

In memoriam Prof. Dr J.T. Wiebes (1931-1999), evolutionary biologist and systematic entomologist

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Bruggen, A.C. van & C. van Achterberg. In memoriam Prof. Dr J.T. Wiebes (1931-1999), evolutionary biologist and entomologist.

Zool. Med. Leiden 74 (18), 29.xii.2000: 271-281, figs 1-2.— ISSN 0024-0672.

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Key words: Hymenoptera; Chalcidoidea; Agaonidae; Torymidae; fig wasps; figs; co-evolution; Lepidoptera; Yponomeutidae; *Yponomeuta*; ermine moths; Coleoptera; Carabidae; Cetoniidae; Helodidae; Arachnida; Lycosidae; Pisauridae; evolutionary biology; taxonomy; phylogeny; ecology; biography; bibliography; history of biology; Rijksmuseum van Natuurlijke Historie/Leiden-National Museum of Natural History/Leiden.

Born on 13 September 1931 in Rotterdam, Jacobus Theodorus [Koo] Wiebes read biology at Leiden University where he obtained his Ph.D. in 1963 on studies of Indo-Australian fig wasps. He started working on spiders (Lycosidae, Pisauridae) and beetles (Carabidae, Cetoniidae, Helodidae), but he earned his scientific reputation as a specialist in fig wasps (Hymenoptera: Agaonidae, Torymidae), their parasitoids and intricate host relationships (1961-1994: 89 papers). He served for many years on the staff of the Rijksmuseum van Natuurlijke Historie, Leiden (1955-1970, initially as assistant, later as curator of Coleoptera and as assistant director since 1965), to return as director of the newly merged national zoology and geology museums (ad interim 1982-1984, director 1984-1989). In 1970 he was appointed to the chair of Systematic Zoology and Evolutionary Biology at Leiden University, where he worked successfully until returning to the museum. Wiebes initiated studies on the lepidopteran complex of *Yponomeuta* species and their host plants, studying speciation in a context of ecology, taxonomy and phylogeny. Most results in this field were published in conjunction with Dr W.M. Herrebout and various (mainly Ph.D.) students. Indeed, this research project attracted a host of students and also world-wide attention. Wiebes had a talent for organization and management so that he was frequently asked to serve on various committees mainly concerned with biology on an academic level. In 1978 he was elected a member of the Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, where he later served on various councils. His influence on the organization of biology in the universities and research councils was indeed nationwide. Health problems forced him to take early retirement in 1989, but he insisted on completing publication of his work on the fig wasps. On 6 December 1999 he died in Leiderdorp leaving a first reputation as an evolutionary biologist and a systematic entomologist.

Jacobus Theodorus [Koo] Wiebes was born (together with Jacob [Jaap], a twin brother) on 13 September 1931 in Rotterdam. His father was a senior civil engineer in the Department of Water Affairs (Rijkswaterstaat) and the young man grew up in a close-knit family. After obtaining his high school certificate in Vlissingen, he read biology at Leiden University in the period 1949-1957 with the stated intention to go into high school teaching. Much of the research for his master's degree was devoted to spider taxonomy, faunistics and ecology (families Lycosidae and Pisauridae). In 1963 he was awarded a Ph.D. by the university; the title of his (published) thesis was "Taxonomy and host preferences of Indo-Australian fig wasps of the genus *Ceratostolen* (Agaonidae)". His supervisor was the well-known systematic zoology professor Dr H. Boschma, director of the Rijksmuseum van Natuurlijke Historie.

After some time as an assistant in the department of zoology of the university



Fig. 1, J.T. Wiebes; ix.1986.

(1954-1955), Wiebes was appointed assistant at the Rijksmuseum van Natuurlijke Historie (now Nationaal Natuurhistorisch Museum = National Museum of Natural History) in Leiden (1955-1958). Already after obtaining his master's degree Wiebes was appointed scientific officer at the museum, originally in charge of the Coleoptera.

Soon, however, he was asked to devote his attention to the fig wasps of Indonesia

collected by Prof. Dr J. van der Vecht. This did result in a Ph.D. thesis, but, what is more important, captured his imagination as regards the problems of co-evolution of fig wasps (and their parasitoids) and figs. In 1964 Wiebes was awarded a bursary of the Pieter Langerhuizen Fonds which enabled him to collect fig wasps in the Philippines for almost six months. He was fascinated by the tropics and at that time finally decided to abandon his plans to go into teaching. Throughout his life he continued working on fig wasps and attendant problems; his results were manifold and have had great impact on this particular subdiscipline of the biological sciences. With Gustav Mayer (1885, 1906) and Guido Grandi (1916-1963), Koos Wiebes ranks as one of the foremost specialists in this field. In the period 1961-1994 he published, sometimes with co-authors, 75 primary and 14 secondary papers on fig wasps totalling about 1750 printed pages! He described many new taxa and elucidated much of the general taxonomy and phylogeny, mainly of the fig wasps of the Old World. His co-operation with fig specialists such as the botanist Prof. Dr C.C. Berg, and also the French couple Dr G. Michaloud & S. Michaloud-Pelletier led to highly interesting results which drew attention world-wide.

