

# CURRICULUM VITAE – PROFESSOR DENIS JOHN BROTHERS

## Personal

Date of Birth: 17 October, 1944

Place of Birth: Kroonstad, Free State, Republic of South Africa

Nationality: South African / British

Postal Address: School of Life Sciences (Pietermaritzburg), University of KwaZulu-Natal, Private Bag X01, Scottsville, 32009  
South Africa

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## Academic Qualifications

BSc, 1967 (Rhodes University, distinctions Entomology, Botany)

BScHons in Entomology, 1968 (Rhodes University)

PhD in Entomology, 1974 (University of Kansas, honours for dissertation)

## Employment

American Museum of Natural History, New York, Nov. – Dec. 1966: Field Assistant to Dr J. G. Rozen, Jr. in South Africa

University of Kansas, Lawrence, Jan. 1967: Field Assistant to Dr C. D. Michener in South Africa

Rhodes University, Grahamstown, Mar. – Oct. 1967: Teaching Assistant, Department of Zoology and Entomology

University of Kansas, Lawrence, Aug. 1968 – Oct. 1973: Research Assistant, Department of Entomology

Smithsonian Institution, Washington, D.C., Nov. 1971 – Feb. 1972: Field Researcher in Argentina

University of Natal, Pietermaritzburg, Feb. 1974 – Dec. 1975: Lecturer, Department of Entomology

University of Natal, Pietermaritzburg, Jan. 1976 – Dec. 1979: Senior Lecturer, Department of Entomology

University of Natal, Pietermaritzburg, Jan. 1980 – Dec. 1984: Associate Professor (personal promotion), Department of Entomology

University of Natal, Pietermaritzburg, Jan. 1985 – Dec. 1986: Professor (ad hominem), Department of Entomology

University of Natal, Pietermaritzburg, Jan. 1987 – Dec. 1993: Professor (ad hominem), Department of Zoology and Entomology

University of Natal, Pietermaritzburg, Jan. 1994 – Dec. 1998: Professor (post level 7), Department of Zoology and Entomology

University of Natal, Pietermaritzburg, Jan. 1999 – Apr. 2003: Professor (post level 7), School of Botany & Zoology and School of Applied Environmental Sciences

University of Natal, Pietermaritzburg, May 1999 – Apr. 2003: Deputy Director, Centre for Environment & Development

University of Natal, Pietermaritzburg, May 2003 – Dec. 2003: Head of School and Professor (post level 7), School of Botany & Zoology

University of Natal, Pietermaritzburg, Oct. 2003 – Dec. 2003: Head of School, Professor (post level 7) and Chair of Entomology, School of Botany & Zoology

University of KwaZulu-Natal, Pietermaritzburg campus, Jan. 2004 – Dec. 2004: Head of School, Senior Professor and Chair of Entomology, School of Botany and Zoology

University of KwaZulu-Natal, Pietermaritzburg campus, Jan. 2005 – Dec. 2007: Head of School, Senior Professor and Chair of Entomology, School of Biological & Conservation Sciences

University of KwaZulu-Natal, Pietermaritzburg campus, Jan. 2008 – Dec. 2009: Senior Professor and Chair of Entomology, School of Biological & Conservation Sciences

University of KwaZulu-Natal, Pietermaritzburg campus, Jan. 2010 – Dec. 2011: Professor Emeritus, School of Biological & Conservation Sciences

University of KwaZulu-Natal, Pietermaritzburg campus, Jan. 2012 – present: Professor Emeritus, School of Life Sciences

## Honours Received

Alfred Beit Scholarship, Rhodes University, 1965, 1966

Lilian Britten Prize for Botany, Rhodes University, 1966

CSIR Postgraduate Bursary, Rhodes University, 1967

Coca-Cola Bottlers' Association Scholarship, Rhodes University, 1967

Sigma Xi, the Scientific Research Society, 1970 (Associate; Active 1973)

National Science Foundation Traineeship/Assistantship, University of Kansas, 1970 – 1971, 1971 – 1972

Herbert B. Hungerford Prize in Entomology, University of Kansas, 1974

Ad Hominem Professorship, University of Natal, 1985

Fellowship, University of KwaZulu-Natal, 2006

Emeritus Professorship, University of KwaZulu-Natal, 2010

## Research

Research interests mainly in biology and systematics of “lower” aculeate Hymenoptera (specially Mutillidae, Bradynobaenidae, Scolebythidae and Plumariidae), evolution and fossil record of Hymenoptera (specially Aculeata), and principles and practice of biological systematics.

