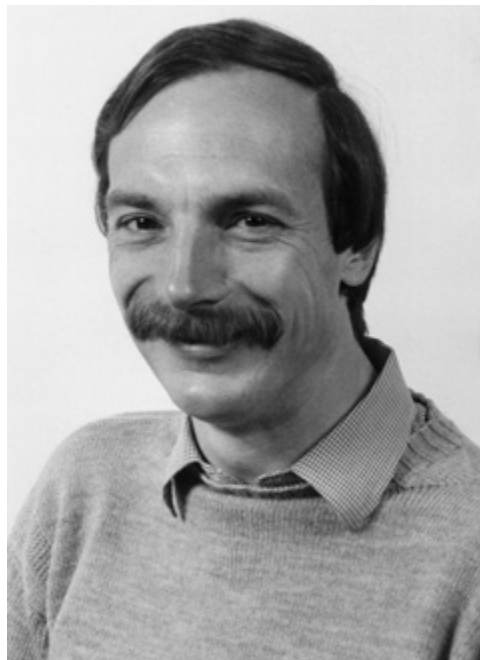


OBITUARY: DAVID HENRY KEEN 1947-2006

With the premature death on Easter Day of David Keen, we have lost a leading figure in environmental research into the recent geological past, a field of increasing importance as we look towards an uncertain climatic future. The multidisciplinary nature of this type of research is reflected by David's first degree: joint honours in geography and geology at Bedford College, University of London (1969), and in his academic career, working in Departments of Geology (research fellow, Queen Mary College, University of London, 1972-5), Geography (all grades from lecturer to professor at what eventually became Coventry University, 1975-2002) and Archaeology (Birmingham, since 2002). David's special expertise was using fossil molluscs as evidence for the nature of past environments, climates and as a means of geological correlation.

David was born in Hitchin in 1947, although his family hailed from SE London and he was brought up in Catford, attending Raine's Foundation Grammar School in Stepney (1958-66). After graduating at Bedford College, he continued there as a post-graduate, gaining his Ph.D. in 1975 on the Pleistocene history of the English Channel under the supervision of Dr Christopher Green. This topic brought him into contact with similarly minded people, including academics, archaeologists and museum personnel, in France and on the Channel Islands. He maintained close collaborative links across the channel throughout his career, leading field excursions of British learned societies to France and the Channel Islands, and of French societies in the other direction. The recent Field Guide to Normandy (May 2006) published by the Association Française pour l'Etude du Quaternaire (AFEQ) was appropriately dedicated to his memory.

Our understanding of the Quaternary Era, which encompasses a complex succession of cold (glacial) and temperate (interglacial) periods during the past ~2 million years, developed considerably during the course of David's career. Indeed, he was one of several who, from the late 1970s onwards, promoted an interpretation in which much greater complexity of environmental change was envisaged. The orthodox view



claimed the existence of only two interglacial periods in the last half a million years (between the Anglian glacial stage and the Holocene). However, David repeatedly argued that an additional interglacial stage could be recognized between the Hoxnian (the stage immediately following the Anglian) and the Ipswichian (the Last interglacial). This view, then somewhat controversial, was summarised in a textbook he co-authored with Bob Jones entitled *Pleistocene Environments in the British Isles* (Chapman & Hall, 1993). The situation has proved to be even more complex than originally suggested by David and there is now evidence for *two* additional interglacial stages occurring between the Hoxnian and the Ipswichian, a view he readily embraced and one to which he provided additional support. Such views had been anticipated by people in the palaeoceanography community, who had proposed a series of Marine Isotope Stages (MIS) based on oxygen isotope records from deep-sea cores. These records provided a global chronology to assess events during the Quaternary and the challenge was to correlate episodic events on land with these continuous records from the deep-sea.

Much of David's evidence came from the study of non-marine molluscs in fluvial terrace deposits, in particular the occurrence of the bivalve *Corbicula* and the small prosobranch *Belgrandia*. He correctly pointed out that in the

British Pleistocene *Corbicula* is never associated with *Hippopotamus*, an indicator species of the Ipswichian (MIS 5e), except where reworking is involved. Together with a few other colleagues, he suggested that the presence of *Corbicula* indicated a pre-Ipswichian interglacial age, probably attributable to MIS 7 (or earlier). Most people would now accept this view. However, he also claimed that *Belgrandia* did not occur with *Corbicula* in Pleistocene deposits in the Midlands and, by extension, did not occur in MIS 7. I had a long-standing, but always good-humoured, argument with him about this, which is espoused in a number of our papers. At the time of his death, he had been working on a new site near Peterborough, which contained both these critical species in what appeared to be a MIS 7 context. I couldn't resist pulling his leg and told him how much I looked forward to reading the paper he was preparing on the site, especially the discussion on its age.