Although assiduously working on his fig wasps, Wiebes did not neglect his charges, the beetles, publishing results of his studies on Carabidae, Cetoniidae (e.g., *Goliathus*) and Helodidae (*Cyphon*). However, his talents for organization and management were soon discovered by the museum's director Prof. Dr L.D. Brongersma who had succeeded Prof. Boschma. In 1965 Wiebes was promoted assistant director, resigning in 1970 on his appointment to the chair of Systematic Zoology and Evolutionary Biology at Leiden University.

Here he worked fruitfully in a fairly large and highly efficiently organized section for almost 14 years. In returning to university he found the senior author, his old fellow-student (year-class of 1949). Wiebes immediately entrusted the teaching of systematic zoology to his old friend which enabled himself to devote his time to the development of an evolutionary biology programme. Wiebes saw evolutionary biology mainly as a subdiscipline of ecology with strong ties to taxonomy/phylogeny. His work on fig wasps was unabatedly continued, but he searched for a new, widely appealing, subject closer to home. The subject of investigation was settled on the moth family Yponomeutidae, particularly the genus *Yponomeuta* in West/Central Europe, and the relationships with its host plants. For this new venture he engaged Dr W.M. Herrebout with the senior technician P.J. Kuyten. Multifarious problems, mainly centred around speciation, were tackled in various, mainly experimental, ways, which led to numerous highly interesting results which attracted wide attention among systematists, ecologists and population biologists. Most publications emanating from this research project were authored by Herrebout and his students and also, of course, by a number of Ph.D. students.

Wiebes was appointed director ad interim (1982-1984), after a period of difficulties at the museum. In 1984 he was promoted director of the recently merged national museums of zoology (Rijksmuseum van Natuurlijke Historie) and geology (Rijksmuseum voor Geologie en Mineralogie) and he succeeded in convincing the minister of culture to establish the 'national presentation' in the field of natural history in connection with the museum in Leiden. Ultimately this led to the prestigious new building at another locality in Leiden representing a new museum concept.

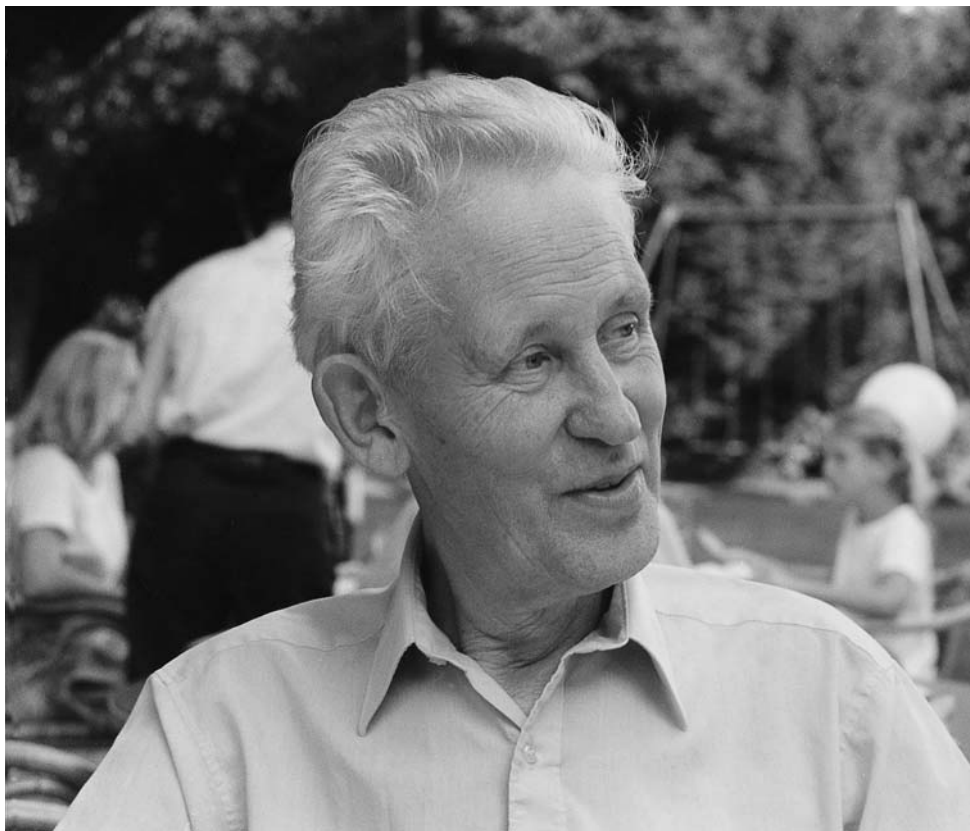


Fig. 2, J.T. Wiebes; after his retirement.

In 1989 serious health problems forced Wiebes to take early retirement; until 1 October 1996 he was engaged for one day a week to complete and publish his studies on the fig wasps. After completing this work he enjoyed family life in his home in Leiderdorp, where he died on 6 December 1999.