## Publications

### *Scientific Papers and Refereed Contributions to Books*

1. BROTHERS, D.J. & V.C. MORAN. 1969. A new species of *Tetrastichus* Haliday, 1844 (Hymenoptera: Eulophidae) parasitic on the nymphs of *Paurocephala calodendri* Moran (Homoptera: Psyllidae). **Proceedings of the Royal Entomological Society of London (B)**38(3–4): 40–46.
2. MORAN, V.C., D.J. BROTHERS & J.J. CASE. 1969. Observations on the biology of *Tetrastichus flavigaster* Brothers & Moran (Hymenoptera: Eulophidae) parasitic on psyllid nymphs (Homoptera). **Transactions of the Royal Entomological Society of London** 121(2): 41–58.
3. BROTHERS, D.J. 1970. Discovery of the mutillid subfamily Typhoctinae in South America, with description of a new species (Hymenoptera). **Journal of the Kansas Entomological Society** 43(3): 302–308.
4. BROTHERS, D.J. 1970. *Mimecomutilla* Ashmead, 1903 (Insecta, Hymenoptera, Mutillidae): request for the designation under the plenary powers of a type species in harmony with the intention of its author. **Bulletin of Zoological Nomenclature** 27(2): 115–118.
5. BROTHERS, D.J. 1970. Lectotype designation for *Mutilla purpurata* Smith, 1879, from South Africa (Hymenoptera: Mutillidae). **Journal of the Kansas Entomological Society** 43(4): 381–382.
6. BROTHERS, D.J. 1971. The genera of Mutillidae (Hymenoptera) parasitic on tsetse flies (Glossina; Diptera). **Journal of the Entomological Society of Southern Africa** 34(1): 101–102.
7. MICHENER, C.D., D.J. BROTHERS & D.R. KAMM. 1971. Interactions in colonies of primitively social bees: Artificial colonies of *Lasioglossum zephyrum*. **Proceedings of the National Academy of Sciences of the USA** 68(6): 1241–1245.
8. MICHENER, C.D. & D.J. BROTHERS. 1971. A simplified observation nest for burrowing bees. **Journal of the Kansas Entomological Society** 44(2): 236–239.
9. MICHENER, C.D., D.J. BROTHERS & D.R. KAMM. 1971. Interactions in colonies of primitively social bees: II, some queen-worker relations in *Lasioglossum zephyrum*. **Journal of the Kansas Entomological Society** 44(2): 276–279.
10. BROTHERS, D.J. 1971. *Asctotilla*, a new genus of Mutillidae from New Guinea (Hymenoptera). **Pacific Insects** 13(3–4): 471–485.
11. BROTHERS, D.J. 1972. Biology and immature stages of *Pseudomethoca f. frigida*, with notes on other species (Hymenoptera: Mutillidae). **University of Kansas Science Bulletin** 50(1): 1–38.
12. MICHENER, C.D. & D.J. BROTHERS. 1974. Were workers of eusocial Hymenoptera initially altruistic or oppressed? **Proceedings of the National Academy of Sciences of the USA** 71(3): 671–674.
13. BROTHERS, D.J. & C.D. MICHENER. 1974. Interactions in colonies of primitively social bees. III. Ethometry of division of labor in *Lasioglossum zephyrum* (Hymenoptera: Halictidae). **Journal of Comparative Physiology** 90(2): 129–168.
14. BROTHERS, D.J. 1974. The new genus *Typhoctoides* and a new species of *Eotilla* (Hymenoptera: Bradynobaenidae; Typhoctinae). **Journal of the Kansas Entomological Society** 47(3): 359–363.
15. BROTHERS, D.J. 1974. The first recent species of *Protomutilla* (Hymenoptera: Mutillidae; Myrmosinae). **Psyche** 81(2): 268–271.
16. BROTHERS, D.J. 1974. The genera of Plumariidae, with description of a new genus and species from Argentina (Hymenoptera: Bethylloidea). **Journal of the Entomological Society of Southern Africa** 37(2): 351–356.
17. BROTHERS, D.J. 1975. Phylogeny and classification of the aculeate Hymenoptera, with special reference to Mutillidae. **University of Kansas Science Bulletin** 50(11): 483–648.
18. BROTHERS, D.J. 1976. Modification of the metapostnotum and origin of the 'propodeal triangle' in Hymenoptera Aculeata. **Systematic Entomology** 1(3): 177–182.
19. BROTHERS, D.J. 1978. How pure must a cladistic study be? – a response to Nelson on Michener. **Systematic Zoology** 27(1): 118–122.
20. BROTHERS, D.J. 1978. Biology and immature stages of *Myrmosula parvula* (Hymenoptera: Mutillidae). **Journal of the Kansas Entomological Society** 51(4): 698–710.
21. BROTHERS, D.J. 1981. Note on the biology of *Ycaploca evansi* (Hymenoptera: Scolebythidae). **Journal of the Entomological Society of Southern Africa** 44(1): 107–108.
22. GROUT, T.G. & D.J. BROTHERS. 1982. Behaviour of a parasitic pompilid wasp (Hymenoptera). **Journal of the Entomological Society of Southern Africa** 45(2): 217–220.
23. BROTHERS, D.J. 1982. Two new species of Mutillidae associated with *Halictus hesperus* (Halictidae) in Panama (Hymenoptera). **Sociobiology** 7(2): 205–212.
24. BROTHERS, D.J. 1983. Nomenclature at the ordinal and higher levels. **Systematic Zoology** 32(1): 34–42.
25. BROTHERS, D.J. 1983. Comments on Rasnitsyn's proposal to regulate the names of taxa above the family group. Z.N.(S)2381. **Bulletin of Zoological Nomenclature** 40(2): 72–73.
26. BROTHERS, D.J. 1983. Identity and classification of *Physetopoda*, *Chaetotilla* and *Paramyrme* (Hymenoptera: Mutillidae). **Journal of the Kansas Entomological Society** 56(3): 441–445.
27. BROTHERS, D.J. 1983. Identity of four species of Mutillidae (Hymenoptera) described mistakenly as from Australia. **Journal of the Entomological Society of Southern Africa** 46(2): 325–330.