At Coventry, where the bulk of his career unfolded, he was part of a small but influential centre of excellence in Quaternary research and teaching within what was once the polytechnic sector. Sadly that centre was soon disbanded as the new century began and David turned to consultancy. Amongst several new challenges, he developed an important role as National Coordinator of the 'National Ice Age Network', an initiative established with funding from the Aggregates Levy Sustainability Fund, overseen by English Heritage. His particular brief was to monitor, in collaboration with other specialists, important Quaternary geological and archaeological sites arising from aggregates extraction, especially in the English Midlands, always his stamping ground both geographically and in terms of expertise. This coincided with his new position at Birmingham, where he had made a notable impact before his tenure was so abruptly curtailed.

There is a long list of positions on examinations boards and scientific committees, such as periods as Secretary (1986-1990) and President (2002-2005) of the Quaternary Research Association, Trustee of the Bill Bishop Trust, European editor of *Quaternary Science Reviews*, editor of the *Quaternary Newsletter* and an extraordinarily long period as Editor (1991-2002) of the *Proceedings of the Geologists' Association*. He received the Foulerton Award from the

Geologists' Association in 2003. He also served on, and was eventually Chair of, the committee that oversees the funding of radiocarbon dating by the Government's Natural Environmental Research Council. He had been a member of the Conchological Society since 1985 and had contributed records to the Society's non-marine census. He leaves a legacy of over a hundred publications, including half a dozen authored/edited books and more than sixty articles in major journals, with more of both to appear posthumously. As a consultant to English Nature, he co-authored the Geological Conservation Review volume on the Quaternary SSSIs (Sites of Special Scientific Interest) in 'South-West England' and 'East Anglia and the Midlands' (covering a third of all British Quaternary SSSIs), to be published shortly. His large collection of Mollusca will find its way to the National Museums and Galleries of Wales, Cardiff. He leaves a wife, son, daughter, father, brother and sister.

Professor David Henry Keen, born 26th January 1947, died 16th April 2006.

R.C. Preece

BIBLIOGRAPHY

- Allen P & Keen DH 2000 Uppermost Norwich Crag and lower part of the Cromer Forest Bed Formations. In Lewis SG, Whiteman CA & Preece RC (eds) *The Quaternary of Norfolk and Suffolk: Field Guide*. London, Quaternary Research Association. pp 29-34.
- Ashton N, Lewis SG, Keen DH & Parfitt SA 2000 Excavations at Elveden, Suffolk (TL 809 804). In Lewis SG, Whiteman CA & Preece RC (eds) *The Quaternary of Norfolk and Suffolk: Field Guide*. London, Quaternary Research Association. pp 177-183.
- Ashton N, Lewis SG, Parfitt S, Candy I, Keen DH, Kemp R, Penkman KEH, Thomas GN & Whittaker JE 2005 Excavations at the Lower Palaeolithic site at Elveden, Suffolk. *Proceedings of the Prehistoric Society* 70: 1-62.
- Bates MR, Jones S, Keen DH, Walker MJC & Whittaker JE 2005 Palaeoenvironmental investigations at the Butlins Hotel site, Bognor, West Sussex. *Department of Archaeology and Anthropology, University of Wales, Lampeter Contract Report 2005/01*. (Unpublished report).
- Bates MR, Keen DH, Whittaker JE, Merry JS & Wenban-Smith FF 2002 Middle Pleistocene molluscan and ostracod faunas from Allhallows, Kent, UK. *Proceedings of the Geologists' Association* 113(3): 223-236.
- Bates MR, Keen DH & Lautridou J-P 2003 Pleistocene marine and periglacial deposits of the English Channel. *Journal of Quaternary Science* 18(3-4): 319-338.