Wiebes had made no secret of the fact that he enjoyed biology to the full but that it always was his second choice in life. He was deeply interested in the Dutch language and literature and originally intended to make that his career. However, it appeared that his particular high school certificate did not straight away give entry to the literary faculty at university. His twin brother had chosen to read physics and so he joined him in Leiden as a biology student in the Faculty of Science. In his spare time throughout his life he studied aspects of Dutch literature, particularly of the great author Simon Vestdijk. Nevertheless, nobody can deny that Wiebes achieved complete success in his career as a biologist. He had great influence on his students and also on many of his colleagues, e.g. by promoting the new Hennigian phylogeny. His students were given extensive responsibility for their subject. He was always ready to give advice, at the same time indicating that it was their subject and that they were the potential specialists. As a scientist he adhered to the highest standards

and consequently was critical of others not doing so. Wiebes had a keen (and sometimes wicked) sense of humor and was always able to put things in context. He had the ability to view a problem from different perspectives and had a good feeling for the available possibilities to solve problems.

In 1978 Wiebes was elected a member of the prestigious Koninklijke Nederlandse Akademie van Wetenschappen in the section Natuurkunde (Science). Later he served as a council member of this section (1984-1987) and in addition as secretary-treasurer of the academy (1984-1987). Over a fairly long period he also served on the editorial board of the Proceedings (1984-1995). Many other bodies also made good use of his talents for management and organization (research councils such as BION, the national oceanographic research institute NIOZ, zoological and entomological societies, etc.). His influence on the steering of biological research in The Netherlands was considerable and reached far beyond his own field.

Bibliography

The following list of publications by Wiebes is complete, i.e. also contains his papers on subjects other than biology, but excluding his limited edition lecture-notes.

1956. *Tricca lutetiana* Simon, a rare spider, new to the Dutch fauna (Araneae, Lycosidae).— Proc. K. ned. Akad. Wet. (C) 59: 405-415.
1957. Vier belangrijke stadia in de evolutie der insecten.— Proc. ent. Symp. Biol. Studiegezelschap "Omnia dubia": 1.
- 1959a. A gynandromorphous specimen of *Trochosa terricola* Thorell (Araneae, Lycosidae).— Proc. K. ned. Akad. Wet. (C) 62: 84-89.
- 1959b. The Lycosidae and Pisauridae (Araneae) of the Netherlands.— Zool. Verh. Leiden 42: 1-78.
1960. De wolfspinnen van Meijndel (Araneae, Lycosidae en Pisauridae): i. Levenscycli.— Ent. Ber. Amst. 20: 56-62; ii. Vicariantie.— Ibid.: 69-74; iii. Habitats.— Ibid.: 83-89.
- 1961a. On the variability of *Agaon paradoxum* (Dalman) Grandi and *Seres armipes* Waterston, with remarks on other African Agaonidae (Hymenoptera, Chalcidoidea).— Zool. Med. Leiden 37: 231-240.
- 1961b. Book review: André & Janssens, Coléoptères Lamellicornes, Faune de Belgique.— Ent. Ber. Amst. 21: 224.
- 1961c. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 1. *Grandiana wassae* nov. gen., nov. spec. (Idarninae), with remarks on the classification of the Sycophaginae.— Nova Guinea, Zool. 14: 245-252.
- 1961d. *Ceratosolen* Mayr, 1885 (Insects, Hymenoptera); proposed validation under the plenary powers. Z.N.(S.) 1479.— Bull. zool. Nomencl. 18: 383-384.
- 1961e. *Caryoborus gonagra* (F.) en *Sitophilus linearis* (Herbst), ingevoerd met tamarinde-vruchten uit Curaçao; met bijzonderheden ter onderscheiding van drie *Sitophilus*-soorten (Coleoptera, Bruchidae en Curculionidae).— Ent. Ber. Amst. 21: 234-236.
- 1961f. Spinachtigen – Arachnoidea. ii. Nederlandse wolfspinnen (Lycosidae en Pisauridae).— Wet. Med. K. ned. Natuurh. Veren. 41: 1-12.
- 1962a. Insecten uit aangespoeld hout.— Ent. Ber. Amst. 22: 56.
- 1962b. Fig wasps.— Flora Malesiana Bull. 17: 912-913.
- 1963a. De Nederlandse soorten van het genus *Hyperaspis* Redtb. (Col., Cocc.).— Ent. Ber. Amst. 23: 102-103.
- 1963b. Taxonomy and host preferences of Indo-Australian fig wasps of the genus *Ceratosolen* (Agaonidae).— Tijdschr. Ent. 106: 1-112. Also separately published as Ph. D. thesis.
- 1963c. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 2. The genus *Pleistodontes* Saunders (Agaonidae).— Zool. Med. Leiden 38: 301-321.

