

## JOHN ANTHONY (TONY) LINTHORNE WATSON

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A brief biography of Dr J.A.L. Watson (20 Sept. 1935 - 4 Dec. 1993), Member of Honour of the International Odonatological Society and one of the world's leading odonatologists, is followed by his odonatol. bibliography (1956-1994; 74 titles). Most of his works deal with the Australian fauna. The bibliography of obituaries published for him is appended.

Dr J.A.L. WATSON one of the world's leading odonatists died suddenly from a heart attack on 4th December 1993.

Tony was born at Nedlands, Western Australia on 20 September 1935, the youngest of two children.

From a very early age, he showed great interest in plants and animals, an interest which was fostered by his scientist parents. One can only admire the courage and optimism that he showed when he was diagnosed with a diabetic condition at the age of 12, while in the first year of his secondary schooling.

Tony was educated at Nedlands State School where he was awarded a state government scholarship which gave him entry to the academically elite Perth Modern School in 1948. At the end of his secondary schooling in 1953, he took a year off to travel with his parents through Britain and Western Europe. On their return to Western Australia, Tony enrolled in Science at the University of Western Australia with Zoology as his major subject. He graduated in 1956 with a Bachelor of Science and was awarded the Lady James Prize, a university prize in Natural Science. The next year, 1957, he gained first class honours and was awarded a Hackett Scholarship from the University of Western Australia. This enabled him to become a graduate student in the laboratory of Sir Vincent Wigglesworth at Cambridge University in the UK. Here he studied hormonal control of development in insects using silverfish as his model. After Cambridge, Tony was to continue his physiology studies as a Post-Doc Fellow and then as a Visiting As-

sistant Professor at the Western Reserve University in Cleveland, Ohio between 1963-1965.

While at Cambridge, Tony was to meet his wife Barbara who was also doing a PhD. They were married in September 1960 and both completed their theses before going to America.

After returning to Australia in 1966 as a Queen Elizabeth II Fellow, he continued to work on silverfish and wrote the chapter on Apterygota for the first edition of "The Insects of Australia". In 1967, he was made an officer of the Division of Entomology with CSIRO and at that time he was appointed to work on termites. He soon became Australia's chief authority on the biology, ecology and taxonomy of termites. The main aim of his research on termites was effective and more environmentally friendly methods of control. At the time of his death he had published 68 papers and two books on termites, the first book was "*Termites in the Canberra Region*", the second "*Atlas of Australian Termites*".

In 1984, Tony was very proud to be the first scientist to be awarded the Ian Mackerras Medal for outstanding contributions to Entomology.

Although working officially on termites, his love of dragonflies never waned. He became an expert on them while still at the University of Western Australia and by 1962 had already published a series of papers and a handbook. At the Tenth International Symposium of Odonatology held in Johnson City, Tennessee in August 1989, he was elected a Member of Honour of Societas Internationalis Odonatologica (S.I.O.). Tony's many research papers on dragonflies covered their taxonomy, morphology, larval biology and their potential role as biological indicators of pollution. One of his recently published works was the comprehensive handbook, "*The Australian Dragonflies*". I had the pleasure of working on this with Tony and Gunther Theischinger. I would like to use some words penned by Gunther to sum up our feelings for Tony, 'he was a great scholar and gentleman, he was a very mature and wise, yet warm and fun-loving person and still took pleasure in having and being able to display the qualities once considered to be honourable to a man.' My own special words are of a colleague, teacher and true friend. I had the pleasure of working with Tony for almost 20 years on both termites and dragonflies. It was a relationship that I will remember for many years.

During his career, Tony served on the editorial boards of *Odonatologica* and *Notulae odonatologicae* and also on the editorial advisory committee of the *Australian Journal of Zoology*, the Standards Association of Australia Committee on termite treatments, the Commonwealth and States Committee on the West Indian drywood termite and a number of Commonwealth and international review panels relating to termites and other entomological matters.

Tony was a scientist with great talents, a great depth of knowledge in his chosen fields and high ideals which he always strove to maintain. His death has robbed Australia and the world of one of its finest scientific practitioners but his

many publications will remain a lasting monument to his skills and contributions to science.

Tony is survived by his wife Barbara and children Helen and Bill.