28. BROTHERS, D.J. 1984. Gregarious parasitoidism in Australian Mutillidae (Hymenoptera). **Australian Entomological Magazine** 11(1): 8–10.
29. BROTHERS, D.J. 1985. Chrysidoidea, Scolioidea and Pompiloidea. In: C.H. Scholtz and E. Holm (eds), **Insects of Southern Africa**. Butterworths. p. 422–429.
30. BROTHERS, D.J. 1985. Species concepts, speciation, and higher taxa. In: E.S. Vrba (ed.), **Species and Speciation. Transvaal Museum Monographs** 4: 35–42.
31. BROTHERS, D.J. & L.A. MOUND. 1985. *Eugynothrips* Priesner, 1926 (Insecta, Thysanoptera): proposed designation of *Cryptothrips conocephali* Karny, 1913 as type species. Z.N.(S.) 2503. **Bulletin of Zoological Nomenclature** 42(4): 382–384.
32. MANNING, J.C. & D.J. BROTHERS. 1986. Floral relations of four species of *Rediviva* in Natal (Hymenoptera: Apoidea: Melittidae). **Journal of the Entomological Society of Southern Africa** 49(1): 107–114.
33. JACOT-GUILLARMOD, C.F. & D.J. BROTHERS. 1986. Catalogue of Thysanoptera of the world (Part 7). **Annals of the Cape Provincial Museums (Natural History)** 17(1): 1–93.
34. BROTHERS, D.J. & J.C. MANNING. 1987. Biology of *Rediviva politissima* (Hymenoptera: Apoidea: Melittidae) as elucidated by electron microscopy. **Proceedings of the Electron Microscopy Society of South Africa** 17: 35–36.
35. BROTHERS, D.J. 1989. Alternative life-history styles of mutillid wasps (Insecta, Hymenoptera). In: M.N. Bruton (ed.), **Alternative Life-History Styles of Animals. Perspectives in Vertebrate Science** 6: 279–291; [https://doi.org/10.1007/978-94-009-2605-9\\_14](https://doi.org/10.1007/978-94-009-2605-9_14)
36. NEWBERRY, K. & D.J. BROTHERS. 1990. Problems in the Recognition Concept of species: an example from the field. **South African Journal of Science** 86(1): 4–6.
37. BROTHERS, D.J. & K. NEWBERRY. 1990. Interspecific mating in bedbugs does not support the Recognition Concept of species: Comments on Ferguson. **South African Journal of Science** 86: 176–177.
38. BROTHERS, D.J. 1991. Key to Afrotropical orders of hexapods (adults and immatures). In: L.E.O. Braack, **Field Guide to Insects of the Kruger National Park**. Struik, Cape Town. pp. 11–20.
39. WHITTINGTON, A.E. & D.J. BROTHERS. 1991. Notes on the biology of *Mallada handschini* (Navas) and comparisons with other southern African species (Neuroptera: Chrysopidae). **Annals of the Natal Museum** 32: 215–220.
40. BROTHERS, D.J. 1992. The first Mesozoic Vespidae from the southern hemisphere, Botswana (Hymenoptera). **Journal of Hymenoptera Research** 1: 119–124.
41. FINNAMORE, A.T. & D.J. BROTHERS. 1993. Superfamily Chrysidoidea. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 130–160.
42. BROTHERS, D.J. & A.T. FINNAMORE. 1993. Superfamily Vespoidea. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 161–278.
- 42a. BROTHERS, D.J. 1993. Key to subfamilies of Tiphiidae. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 178–185.
- 42b. BROTHERS, D.J. 1993. Key to subfamilies of Sapygidae. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 186–187.
- 42c. BROTHERS, D.J. 1993. Key to subfamilies of Mutillidae. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 188–200.
- 42d. BROTHERS, D.J. 1993. Key to subfamilies of Bradynobaenidae. In: H. Goulet & J.T. Huber (eds), **Hymenoptera of the World: An Identification Guide to Families**. Research Branch Agriculture Canada, Ottawa. pp. 207–210.
43. BROTHERS, D.J. & J.M. CARPENTER. 1993. Phylogeny of Aculeata: Chrysidoidea and Vespoidea (Hymenoptera). **Journal of Hymenoptera Research** 2: 227–302. <https://doi.org/10.5281/zenodo.17378>
44. BROTHERS, D.J. 1994. A new genus and four new species of Mutillidae associated with *Brachyponera lutea* Mayr (Formicidae) in Western Australia. **Journal of the Australian Entomological Society** 33: 143–152.
45. BROTHERS, D.J. 1995. The lower vespid families – Introduction. In: I. Gauld & P. Hansen (eds), **The Hymenoptera of Costa Rica**. Oxford University Press, Oxford. pp. 504–506.
46. BROTHERS, D.J. 1995. Mutillidae. In: I. Gauld & P. Hansen (eds), **The Hymenoptera of Costa Rica**. Oxford University Press, Oxford. pp. 541–548.
47. BROTHERS, D.J. 1995. Bradynobaenidae. In: I. Gauld & P. Hansen (eds), **The Hymenoptera of Costa Rica**. Oxford University Press, Oxford. pp. 552–555.
48. BAYLISS, P.S. & D.J. BROTHERS. 1996. Biology of *Tricholabiodes* Radoszkowski in Southern Africa, with a new synonymy and review of recent biological literature (Hymenoptera: Mutillidae). **Journal of Hymenoptera Research** 5: 249–258.
49. EARDLEY, C.D. & D.J. BROTHERS. 1997. Phylogeny of the Ammobatini and revision of the Afrotropical genera (Hymenoptera: Apidae: Nomadinae). **Journal of Hymenoptera Research** 6: 353–418.
50. BROTHERS, D.J. 1998. Type material of species now assigned to *Mimecomutilla* Ashmead (Hymenoptera: Mutillidae) in the South African Museum. **Annales de la Société entomologique de France (N.S.)** 33: 441–446.
51. MITCHELL, A. & D.J. BROTHERS. 1998. Revision and cladistic analysis of the Afrotropical genus *Areotilla* Bischoff (Hymenoptera: Mutillidae: Ticopliniae). **African Entomology** 6(2): 193–214.