- 1964a. Fig wasps from *Ficus dzumacensis*, with notes on the genus *Sycobiella* Westwood.— Zool. Med. Leiden 39: 19-29.
- 1964b. Nieuwe gegevens over Nederlandse wolfspinnen (Araneae, Lycosidae).— Ent. Ber. Amst. 24: 97-99.
- 1964c. Book review: George E. Ball & Joseph N. Anderson, 1962, The taxonomy ... of *Pseudophonus*...— Genetica 35: 165-166.
- 1964d. Fig wasps from Israeli *Ficus sycomorus* and related East African species (Hymenoptera, Chalcidoidea). 1. Agaonidae.— Ent. Ber. Amst. 24: 187-191.
- 1964e. Book review: Hans Pochon, Coleoptera Buprestidae, Insecta Helvetica.— Ent. Ber. Amst. 24: 224.
- 1964f. (— & A.A. Wiebes-Rijks). De Nederlandse soorten van het genus *Cyphon* Paykull (Coleoptera, Helodidae).— Zool. Bijdr. Leiden 7: 3-16.
- 1964f. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 3. Insects from *Ficus conocephalifolia*, with a note on the Sycophaginae.— Nova Guinea, Zool. 27: 75-86.
- 1965a. Vijgen en vijgewespen verzamelen in de Philippijnen.— De Levende Natuur 68: 52-60.
- 1965b. Host specificity of fig wasps (Hymenoptera Chalcidoidea, Agaonidae).— Proc. xiith Int. Congr. Ent. London 1964: 95-96.
- 1965c. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 4. Agaonidae from *Ficus* section *Adenosperma*.— Zool. Med. Leiden 40: 22-23.
- 1966a. The structure of the ovipositing organs as a tribal character in the Indo-Australian Sycophagine Torymidae (Hymenoptera, Chalcidoidea).— Zool. Med. Leiden 41: 151-159.
- 1966b. Provisional host catalogue of fig wasps (Hymenoptera, Chalcidoidea).— Zool. Verh. Leiden 83: 1-44.
- 1966c. Bornean fig wasps from *Ficus stupenda* Miquel (Hymenoptera, Chalcidoidea).— Tijdschr. Ent. 109: 163-192.
- 1966d. Agaonid fig wasp from *Ficus sundaica* (Hymenoptera, Chalcidoidea).— Ent. Ber. Amst. 26: 166-170.
- 1966e. Publikaties Rijksmuseum van Natuurlijke Historie.— Het Kameleon 42 (2): 15-18.
- 1967a. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 5. Description of Otitesellini (Torymidae).— Proc. K. ned. Akad. Wet. (C) 70: 121-136.
- 1967b. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 6. The genus *Eujacobsonia* Grandi (Torymidae).— Zool. Med. Leiden 42: 107-115.
- 1967c. Publikaties Rijksmuseum van Natuurlijke Historie.— Het Kameleon 43 (1): 19-21.
- 1967d. *Guadalia vissali* nov. gen., nov. spec., a new fig wasp from the Solomon Islands (Hymenoptera, Chalcidoidea, Otitesellini).— Ent. Ber. Amst. 27: 214-218.
- 1967e. Redescription of Sycophaginae from Ceylon and India, with designation of lectotypes, and a world catalogue of the Otitesellini (Hymenoptera, Chalcidoidea, Torymidae).— Tijdschr. Ent. 110: 399-442.
- 1967f. *Polanisa* Walker, 1875 (Insecta, Hymenoptera); proposed suppression under the plenary powers. Z.N.(S.) 1829.— Bull. zool. Nomencl. 24: 319-32.
- 1968a. (M.A. Lieftinck & —). Notes on the genus *Mormolyce* Hagenbach (Coleoptera, Carabidae).— Bijdr. Dierk. 38: 59-68.
- 1968b. Fig wasps from Israeli *Ficus sycomorus* and related East African species (Hymenoptera, Chalcidoidea). 2. Agaonidae (concluded) and Sycophagini.— Zool. Med. Leiden 42: 307-320.
- 1968c. Catalogue of the Coleoptera Cetoniidae in the Leiden Museum.— Zool. Med. Leiden 43: 19-40.
- 1968d. Species of *Agaon* from Congo (Kinshasa), with notes on synonymy (Hymenoptera, Chalcidoidea).— Proc. K. ned. Akad. Wet. (C) 71: 346-355.
- 1968e. A new *Pleistodontes* (Hymenoptera Chalcidoidea, Agaonidae) from Rennell Island.— Nat. Hist. Rennell Isl. 5: 115-117.
- 1969a. Preliminary report on a collection of fig insects (Hymenoptera Chalcidoidea) from *Ficus gnaphalocarpa*.— Mém. Inst. fond. Afr. noire 84: 401-402.