#### ODONATOLOGICAL BIBLIOGRAPHY OF Dr J.A.L. WATSON, 1956-1994\*

- 1956 Food of the White-winged terns. *West. Aust. Nat.* 5(6): 124-125.
- 1957 First record of a petalurid dragonfly from Western Australia. *West. Aust. Nat.* 6(3): 79-81.
- 1958a (HODGKIN, E.P. & -). Breeding of dragonflies in temporary waters. *Nature, Lond.* 181: 1015-1016.
- 1958b A key to the dragonflies (Odonata) of South-Western Australia. *West. Aust. Nat.* 6(6): 138-150.
- 1958c The occurrence of northern fish and dragonflies in the Greenough River. *West. Aust. Nat.* 6(7): 184.
- 1958d A new species of *Petalura* Leach (Odonata) from Western Australia. *Proc. R. ent. Soc. Lond.* (B) 27(7/8): 116-120.
- 1959 (EDWARD, D.H. & -). The fresh water and brackish water swamps of Rottnest Island. *J. Proc. R. Soc. West. Aust.* 42: 85-86.
- 1960 (ASAHINA, S. & -). The systematic position of *Austrogomphus interruptus* Selys 1854. *Tombo* 3(1/2): 2-7.
- 1962 *The dragonflies (Odonata) of South-Western Australia. A guide to the identification, ecology, distribution and affinities of larvae and adults.* West. Aust. Nat. Club, Perth. 72 pp., frontispiece incl. - Hdb. 7.
- 1963a [Migration and dispersal of *Anax papuensis*, *Hemicordulia australiae* and *Pantala*]. *Proc. N. cent. Brch ent. Soc. Am.* 18: 108.
- 1963b Life history, distribution and ecology in the Odonata of South-Western Australia. *Proc. N. cent. Brch ent. Soc. Am.* 18: 130-133.
- 1963c The status of *Gomphus chichibui* Fraser, 1936. *Tombo* 6(1/2): 12-13.
- 1965 Petalurids, most primitive living dragonflies. *Animals, Lond.* 6(5): 128-131.
- 1966a The structure and function of the gill tufts in larval Amphipterygidae (Odonata: Zygoptera). *J. Morph.* 120(1): 9-22.
- 1966b Genital structure as an isolating mechanism in Odonata. *Proc. R. ent. Soc. Lond.* (A)41(10/12): 171-174.
- 1967a The larva of *Synthemis leachi* Selys, with a key to the larvae of Western Australian Synthemidae (Odonata). *West. Aust. Nat.* 10(4): 86-91.
- 1967b An analysis of *Trapezostigma eurybia* (Selys, 1878) and related indo-australian species (Odonata, Libellulidae). *Nova Guinea (Zool.)* 36: 377-400.
- 1967c A second species of *Lestoidea* Tillyard (Odonata: Zygoptera). *J. Aust. ent. Soc.* 6: 77-78.
- 1968a Australian dragonflies. *Aust. nat. Hist.* 1968(June): 33-38.
- 1968c Dragonfly types from the Dobson collection, with the designation of lectotypes. *J. Aust. ent. Soc.* 7: 57-58.
- 1969a Taxonomy, ecology, and zoogeography of dragonflies (Odonata) from the North-West of Western Australia. *Aust. J. Zool.* 17: 65-112.
- 1969b The structure and affinities of *Pentathemis membranulata* Karsch (Odonata: Corduliidae). *Proc. R. ent. Soc. Lond.* (B)38(5/6): 83-88.
- 1969c Australasian dragonflies described by R.J. Tillyard, with the location of types and the designation of lectotypes. *J. Aust. ent. Soc.* 8: 153-160.

\* Dr Watson had also published 68 papers (incl. books and chapters) on termites, and 22 papers on other insect orders.