52. RAYNER, R.J., M.K. BAMFORD, D.J. BROTHERS, A.S. DIPPENAAR-SCHOEMAN, I.J. MCKAY, R.G. OBERPRIELER & S.B. WATERS. 1998 (1997). Cretaceous fossils from the Orapa diamond mine. *Palaeontologia Africana* **33**: 55–65.
53. BROTHERS, D.J. 1999. Phylogeny and evolution of wasps, ants and bees (Hymenoptera, Chryridoidea, Vespoidea and Apoidea). *Zoologica Scripta* **28**: 233–249.
54. TSCHUCH, G. & D.J. BROTHERS. 1999. Modeling vibration and sound production in insects with nonresonant stridulatory organs (Hymenoptera: Mutillidae). *Journal of the Acoustical Society of America* **106**(6): 3706–3710.
55. PULAWSKI, W.J., A.P. RASNITSYN, D.J. BROTHERS & B.R. ARCHIBALD. 2000. New Genera of Angarosphecinae: *Cretosphecium* from Early Cretaceous of Mongolia and *Eosphecium* from Early Eocene of Canada (Hymenoptera: Sphecidae). *Journal of Hymenoptera Research* **9**(1): 34–40.
56. BROTHERS, D.J., G. TSCHUCH & F. BURGER. 2000. Associations of mutillid wasps (Hymenoptera: Mutillidae) with eusocial insects. *Insectes Sociaux* **47**(3): 201–211.
57. TSCHUCH, G. & D.J. BROTHERS. 2000. Stridulatory organs in solitary aculeate Hymenoptera. *Zoologischer Anzeiger* **239**(4): 319–327.
58. BAYLISS, P.S. & D.J. BROTHERS. 2001. Behaviour and host relationships of *Dolichomutilla sycorax* (Smith, 1855) (Hymenoptera: Mutillidae, Sphecidae). *Journal of Hymenoptera Research* **10**(1): 1–9.
59. MASTERS, J.C. & D.J. BROTHERS. 2001 (2002). Lack of congruence between morphological and molecular data in reconstructing the phylogeny of the Galagonidae. *American Journal of Physical Anthropology* **117**(1): 79–93.
60. TSCHUCH, G. & D.J. BROTHERS. 2002 (2001). Chemische und akustische Abwehrsignale bei Mutilliden (Hymenoptera). *Mitteilungen der Deutschen Gesellschaft für allgemeine und angewandte Entomologie* **13**: 389–392.
61. MITCHELL, A. & D.J. BROTHERS. 2002. Phylogeny of the genera of Ticoplinae (Hymenoptera: Mutillidae). *Journal of Hymenoptera Research* **11**(2): 312–325.
62. PULAWSKI, W., I.M. KERZHNER, D.J. BROTHERS & N.L. EVENHUIS. 2002. Draft proposal to emend Article 74.7.3: request for comments from the Commission and zoological community. *Bulletin of Zoological Nomenclature* **59**(4): 278–279.
63. BROTHERS, D.J. 2003. Insects and other Hexapodous Arthropods. In: Biological Systematics, edited by G. Contrafatto, & A. Minelli, from **Encyclopedia of Life Support Systems (EOLSS)**, Developed under the auspices of the UNESCO, Eolss Publishers, Oxford. [<http://www.colss.net>]