- 1969b. *Philosycus*, a new genus of fig wasps allied to *Otitesella* Westwood (Hymenoptera Chalcidoidea Torymidae).— Annls Mus. r. Afr. cent., Zool. 175: 439-445.
- 1969c. Hymenoptera Agaonidae, with an introductory chapter on West African fig wasps.— Annls Mus. r. Afr. cent., Zool. 175: 449-464.
- 1970a. Revision of the Agaonidae described by J. Risbec, and notes on their Torymid symbionts (Hymenoptera, Chalcidoidea).— Zool. Med. Leiden 45: 1-16.
- 1970b. Vijgen en vijgewespen. In: K.H. Voous (ed.). Biosystematiek: 180-206, 240-242 (references).— Pudoc, Wageningen.
- 1971a. Te hooi en te gras. Inaugurele rede R.U. Leiden: 1-19.— Utrecht.
- 1971b. Coleoptera Cetoniidae of the genus *Goliathus* Lamarck, sensu lato.— Proc. xiiiith Int. Congr. Ent. Moscow 1968(1): 216-217.
- 1971c. A new record of *Allotriozoon prodigiosum* Grandi, and description of its symbionts (Hymenoptera, Chalcidoidea).— Mém. Inst. fond. Afr. noire 86: 367-383.
- 1972a. A new species of *Agaon* from Nigeria (Hymenoptera, Chalcidoidea).— Ent. Ber. Amst. 32: 122-124.
- 1972b. De grote Goliath-kevers van Afrika.— Vakbl. Biol. 52: 264-266.
- 1972c. The genus *Alfonsiella* Waterston (Hymenoptera, Chalcidoidea, Agaonidae).— Zool. Med. Leiden 47: 321-330.
- 1973a. Valletjes in de bomen.— Meijendel Med. 2 (2): 27-29.
- 1973b. Phylogenetic specificity of figs and fig wasps. In: N.B.M. Brantjes. Pollination and dispersal: 21-25.— Dept. Bot., Univ. Nijmegen.
- 1974a. *Nigeriella*, a new genus of West African fig wasps allied to *Elisabethiella* Grandi (Hymenoptera Chalcidoidea, Agaonidae).— Zool. Med. Leiden: 29-42.
- 1974b. The fig wasp genus *Diaziella* Grandi (Hymenoptera Chalcidoidea, Torymidae Sycoecini).— Proc. K. ned. Akad. Wet. (C) 77: 295-300.
- 1974c. Stippelmotten en hun lievelingskost. In: N. Croin Michielsen (ed.). Meijendel, duin-waterleven: 109.— Den Haag/Baarn.
- 1974d. Species of *Agaon* Dalman and *Allotriozoon* Grandi from Africa and Malagasy (Hymenoptera Chalcidoidea, Agaonidae).— Zool. Med. Leiden 48: 123-143.
- 1974e. Philippine fig wasps. 1. Records and descriptions of Otitesellini (Hymenoptera, Chalcidoidea, Torymidae).— Zool. Med. Leiden 48: 145-161.
- 1974f. (— & J. den Hollander). Spinachtigen – Arachnoidea. ii. Nederlandse wolfspinnen (Lycosidae en Pisauridae).— Wet. Med. K. ned. natuurh. Veren. 41 (tweede, uitgebreide druk): 1-24.
- 1975a. (W.M. Herrebout, P.J. Kuijten & —). Stippelmotten en hun voedselplanten.— Ent. Ber. Amst. 35: 84-87.
- 1975b. (A. de Ruyter & —). Colour variation of *Bombus pascuorum* in the Netherlands.— Neth. J. Zool. 25: 233-238.
- 1975c. Fig insects from Aldabra (Hymenoptera, Chalcidoidea).— Zool. Med. Leiden 49: 225-236.
- 1976a. Gynandromorphie bij insekten.— Jaarb. ned. ent. Veren. 1974-1976: 90-97.
- 1976b. A new species of *Agaon* from Nigeria, and some additional records (Hymenoptera, Chalcidoidea, Agaonidae).— Ent. Ber. Amst. 36: 124-127.
- 1976c. The speciation process in the small ermine moths.— Neth. J. Zool. 26: 440.
- 1976d. (W.M. Herrebout, P.J. Kuijten & —). Small ermine moths of the genus *Yponomeuta* and their host relationships (Lepidoptera, Yponomeutidae).— Symp. Biol. Hung. 16: 91-94.
- 1976e. Over het proces van evolutie. In: J.P.D.W. Payens & H.M. van Emden (eds). Evolutiebiologie.— Publ.-fonds Bull. Doc. Biol., Rijswijk 11: 21-46.
- 1977a. A short history of fig wasp research.— Gdns' Bull. Singapore 29: 207-232.
- 1977b. *Deilagaon*, a new genus of Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea, Agaonidae).— Bijdr. Dierk. 46: 291-298.
- 1977c. Agaonid fig wasp from *Ficus salicifolia* Vahl and some related species the genus *Platyscapa* Motschoulsky (Hym., Chalc.).— Neth. J. Zool. 27: 209-223.
- 1977d. Het algemene van het bijzondere.— Vakbl. Biol. 57: 183.

