approach" (Ed. O. Breidbach & W. Kutsch, Birkhauser Verlag) Book Review in *Trends in Neurosciences*, Vol. 18, No. 12.
203. 1996 Vision of the honeybee *Apis mellifera* for patterns with two pairs of equal orthogonal bars. *J. Insect Physiol.* 42, 131-138.
204. 1996 The relation between pattern and landmark vision of the honeybee (*Apis mellifera*). *J. Insect Physiol.* 42, 373-381.
205. 1996 Pattern vision of the honeybee (*Apis mellifera*): the significance of the angle subtended by the target. *J. Insect Physiol.* 42, 693-703.
206. 1996 The honeybee (*Apis mellifera*) detects bilateral symmetry and discriminates its axis. *J. Insect Physiol.* 42, 755-764.
207. 1996 6 papers on the Compound Eye reproduced in "Natural and Artificial Compound Eye Sensors" (ed. Sanders, J.) SPIE Milestone Series. International Soc. Optical Engineering.

- 208 1997 Pattern and 3D Vision of Insects. In "*Visual navigation*" ed Y. Aloimonos, pp. 26-59, New Jersey, Erlbaum.
- 209 1997 Spatial and non-spatial coding of patterns by the honeybee (*Apis mellifera*). In "*From living eyes to seeing machines*". ed. M. V. Srinivasan and S. Venkatesh. pp. 52-79. Oxford University Press.
- 210 1997 Evolution of vision as illustrated by the honeybee. Paper L071.01 33rd International Congress of Physiology. St Petersburg.
- 211 1997 Pattern discrimination by the honeybee (*Apis mellifera*): disruption as a cue. *J. Comp. Physiol. A* 181, 267-277.
- 212 1997 Vision of the honeybee (*Apis mellifera*) for patterns with one pair of equal orthogonal bars. *J. Insect Physiol.* 43, 741-748.
- 213 1998 Bees see red. *Trends in Ecology and Evolution.* 13, 87-88.
- 214 1998 Spatial coincidence of cues in visual learning by the honeybee (*Apis mellifera*). *J. Insect Physiol.* 44, 343-350.
- 215 1999 Pattern discrimination by the honeybee (*Apis mellifera*) : training on two pairs of patterns alternately. *J. Insect Physiology*, 45, 349-355.
- 216 1999 Two-dimensional pattern discrimination by the honeybee. *Physiological Entomology.* 24, 197-212.
- 217 1999 Pattern discrimination by the honeybee (*Apis mellifera*) is colour blind for radial/tangential cues. *J. Comp. Physiol. A* 184, 413-422.
- 218 1999 Pattern vision of the honeybee (*Apis mellifera*): The effect of pattern on the discrimination of location. *J. Comp. Physiology A* 185, 105-113.
- 219 2000 Pattern vision of the honeybee (*Apis mellifera*): discrimination of location by the blue and green receptors. *Neurobiology of Learning and Memory* 74, 1-16.
- 220 2000 Visual discrimination of radial cues by the honeybee (*Apis mellifera*). *Journal of Insect Physiology* 46, 629-645.
- 221 2000 Pattern vision of the honeybee (*Apis mellifera*): What is an oriented edge? *J. Comp. Physiology A* 186, 521-534.
- 222 2000 Seven experiments on pattern vision of the honeybee, with a model. *Vision Research* 40, 2589-2603.
- 223 2001 Honeybee visual discrimination. Internat. Conf. on Invert. Vision. Baeckaskog, Sweden. August 2001. p. 130.
- 224 2001 Vision with a small brain: the example of the bee. *Ethology Congress*, Tuebingen, August, 2001.
- 225 2002 The design of the compound eye depends on the physics of light. in *Photobiology*, Ed Bjorn, L. O. pp. 181-218. Dordrecht: Kluwer Academic Publishers.