- 1971 The Australian National Insect Collection, Canberra, Australia. Odonata. *Selysia* 5(2): 1.
- 1973 Odonata (dragonflies). In: Alligator Rivers Region: environmental fact-finding study: Entomology, Appendix 3, pp. 1-7 + 14 pp. (map & tabs).
- 1974a (O'FARRELL, A.F. & -). Odonata. In: The insects of Australia, Supplement 1974, pp. 35-36, Melbourne Univ. Press, Melbourne.
- 1974b The distributions of the Australian dragonflies (Odonata). *J. Aust. ent. Soc.* 13: 137-149.
- 1976 The synonymy of *Ischnura heterosticta* (Burmeister) and *Ischnura torresiana* Tillyard (Odonata: Coenagrionidae). *J. Aust. ent. Soc.* 15: 71-78.
- 1977a The *Argiolestes pusillus* complex in Western Australia (Odonata: Megapodagrionidae). *J. Aust. ent. Soc.* 16: 197-305.
- 1977b (- & M.S. MOULDS). A second species of *Episynlestes* Kennedy (Odonata: Chlorolestidae) from North Queensland. *J. Aust. ent. Soc.* 16: 257-259.
- 1977c The distributions of the Australian dragonflies (Odonata): first supplement. *J. Aust. ent. Soc.* 16: 277-279.
- 1978a (THEISCHINGER, G. & -). *Notolibellula bicolor*, a new libelluline dragonfly from northern Australia (Odonata: Libellulidae). *J. Aust. ent. Soc.* 16 (1977): 417-420.
- 1978b (- & A.H. ARTHINGTON). A new species of *Orthetrum* Newman from dune lakes in eastern Australia (Odonata: Libellulidae). *J. Aust. ent. Soc.* 17: 151-157.
- 1978c (THEISCHINGER, G. & -). The Australian Gomphomacromiinae (Odonata: Corduliidae). *Aust. J. Zool.* 26: 399-431.
- 1978d (ALLBROOK, P. & -). The status of the Australian aeshnid genera *Acanthaeschna* Selys and *Austroaeschna* Selys (Odonata). *J. Aust. ent. Soc.* 17: 323-327.
- 1978e (- & A.L. DYCE). The larval habitat of *Podopteryx selysi* (Odonata: Megapodagrionidae). *J. Aust. ent. Soc.* 17: 361-362.
- 1979a (THEISCHINGER, G. & -). Odonata from Carnarvon Gorge, Queensland. *Aust. ent. Mag.* 16: 25-28.
- 1979b (- & M.S. MOULDS). New species of Australian Lestidae (Odonata). *J. Aust. ent. Soc.* 18: 143-155.
- 1980a Dragonflies in Kakadu National Park. *Australia Habitat* 8(4): 3-5.
- 1980b *Apocordulia macrops*, a new crepuscular gomphomacromiine dragonfly from south-eastern Australia (Odonata: Corduliidae). *J. Aust. ent. Soc.* 19: 287-292.
- 1980c (- & H.M. ABBEY). Dragonflies (Odonata) from the Northern Territory. *CSIRO Aust. Div. Rep.* 21: 1-44.
- 1980d (- & G. THEISCHINGER). The larva of *Antipodophlebia asthenes* (Tillyard): a terrestrial dragonfly? (Anisoptera: Aeshnidae). *Odonatologica* 9: 253-258.
- 1981a Dragonflies in the Australian environment: taxonomy, biology, and conservation. *Abstr. Pap. 6th Int. Symp. Odonatol., Chur*, p. 50.
- 1981b Odonata (dragonflies and damselflies). In: A. Keast, [Ed.], *Ecological biogeography of Australia*, pp. 1141-1167, Junk, The Hague.
- 1982a (ARTHINGTON, A.H. & -). Dragonflies (Odonata) of coastal sand-dune fresh waters of south-eastern Queensland and north-eastern New South Wales. *Aust. J. Mar. Freshw. Res.* 33: 77-88.
- 1982b (- , A.H. ARTHINGTON & D.L. CONRICK). Effect of sewage effluent on dragonflies (Odonata) of Bulimba Creek, Brisbane. *Aust. J. Mar. Freshw. Res.* 33: 517-528.
- 1982c A truly terrestrial dragonfly larva from Australia (Odonata: Corduliidae). *J. Aust. ent. Soc.* 21: 309-311.
- 1982d Dragonflies in the Australian environment: taxonomy, biology and conservation. *Adv. Odonatol.* 1: 293-302.
- 1984a (THEISCHINGER, G. & -). Larvae of Australian Gomphomacromiinae, and their bearing on the status of the *Synthemis* group of genera (Odonata: Corduliidae). *Aust. J. Zool.* 32: 67-95.
- 1984b A second Australian species in the *Orthetrum sabina* complex (Odonata: Libellulidae). *J. Aust. ent. Soc.* 23: 1-10.