- 1977e. Naturae Museum Futuri Magister. Book review: Nota "Naar een nieuw museumbeleid".— Vakbl. Biol. 57: 238.
- 1977f. Genetische divergentie en soortvorming. Referaat: artikelen van J.C. Avise en anderen.— Vakbl. Biol. 57: 252.
- 1977g. Dierlijke verscheidenheid. Book review: M. Fingerman. Animal diversity.— Vakbl. Biol. 57: 278.
- 1977h. Eine Zweiweltenerzählung. Book review: R. Feustel. Abstammungsgeschichte des Menschen.— Vakbl. Biol. 57: 314.
- 1978a. Indo-Malayan and Papuan fig wasps (Hymenoptera, Chalcidoidea). 7. Agaonidae, mainly caught at light.— Zool. Med. Leiden 52: 137-159.
- 1978b. Relevantie.— Vakbl. Biol. 58: 58.
- 1978c. Ecologisch vervolghverhaal. Book review: F.B. Golley (ed.). Ecological succession....— Vakbl. Biol. 58: 158.
- 1978d. Neo-Darwinisme is van weinig belang voor evolutie-theorie. Book review: S. Løvtrup. The phylogeny of Vertebrata.— Vakbl. Biol. 58: 202.
- 1978e. Populatie-biologie. Book review: F.B. Christiansen & J.M. Fenchel. Theories of populations....— Vakbl. Biol. 58: 204.
- 1978f. The genus *Kradibia* Saunders and an addition to *Ceratosolen* Mayr (Hymenoptera Chalcidoidea, Agaonidae).— Zool. Med. Leiden 53: 165-184.
- 1978g. Reconstructie van evolutie. Book review: R.H. Cobben. Evolutionary trends in Heteroptera.— Vakbl. Biol. 58: 278.
- 1978h. Aapjes kijken. Book review: M.L. Roonwal & S.M. Mohnot. Primates of South Asia.— Vakbl. Biol. 58: 305.
- 1978i. Uit verschillend oogpunt. Boekspreking: C. Gans & Donald W. Tinkle (eds). Biology of the Reptilia, en H.U. Thiele, Carabid beetles in their environments.— Vakbl. Biol. 58: 341.
- 1978j. Voor biografen. Book review: E. Thenius. Meere and Länder.— Vakbl. Biol. 58: 342.
- 1978k. Book review: John A. Endler, 1977. Geographic variation, speciation and clines.— Acta Biotheor. 27: 130-131.
- 1978l. Figs and fig wasps.— Neth. J. Zool. 28: 432.
- 1978m. Redescription of *Sycoscapter gibbus* Saunders, a parasitic fig wasp from Madagascar and Réunion (Hymenoptera, Chalcidoidea, Torymidae).— Ent. Ber. Amst. 38: 184-189.
- 1978n. (E.M. Gerrits-Heybroek, W.M. Herrebout, S.A. Ulenberg & —). Host plant preference of five species of small ermine moths (Lepidoptera, Yponomeutidae).— Entomologia exp. appl. 24: 160-168.
- 1979a. (—, A.A. Wiebes-Rijks & C. van Achterberg). Het ontstaan van de parasitaire levenswijze: 11-39. In: H. Klomp & J.T. Wiebes (eds). Sluipwespen in relatie tot hun gastheren.— Pudoc, Wageningen.
- 1979b. Over de fylogenie van stippelmotten.— Danseria 16: 112-121.
- 1979c. Bestuiving van vijgebloemen.— Vakbl. Biol. 59: 98-99.
- 1979d. The fig wasp genus *Dolichoris* Hill (Hymenoptera Chalcidoidea, Agaonidae).— Proc. K. ned. Akad. Wet. (C) 82: 181-196.
- 1979e. Akkerhommel-nesten gezocht.— Stichting Natuur- en Milieu-bescherming, Putten 8 (27): 17, 20-21.
- 1979f. Fig wasps from Gabon: new species of *Agaon* (Agaonidae) and *Phagoblastus* (Torymidae) (Hymenoptera Chalcidoidea).— Proc. K. ned. Akad. Wet. (C) 82: 391-400.
- 1979g. Co-evolution of figs and their insect pollinators.— Ann. Rev. Ecol. Syst. 10: 1-12.
- 1980a. Symposium-verslag. Book review: W.J. Matson (ed.). The role of arthropods....— Vakbl. Biol. 60: 17.
- 1980b. Entomologie. Book review: D.J. Horn. Biology of insects.— Vakbl. Biol. 60: 18.
- 1980c. Van Big Bang tot mensenmaatschappij. Book review: Rolf Siewing. Evolution.— Vakbl. Biol. 60: 37.
- 1980d. Soortvorming. Book review: M.J.D. White. Modes of speciation.— Vakbl. Biol. 60: 54.