64. BROTHERS, D.J. & A.P. RASNITSYN. 2003. Diversity of Hymenoptera and other insects in the Late Cretaceous (Turonian) deposits at Orapa, Botswana: a preliminary review. *African Entomology* **11**(2): 221–226.
65. BROTHERS, D.J. 2003. The first fossil Ephutini (Hymenoptera: Mutillidae), a new species of *Ephuta* Say from Dominican amber. *Acta Zoologica Cracoviensia* **46**(Suppl.): 101–107.
66. DLUSSKY, G.M., D.J. BROTHERS & A.P. RASNITSYN. 2004. The first Late Cretaceous ants (Hymenoptera: Formicidae) from southern Africa, with comments on the origin of the Myrmicinae. *Insect Systematics and Evolution* **35**(1): 1–13.
67. KOLYADA, V.A., M.B. MOSTOVSKI & D.J. BROTHERS. 2004. New data on proctotrupid wasp genus *Exallonyx* Kieffer (Hymenoptera: Proctotrupidae) from South Africa, with description of a new species and new synonymy. *African Invertebrates* **45**: 237–248.
68. POLASZEK, A., D. AGOSTI, M. ALONSO-ZARAZAGA, G. BECCALONI, P. DEP. BJØRN, P. BOUCHET, D.J. BROTHERS, EARL OF CRANBROOK, N. EVENHUIS, H.C.J. GODFRAY, N.F. JOHNSON, F-T. KRELL, D. LIPSCOMB, C.H.C. LYAL, G.M. MACE, S. MAWATARI, S.E. MILLER, A. MINELLI, S. MORRIS, P.K.L. NG, D.J. PATTERSON, R.L. PYLE, L. ROGO, J. TAVERNE, J. VAN TOL, Q.D. WHEELER & E.O. WILSON. 2005. A universal register for animal names. *Nature* **437**: 477.
69. POLASZEK, A., M. ALONSO-ZARAZAGA, P. BOUCHET, D.J. BROTHERS, N. EVENHUIS, F-T. KRELL, D. LIPSCOMB, C.H.C. LYAL, A. MINELLI, R.L. PYLE, N.J. ROBINSON, F.C. THOMPSON & J. VAN TOL. 2005. ZooBank: the open-access register for zoological taxonomy: Technical Discussion Paper. *Bulletin of Zoological Nomenclature* **62**(4): 210–220.
70. DAVIES, G.B.P., C.D. EARDLEY & D.J. BROTHERS. 2005. Eight new species of *Scrapter* (Hymenoptera: Apoidea: Colletidae), with descriptions of *S. albifumus* and *S. amplispinatus* females and a major range extension of the genus. *African Invertebrates* **46**: 141–179.
71. BROTHERS, D.J. 2006. Capítulo 30 Superfamilia Chrysidoidea. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 385–388.
72. BROTHERS, D.J. 2006. Capítulo 31 Familia Plumariidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 389–390.
73. BROTHERS, D.J. 2006. Capítulo 32 Familia Scolebythidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 391–392.