- 1984c (– & G. THEISCHINGER). Regions of taxonomic disjunction in Australian Odonata and other freshwater insects. *Odonatologica* 13(1): 147-157.
- 1984d (– & G. THEISCHINGER). The Australian Protoneurinae (Odonata). *Aust. J. Zool.* (Suppl.) 98: 1-51.
- 1985a (THEISCHINGER, G. & –). The genus *Episynlestes* Kennedy (Odonata: Synlestidae). *J. Aust. ent. Soc.* 24: 143-148.
- 1985b (– & A.F. O'FARRELL). The affinities of the Australian Gomphidae (Odonata). *Aust. J. Zool.* 33: 499-508.
- 1986 (THEISCHINGER, G. & –). *Synthemis ofarrelli* spec. nov., a new corduliid dragonfly from Australia (Anisoptera). *Odonatologica* 15(4): 457-464.
- 1987 (– & G. THEISCHINGER). *Anax georgius* Selys, 1872 (Odonata: Aeshnidae) rediscovered in Australia. *J. Aust. ent. Soc.* 26: 67-71.
- 1988 (HOUSTON, W.W.K. & –). Odonata. *Zool. Catal. Aust.* 6: 33-132.
- 1990a [Relationship between female size and fecundity]. In: P.S. Corbet, [Ed.], Current topics in dragonfly biology, No. 4, p. 1, Soc. Int. Odonatol., Bilthoven. – [Soc. int. odonatol. rapid Comm. (Suppl.) 12].
- 1990b (HAWKING, J.H. & –). First Australian record of chironomid larvae epizooic on larval Odonata. *Aquat. Insects* 12(4): 241-245.
- 1990c Regional Reports. Australia. *Rep. Odon. Specialist Group Int. Un. Conserv. Nat.* 7: 5-7.
- 1991a (– & A.F. O'FARRELL). Odonata (dragonflies and damselflies). In: The insects of Australia 2nd ed., Vol. 1, pp. 294-310, Melbourne Univ. Press, Melbourne.
- 1991b The Australian Gomphidae. *Invert. Taxon.* 5: 289-441.
- 1991c (–, G. THEISCHINGER & H.M. ABBEY). *The Australian dragonflies. A guide to the identification, distributions and habitats of Australian Odonata*. CSIRO, Canberra-Melbourne. viii+278 pp.
- 1992a Regional Reports. Australasia. *Rep. Odon. Specialist Group Int. Un. Conserv. Nat.* 9: 11.
- 1992b The subfamilies of Protoneuridae (Zygoptera). *Odonatologica* 21(2): 195-201.
- 1992c The correct spelling of *Diphlebia* “*Euphocoides*” Tillyard 1907 (Zygoptera: Amphipterygidae). *Notul. odonatol.* 3(9): 154-155.
- 1992d Oviposition by exophytic dragonflies on vehicles. *Notul. odonatol.* 3(9): 155-156.
- 1992e (TRUEMAN, J.W.H., G.A. HOYE, J.H. HAWKING, – & T.R. NEW). *Hemiphlebia mirabilis* Selys: new localities in Australia and perspectives on conservation (Zygoptera: Hemiphlebiidae). *Odonatologica* 21(3): 367-374.
- 1992f The affinities of *Aeshna brevistyla* (Rambur) (Anisoptera: Aeshnidae). *Odonatologica* 21(4): 453-471.
- 1993a (THEISCHINGER, G., – & R.J. ROWE). Larvae of Australian Synlestidae (Odonata: Zygoptera). *J. Aust. ent. Soc.* 32: 113-119.
- 1993b Australian dragonflies (Odonata). *Abstr. Pap. 12th Int. Symp. Odonatol., Osaka*, p. 51.
- 1993c The conservation status and management of the enigmatic Australian damselfly *Hemiphlebia mirabilis* Selys. *Abstr. Int. Symp. Conserv. Dragonflies, Kushiro*, pp. 12 (Jap.), 13-14 (Engl.).
- 1994a Regional Reports. Australia and Pacific. *Rep. Odon. Specialist Group Int. Un. Conserv. Nat.* 10: 2-4.
- 1994b (– & W.W.K. HOUSTON). Checklist and primary taxonomic literature for Australian dragonflies (Odonata). *Odonatologica* 23(1): 23-44.

#### OBITUARIES AND OTHER PUBLICATIONS DEDICATED TO THE MEMORY OF

Dr J.A.L. WATSON

(up to December 1, 1994)

- *CANBERRA TIMES*, issue of 23 Dec. 1993. Anonymous obituary
- [CSIRO Division of Entomology], *A tribute to J.A.L. (Tony) Watson*. Canberra, 40 pp.; 30 March 1994. – Biographic sketch, appreciation of work, bibliography, numerous photographs, reproductions of documents, etc.
- *FRASERIA* (N.S.)1(1): 2. Anonymous obituary [D.B. Tembhare], with portrait; 1 June 1994.
- *HAGENIA* 7: 1. Obituary by M. Schorr; 1 March 1994. - [Germ.].
- *KIMMINSIA* 5(1). The issue is dedicated to Dr J.A.L. Watson, containing only notes on Australia; Obituary by P. Corbet, pp. 1-2; 1 May 1994.
- *MYRMECIA* 30(1): 3-4. Obituary by B. Fletcher, [with portrait]; Feb. 1994.
- *NEWSL. AUST. SOC. LIMNOL.* 32(1): 19. Obituary by J. Hawking; March 1994.
- *SELYSIA* 23(1): 1. Obituary by P. Corbet; 31 May 1994.
- *SIOJA* 1994(1): 4. Obituary by K. Inoue; 25 Feb. 1994. – [Jap.].
- *WEST AUSTRALIAN*, issue of 7 Dec. 1993, p. 56. Family obituary notice.