- 1980e. Records and descriptions of Agaonidae from New Guinea and the Solomons.— Proc. K. ned. Akad. Wet. (C) 83: 89-107.
- 1980f. De specificiteit van de betrekkingen tussen vijgen en vijgewespen.— Versl. Afd. Natuurk. K. ned. Akad. Wet. 89: 25-28.
- 1980g. (S.B.J. Menken, — & W.M. Herrebout). Allozymes and the population structure of *Yponomeuta cagnagellus* (Hübner) (Lepidoptera).— Neth. J. Zool. 30: 228-242.
- 1980h. (— & U.C. Abdurahiman). Additional notes on *Platyscapa* Motschoulsky (Hymenoptera Chalcidoidea Agaonidae).— Proc. K. ned. Akad. Wet. C 83: 195-207.
- 1980i. Geavanceerde biogeografie. Book review: P. Banareseu & N. Boscaiu. Biogéographie.— Vakbl. Biol. 60: 113.
- 1980j. Fylogenie en systematiek. Book review: D. Dzwilllo. Prinzipien der Evolution.— Vakbl. Biol. 60: 113.
- 1980k. Tien jaren BION.— Vakbl. Biol. 60: 226-227.
- 1980l. The genus *Odontofroggattia* Ishii (Hymenoptera Chalcidoidea, Pteromalidae Epichrysomallinae).— Zool. Med. Leiden 56: 1-6.
- 1980m. Nog net geen biologie. Book review: C.E. Folsome. The origin of life.— Vakbl. Biol. 60: 338 (1980).
- 1980n. Fylogenie van geleedpotigen. Book review: H.B. Boudreaux. Arthropod phylogeny.— Vakbl. Biol. 60: 362.
- 1980o. Juffrouw Laps is een zoogdier.— Cahiers Biowet. Maatsch. 6 (4): 7-15.
- 1980p. Van alles en nog wat. Book review: V. Geist. Life strategies— Vakbl. Biol. 60: 454-455.
- 1980q. Géén fylogenie. Book review: R. Siewing (ed.). Erlanger Symposium für Strukturanalyse— Vakbl. Biol. 60: 455.
- 1981a. Eine gedrängte Uebersicht. Book review: L. Kämpfe (ed.). Evolution und Stammesgeschichte der Organismen.— Vakbl. Biol. 61: 71.
- 1981b. Adap[t]atie en speciatie.— Vakbl. Biol. 61: 186-189.
- 1981c. (Z. Boucek, A. Watsham & —). The fig wasp fauna of the receptacles of *Ficus thonningii* (Hymenoptera, Chalcidoidea).— Tijdschr. Ent. 124: 149-233.
- 1981d. [Antwoorden] in Martin Ros, Vestdijk voor en tegen, een vragenboek.— Vestdijkkroniek 32: 27-28.
- 1981e. The species-group of *Ceratosolen armipes* Webes (Hymenoptera Chalcidoidea, Agaonidae).— Proc. K. ned. Akad. Wet. (C) 84: 365-377.
- 1981f. Traditionele evolutie-genetica. Book review: Th. Dobzhansky, E. Boesiger & D. Sperlich. Beiträge zur Evolutionstheorie.— Vakbl. Biol. 61: 413.
- 1981g. Basis voor de entomologie. Book review: W. Hennig. Insect phylogeny.— Vakbl. Biol. 61: 393.
- 1981h. Pangenesis. Book review: E.J. Steele. Somatic selection and adaptive evolution.— Vakbl. Biol. 61: 413.
- 198i. Towards strategy concepts in flower ecology as exemplified by the fig-wasp symbiosis.— Acta Bot. Neerl. 30: 493-495.
- 1982a. Book review: Hennig, W. Phylogenetische Systematik.— Theor. Appl. Genet. 63: 160.
- 1982b. Over leven's loop. Book review: R.F. Denno & H. Dingle (eds). Insect life history patterns.— Vakbl. Biol. 62: 89.
- 1982c. Fig wasps (Hymenoptera). In: J.L. Gressitt (ed.). Biogeography and ecology of New Guinea.— Monographiae Biologicae (W. Junk) 42: 735-755.
- 1982d. The fig insects of La Réunion.— Anns Soc. ent. Fr. 17: 543-570.
- 1982e. New species of *Waterstoniella* Grandi from the Indo-Malayan region (Hymenoptera Chalcidoidea, Agaonidae).— Proc. K. ned. Akad. Wet. (C) 85: 399-411.
- 1982f. The phylogeny of the Agaonidae (Hymenoptera, Chalcidoidea).— Neth. J. Zool. 32: 395-411.
- 1982g. L'adaptation évolutive.— Acta Biotheor. 31: 239-241.
- 1982h. Inleiding. In: J.T. Wiebes e.a. Biologie-onderwijs in de tachtiger jaren.— Publ.-fonds Bull. Ond. Biol., Wassenaar: 7-10.