- 226 2002 The relevance of honeybee vision to the design of seeing systems. ICARCV 7th International Conf. on Control, Automation, Robotics and Vision. Nanyang Tech. Uni. Singapore Dec 2002
- 227 2003 Discrimination of single bars by the honeybee (*Apis mellifera*). *Vision Research*, 43, 1257-1271.
- 228 2003 The visual system of the honeybee (*Apis mellifera*): the maximum length of the orientation detector. *J Insect Physiol.* 49, 621-628.
- 229 2003 Visual resolution of gratings by the compound eye of the bee (*Apis mellifera*). *J. Exp . Biol.* 206, 2105-2110.
- 230 2003 Visual discrimination by the honeybee (*Apis mellifera*): the position of the common centre as the cue. *Physiological Entomology* 28, 132-143.
- 231 2003 The effect of complexity on the discrimination of oriented bars by the honeybee (*Apis mellifera*). *J. Comp. Physiol. A* 189, 703-714.
- 232 2003 Visual resolution of the orientation cue by the honeybee (*Apis mellifera*). *J Insect Physiol.* 49, 1145-1152.
- 233 2005 What the honeybee sees: a review of the recognition system off *Apis mellifera*. *Physiological Entomology* 30, 2-13.
- 234 2005 Recognition of a familiar place by the honey bee. *J. Comp. Physiol. A* 191, 301-316.
- 235 2005 The spatial resolutions of the apposition compound eye and its neurosensory feature detectors: observation versus theory. *J Insect Physiol.* 51, 243-266.
- 236 2006 Visual processing of pattern. In: Warrant, E., Nilsson, D-E. (Eds.), *Invertebrate Vision*. Cambridge University Press, England, pp. 494-525.
- 237 2006 Visual discrimination of spokes, sectors, and circles by the honeybee (*Apis mellifera*). *Journal of Insect Physiology* 52, 984-1003.
- 238 2006 Some labels that are recognized on landmarks by the honeybee (*Apis mellifera*). *Journal of Insect Physiology* 52, 1254-1271.
- 239 2007 The preferences of the honeybee (*Apis mellifera*) for different visual cues during the learning process. *Journal of Insect Physiology* 53, 877-889.
- 240 2009 Generalization in visual recognition by the honeybee (*Apis mellifera*). A review and explanation. *Journal of Insect Physiology* 55, 499-511.
- 241 2009 What does an insect see ? *Journal of Experimental Biology* 212, 2721-2729.
- 242 2009 *What does the honeybee see ? And how do we know ? A critique of scientific reason*. Pp. 360. Canberra, ANU ePress. ISBN 978-1921536984
<http://epress.anu.edu.au/> with the unique URL: http://epress.anu.edu.au/honeybee_citation.html

- 243 2012 Visual discrimination by the honeybee. Pp. 165-190. In *How animals see the world*. Eds Lazareva, O. Shimizu, T. & Wasserman, E. Oxford Univ Press. ISBN 978-0-19-533465-4
- 244 2012 Book Review of :- Strausfeld, N. J. 2012, *Arthropod Brains*. In *Brain, Behaviour and Evolution*. 79. 290-292. DOI 10.1159/000338312
- 245 2012 The anti-intuitive visual system of the honey bee. *Acta Biologica Hungarica* 63 (Suppl. 2), pp. 146–161 (2012) DOI: 10.1556/ABiol.63.2012.Suppl.2 0236-5383 Akadémiai Kiadó, Budapest
- 246 2015 How bees distinguish Black from White. *Eye and Brain*. 6(1); 9-17.
- 247 2015 How bees distinguish a pattern of two colors from its mirror image. *Plos One* DOI: 10.1371/journal.pone.0116224
- 248 2015 How bees distinguish colors. *Eye and Brain* :7(1) 17-34.
- 249 2015 Engineering Design of the Insect Visual System *Encyclopedia of Optical Engineering*, edited by Craig Hoffman and Ron Driggers. In *Encyclopedia of Optical Engineering*. **Taylor and Francis: New York, Published online: 1-13.**<http://dx.doi.org/10.1081/E-EOE-120047135>
- 250 2015 How bees distinguish patterns by green and blue modulation. *Eye and Brain* : 7, 83-107. (published 5 Oct 2015)
- 251 2015 Introductory Chapter in :-Schmidt-Rhaesa, A., Harzsch, S. and Purschke, G. (Eds.) (2015): *Structure and evolution of invertebrate nervous systems*. Oxford University Press (in press)
- 252 2015 *Perahu Layar Nusantara*. Ombak (Anggota IKAPI), Penyunting: Aditya Pratama Yogyakarta: Penerbit Ombak, : redaksiombak@yahoo.co.id
- 253 2016 Parallel inputs to memory in bee colour vision. *Acta Biologica Hungarica*. 67, 1-26. This is the Plenary Lecture given Aug 31 2015, at Int Congress, International Soc Invertebrate Neurobiology, Tihany Hungary Aug 2015.
- 254 2016 Do bees distinguish colours? Australian National University Reporter. Issue 10/02/2016 Volume 47 No. 1
- 255 2017 Why newly mated queens get lost. *Australasian Beekeeper*. Vol. 118, pp. 544-546.
- 256 2017 Why newly mated queens get lost. *American Bee journal*. Vol. 157, No. 90, 985-987.
- 257 2017 Bee vision is totally different. *Australasian Beekeeper*. Vol. 119, pp. 16-18.
- 258 2018 A new paradigm of Bee Vision, with Practical Implications.
- 259 2018 Do Bees See Symmetry ?
- 260 A Natural Visual System, the Bee.

The unsuspecting science: a review of anomalies in the 20th century theory of trichromatic colour vision in the honeybee.