74. BROTHERS, D.J., A.T. FINNAMORE & F. FERNÁNDEZ. 2006. Capítulo 46 Superfamilia Vespoidea. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 505–514.
75. BROTHERS, D.J. & C.E. SARMIENTO. 2006. Capítulo 47 Familia Sierolomorphidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 515–516.
76. BROTHERS, D.J. 2006. Capítulo 52 Familia Bradynobaenidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 559–562.
77. BROTHERS, D.J. 2006. Capítulo 54 Familia Mutillidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 577–594.
78. BROTHERS, D.J. 2006. Capítulo 55 Familia Sapygidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 595–596.
79. KIMSEY, L.S. & D.J. BROTHERS. 2006. Capítulo 56 Familia Tiphidae. In: F. Fernández & M.J. Sharkey (eds), **Introducción a los Hymenoptera de la Región Neotropical**. Sociedad Colombiana de Entomología & Universidad Nacional de Colombia, Bogota. pp. 597–608.
80. BROTHERS, D.J. 2006. Capítulo 14 Las familias vespoideas (exceptuando hormigas y véspidos). In: P.E. Hansen & I.D. Gauld (eds), **Hymenoptera de la Región Neotropical**. American Entomological Institute, Gainesville. pp. 567–569.
81. BROTHERS, D.J. 2006. 14.4. Familia Mutillidae. In: P.E. Hansen & I.D. Gauld (eds), **Hymenoptera de la Región Neotropical**. American Entomological Institute, Gainesville. pp. 586–594.
82. BROTHERS, D.J. 2006. 14.7. Familia Bradynobaenidae. In: P.E. Hansen & I.D. Gauld (eds), **Hymenoptera de la Región Neotropical**. American Entomological Institute, Gainesville. pp. 610–614.
83. DAVIES, G.B.P. & D.J. BROTHERS. 2006. Morphology of *Scrapter* (Hymenoptera: Anthophila: Colletidae), with description of three new species and taxonomic status of five Cockerell taxa. **African Invertebrates** 47: 135–183.
84. RASNITSYN, A.P. & D.J. BROTHERS. 2007. Two new hymenopteran fossils from the mid-Cretaceous of southern Africa (Hymenoptera: Jurapriidae, Evaniiidae). **African Invertebrates** 48(1): 193–202.
85. RAW, L.R.G. & D.J. BROTHERS. 2008. Re-description of the South African dwarf chameleon, *Bradypodion nemorale* Raw 1978 (Sauria: Chamaeleonidae), and description of two new species. **ZooNova** 1(1): 1–7.
86. LELEJ, A.S. & D.J. BROTHERS. 2008. The genus-group names of Mutillidae (Hymenoptera) and their type species, with a new genus, new name, new synonymies, new combinations and lectotypifications. **Zootaxa** 1889: 1–79.
- 87a. INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 2008. Proposed amendment of the *International Code of Zoological Nomenclature* to expand and refine methods of publication. **Zootaxa** 1908: 57–67.
- 87b. INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 2008. Proposed amendment of Articles 8, 9, 10, 21 and 78 of the *International Code of Zoological Nomenclature* to expand and refine methods of publication. **Biological Journal of the Linnean Society** 95(4): 874–881. [same as paper 87a]
- 87c. INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 2008. Proposed amendment of Articles 8, 9, 10, 21 and 78 of the *International Code of Zoological Nomenclature* to expand and refine methods of publication. **Zoological Journal of the Linnean Society** 154(4): 848–855. [same as paper 87a]
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### *Thesis*