- 1983a. Records and descriptions of *Pegoscapus* Cameron (Hymenoptera Chalcidoidea, Agaonidae).— Proc. K. ned. Akad. Wet. (C) 86: 243-253.
- 1983b. Naar een museum van de natuur.— Muzenissen 1: 12-14.
- 1983c. Bestuiving van tropische vijgen.— Versl. Afd. Natuurk. K. ned. Akad. Wet. 92: 92-93.
- 1984a. Fig wasp - Fig co-evolution.— Antenna 8: 122-127.
- 1984b. (G. Michaloud, — & C.C. Berg). Problème de fond: les insectes associés aux figuiers ii. L'Agaonidae pollinisateur.— Courier de l'Ecotrop, num. spéc.: 19-28.
- 1984c. The status of fig- and fig-insect-research in the eighties.— Courier de l'Ecotrop, num. spéc.: 55-63.
- 1985a. (G. Michaloud, S. Michaloud-Pelletier, — & C.C. Berg). The co-occurrence of two pollinating species of fig wasp and one species of fig.— Proc. K. ned. Akad. Wet. (C) 88: 93-119.
- 1985b. Kippevel. Book review: J.H. van den Berg. Koude rillingen over de rug van Darwin.— Vakbl. Biol. 65: 291.
- 1985c. De biologie van vijgen en vijgewespen.— Natuurk. Voordr. (n.s.) 63: 121-126.
- 1986a. (W.M. Herrebout & —). Stippelmotten en haar voedselplanten.— Versl. Afd. Natuurk. K. ned. Akad. Wet. 95: 16-19.
- 1986b. New developments in fig- and figwasp-research.— Acta Bot. Neerl. 35: 128.
- 1986c. Biologische soorten, hun ontstaan en verandering: 199-216. In: H.M. Jolles, A.P. Plompen & H. Weijma (eds). Vijftien wetenschappen, vijftien jaar verder.— 's-Gravenhage.
- 1986d. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs. i.— Proc. K. ned. Akad. Wet. (C) 89: 335-355.
- 1986e. The association of figs and fig-insects.— Rev. Zool. afr. 100: 63-71.
- 1987a. Co-evolution as a test of the phylogenetic tree: 309-314. In: P. Hovenkamp (ed.). Systematics and evolution: a matter of diversity.— Utrecht University, Utrecht.
- 1987b. Natuurlijk wel Neuroptera!— Vakbl. Biol. 67: 265-266.
- 1988a. (A. Bijlsma & —). Het Hoger Onderwijs en Onderzoek Plan.— Vakbl. Biol. 68: 51-53).
- 1988b. (— & C. Kalkman). Hebben en behouden.— Biovisie 68: 5-7.
- 1988c. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, ii (*Alfonsiella*).— Proc. K. ned. Akad. Wet. (C) 91: 429-436.
- 1989a. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, iii (*Elisabethiella*).— Proc. K. ned. Akad. Wet. (C) 92: 11 136.
- 1989b. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, iv (*African Ceratosolen*).— Proc. K. ned. Akad. Wet. (C) 251-266.
- 1989c. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, v (*Agaon*).— Proc. K. ned. Akad. Wet. (C) 92: 395-407.
- 1990a. African figs and their pollinators.— Mitt. Inst. Allg. Bot. Hamburg 23a: 425.
- 1990b. (— & S.G. Compton). Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, vi (Africa concluded).— Proc. K. ned. Akad. Wet. (C) 93: 203-222.
- 1990c. Species of *Pleistodontes* from the Australian continent (Hymenoptera, Agaonidae).— Beaufortia 41: 219-225.
- 1991a. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, vii (*Pleistodontes*).— Proc. K. ned. Akad. Wet. (C) 94: 137-152.
- 1991b. *Ceratosolen ramirezi*, a new fig wasp from the Philippine *Ficus rivularis*: a prediction come true.— Ent. Ber. Amst. 52: 108-111.
- 1992a. (S.B.J. Menken, W.M. Herrebout & —). Small ermine moths (*Yponomeuta*): their host relations and evolution.— Ann. Rev. Ent. 37: 41-66.
- 1992b. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, viii (*Eupristina* s.l.).— Proc. K. ned. Akad. Wet. (C) 95: 109-125.
- 1992c. In memoriam Dr W.M. Herrebout.— Mare 16.iv.1992: 17.
- 1992d. (C.C. Berg & —). African fig trees and fig wasps.— Verh. K. ned. Akad. Wet., afd. Nat. (tweede reeks) 89: 1-298.
- 1992e. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasp and their figs, ix (*Waterstoniella*).— Proc. K. ned. Akad. Wet. (C) 95: 499-514.

- 1993a. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, x (*Wiebesia*).— Proc. K. ned. Akad. Wet. (C) 96: 91-114.
- 1993b. Jacobus van der Vecht.— Levensberichten en herdenkingen K. ned. Akad. Wet. (C) 96: 69-72.
- 1993c. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, xi (*Blastophaga* s.l.).— Proc. K. ned. Akad. Wet. (C) 96: 347-367.
- 1993d. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, xii (Indo-Australian *Kradibia*).— Proc. K. ned. Akad. Wet. (C) 96: 479-499.
- 1994a. Book review: J.L. Bronstein. Seed Predators as Mutualists. Insect-Plant Interactions 4: 1-44 (1992).— Fig News 5: 4-7.
- 1994b. Maria Moreel.— Vestdijk Med. 23(2): 7-8.
- 1994c. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, xiii (*Ceratosolen* and additions).— Proc. K. ned. Akad. Wet. (C) 97: 123-136.
- 1994d. The Indo-Australian Agaoninae (pollinators of figs).— Verh. K. ned. Akad. Wet., afd. Nat. (tweede reeks) 92: 1-208.
- 1994e. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, xiv (Conclusion - Old World).— Proc. K. ned. Akad. Wet. (C) 97: 491-495.
- 1995a. Maria Moreel - 2.— Vestdijk Med. 24(1): 14.
- 1995b. Agaonidae (Hymenoptera Chalcidoidea) and *Ficus* (Moraceae): fig wasps and their figs, xv (Meso-American *Pegoscopus*).— Proc. K. ned. Akad. Wet. (C) 98: 167-183.
- 1995c. Sonja Bults-Timrott, 5 juni 1917-15 juli 1995.— Vestdijk Med. 24 (2): 17.
- 1995d. The New World Agaoninae (pollinators of figs).— Verh. K. ned. Akad. Wet. afd. Nat. (tweede reeks) 94: 1-60.
1996. (S.G. Compton, — & C.C. Berg). The biology of fig trees and their associated animals.— J. Biogeogr. 23: 405-407.

Acknowledgements

Acknowledgements are due to Mrs H. Wiebes Meijer and various staff members of the National Museum of Natural History for supplying data and critically reading the manuscript. Prof. Dr P. Brakefield, professor of evolutionary biology at Leiden University, also kindly acted as a referee.

Received: 10.viii.2000

Accepted: 1.ix.2000

Edited: J.C. den Hartog