BROTHERS, D.J. Phylogeny and classification of the aculeate Hymenoptera, with special reference to Mutillidae. PhD, University of Kansas, 1974 (published as Paper 17 above).

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#### **Website**

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#### **Offices and Services**

International Society of Hymenopterists (President-Elect, 2002 – 2004; President 2004 – 2006; Past-President, 2006 – 2008)  
International Palaeoentomological Society (Member of Management Committee, 2001 – 2010; President, 2005 – 2007;  
Member of Advisory Scientific Committee for Alavesia, 2007 – 2010)

International Commission on Zoological Nomenclature (Member, 1996 – 2015; Member of Council, 1999 – 2009; Vice-President, 2004; President, 2005 – 2009)

International Trust for Zoological Nomenclature, London (Member, 1993 – 2014)

Council of the Natal Museum (KwaZulu-Natal Museum since 2010) (Ministerial appointee, 1999 – 2015: Member of Finance Subcommittee and Transformation Committee, 1999 – 2005; Vice Chairperson of Council, 2005 – 2008; Chair of Finance and Procurement Subcommittee, 2005 – 2008, 2012 – 2015; Member of Audit and Risk Committee, 2005 – 2008, 2012 – 2015; Chairperson of Council, 2008 – 2011)

Southern African Society for Systematic Biology (Member of Council, 2003 – 2005)

Foundation for Research Development and National Research Foundation (Peer reviewer for evaluation of researchers 1991 – present)

National Science Foundation (USA) (Peer reviewer for grant proposals, 1978 – present)

Research Corporation (USA) (Peer reviewer for grant proposal, 1982)

Council for Scientific and Industrial Research (Peer reviewer for grant proposals, 1982 – 1983)

International Congress of Systematic and Evolutionary Biology (Member of International Committee, 1980 – 1990)

“Systematic Zoology” (Member of Editorial Board, 1981)

“Journal of the Entomological Society of Southern Africa” (Associate Editor, 1982 – 1986)

“Durban Museum Novitates” (Member of Editorial Board, 1990 – present)

“African Invertebrates” (Member of Editorial Board, 2003 – present; guest editor Vol.53(1), 2012)

“Systematic Zoology”, “Journal of the Entomological Society of Southern Africa/African Entomology”, “Journal of the Kansas Entomological Society”, “Cimbebasia”, “Phytophylactica”, “South African Journal of Science”, “Koedoe”, “American Naturalist”, “Israel Journal of Entomology”, “South African Journal of Zoology”, “Entomological News”, “Proceedings of the Entomological Society of Washington”, “Smithsonian Contributions to Zoology”, “Systematic Entomology”, “Annals of the Cape Provincial Museums”, “Durban Museum Novitates”, “Insectes Sociaux”, “Fauna of Arabia”, “Cretaceous Research”, “Journal of Hymenoptera Research”, “Boletim do Museu Paraense Emílio Goeldi, série Zoologia”, “The Canadian Entomologist”, “Norwegian Journal of Entomology”, “Journal of Paleontology”, “Acta Zoologica Cracoviensis”, “Zootaxa”, “Insect Systematics & Evolution”, “Zoosystema”, “Entomotropica”, “Arthropod Structure and Development”, “Invertebrate Systematics”, “Molecular Phylogenetics and Evolution”, “Journal of Natural History”, “Acta Geologica Sinica”, “African Invertebrates”, “Insect Conservation and Diversity”, “Zoosystematics and Evolution”, “Cladistics”, “ZooKeys”, “Deutsche Entomologische Zeitschrift”, “Zoologischer Anzeiger”, “Palaeoworld”, “Biota Neotropica”, “Palaeontology”, “PLoS One”, “Alcheringa”, “Biodiversity Data Journal”, “Fossil Reports”, “Acta Entomologica Musei Nationalis Pragae”, “Historical Biology”, “Florida Entomologist”, “Journal of Arid Environments”, “Zoological Journal of the Linnean Society”, “Megataxa”, “Butlletí de la Institució Catalana d’Història Natural”, “PeerJ – The Journal of Life and Environmental Sciences”, “Fossil Record”, “European Journal of Entomology”, “Austral Entomology”, “Journal of Systematics and Evolution”, “Annales Zoologici”, “Neues Jahrbuch für Geologie und Paläontologie”, “Arthropod Systematics and Phylogeny”, “Integrative Systematics” (Reviewer for papers submitted, 1972 – present)

International Association of Hymenopterists (Councillor for Africa, 1984 – 1985)

Zoological Society of Southern Africa (Member of Council, 1987, 1989, 2016)

Natal Evolutionary Biology Society (Member of Executive Committee, 1989 – 1997; President-Elect, 1994 – 1995; President, 1996)

Third Entomological Congress, Entomological Society of Southern Africa, Pietermaritzburg (Congress Secretary, 1979)

Seventh Entomological Congress, Entomological Society of Southern Africa, Pietermaritzburg (Congress Treasurer, 1988 – 1989)

Third International Colloquium, Research Group for the Study of African Arachnids, Pietermaritzburg (Proceedings Editor, 1990)

Symposium of the Zoological Society of Southern Africa, Pietermaritzburg (Congress Treasurer, 1993 – 1994)

Second Conference of the Southern African Society for Systematic Biology, Mtunzini (Treasurer, 1999 – 2000)

Thirteenth Entomological Congress, Entomological Society of Southern Africa, Pietermaritzburg (Chairperson of Organizing Committee, 2000 – 2001)

Fossils X 3 Conference, Pretoria, South Africa (Chairperson of Organising Committee, 2001 – 2005)

Sixth International Congress of Hymenopterists, Sun City, South Africa (Chairperson of Organising Committee, 2002 – 2006)

Standards-Generating Body for the national BSc, South African Universities Vice-Chancellors’ Association and South African Qualifications Authority (Member of Core Group, 2001 – 2002)