- Bishop AC & Keen DH 1982 *The Geology of Jersey*. Geologists' Association Guide No 41, London, Geologists' Association, 30 pp.
- Bishop AC, Keen DH, Salmon S & Renouf JT 2003 *The Geology of Jersey*. Geologists' Association Guide No 41(second edition). London, The Geologists' Association, 53 pp.
- Bisson G, Bishop AC, French WJ, Keen DH & Thomas R, 1987 1:25000 Solid and Drift map of the Bailiwick of Guernsey. British Geological Survey, Channel Islands Sheet I. HMSO.
- Bisson G, Bishop AC, Keen DH & Thomas GM 1982 1:25000 Solid and Drift map of the Bailiwick of Jersey. British Geological Survey, Channel Islands Sheet 2. HMSO.
- Boismier WA, Schreve DC, White MJ, Robertson DA, Etienne S, Stuart AJ, Andrews J, Coope GR, Field MH, Green FML, Keen DH, Lewis SG, French CAI, Rhodes EJ, Schwenninger J-L, Tovey K, Donahue RE, Richards MP & O'Connor SA 2003 Middle Palaeolithic site at Lynford Quarry, Mundford, Norfolk: An interim statement. *Proceedings of the Prehistoric Society* 69: 315-324.
- Briant RM, Coope GR, Preece RC, Keen DH, Boreham S, Griffiths HI, Seddon MB & Gibbard PL 2004 Fluvial system response to climatic change during the Middle and Late Devensian (Weichselian) at Baston, Lincolnshire, England. *Journal of Quaternary Science* 19(5): 479-496.
- Bridgland DR, Davey NDW & Keen DH 1991 Northam Pit, Eye, near Peterborough (TF 230036): Description of section and palaeoenvironment. In Lewis SG, Whiteman CA & Bridgland DR (eds) *Central East Anglia and the Fen Basin*. Field Guide. Cambridge, Quaternary Research Association. pp 172-182.
- Bridgland DR, Keen DH & Davey NDW 1991 The Pleistocene sequence in the Peterborough district: possible correlation with the deep-sea oxygen isotope record. In Lewis SG, Whiteman CA & Bridgland DR (eds) *Central East Anglia and the Fen Basin: Field Guide*. Cambridge, Quaternary Research Association. pp 209-212.
- Bridgland DR, Keen DH & Maddy D 1986 A reinvestigation of the Bushley Green Terrace of the Severn at the type site. *Quaternary Newsletter* 50: 1-6.
- Bridgland DR, Keen DH & Maddy D 1989 The Avon terraces: Cropthorne, Ailstone and Eckington. In Keen DH (ed.) *The Pleistocene of the West Midlands. Field Guide QRA* pp. 51-67; Cambridge.
- Bridgland DR, Keen DH, Green CP, Bowen DQ & Sykes GA 1995 Last Interglacial deposits at Folkestone, Kent. *Proceedings of the Geologists' Association* 106(3): 183-193.
- Bridgland DR, Keen DH, Schreve DC & White MJ 1998 Chislet, Wear Farm Pit. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 44-50.
- Bridgland DR, Keen DH, Schreve DC & White MJ 1998 Fordwich. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 41-42.
- Bridgland DR, Keen DH, Schreve DC & White MJ 1998 Quaternary drainage of the Kentish Stour. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 39-41.
- Bridgland DR, Keen DH, Schreve DC & White MJ 1998 Sturry. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 42-44.
- Bridgland DR, Keen DH, Schreve DC & White MJ 1998 Summary: dating and correlation of the Stour sequence. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 53-54.
- Bridgland DR, Schreve DC, Allen P & Keen DH 2003 Key Middle Pleistocene locations of the Lower Thames: site conservation issues, recent research and report of a Geologists' Association excursion, 8th July, 2000. *Proceedings of the Geologists' Association* 114(3): 211-226.
- Bridgland DR, Schreve DC, Keen DH, Meyrick RA & Maul L 2004 Biostratigraphical correlation between the Late Quaternary sequence of the Thames and key fossil localities in Central Germany. *Proceedings of the Geologists' Association* 115(2): 125-140.
- Brown RC, Gilbertson DD, Green CP & Keen DH 1975 Stratigraphy and environmental significance of Pleistocene deposits at Stone, Hampshire. *Proceedings of the Geologists' Association* 86(3): 349-363.
- Buteux STE, Keen DH & Lang ATO 2004 *A Palaeolithic Resource Assessment for the West Midlands*. Report on the Shotton Project for English Heritage, 59 pp. (Unpublished report).
- Buteux STE, Keen DH & Lang ATO 2004. *Quarrying and the Ice Age: a handbook*. Report on the Shotton Project for English Heritage, 82 pp. (Unpublished report).
- Campbell S, Hunt CO, Scourse JD & Keen DH 1998 *The Quaternary of South West England*. London, Chapman & Hall, 439 pp.
- Campbell S, Hunt CO, Scourse JD, Keen DH & Croot DG 1999 South West England. In Bowen DQ (ed.). *A revised correlation of Quaternary deposits in the British Isles. Geological Society of London Special Report Number 23*: 66-78.
- Chambers FM, Mighall TM & Keen DH 1996 Early Holocene pollen and molluscan records from Enfield Lock, Middlesex, UK. *Proceedings of the Geologists' Association* 107: 1-14.

- Clet M, Renouf JT & Keen DH 1996 Les Écréhous: Pollen Analysis and Environmental Interpretation. In Rodwell W (ed.) Les Écréhous, Jersey. The History and Archaeology of a Channel Islands Archipelago. St. Helier, Société Jersiaise. pp 74-79.
- Coope GR, Dickson JH, Jones RL & Keen DH 1986 Late Pleistocene palaeoenvironments of the Channel Islands and Lower Normandy. *Bulletin l'Association Française pour l'étude du Quaternaire* 25-26: 110-114.
- Coope GR, Dickson JH, Jones RL & Keen DH 1987 The flora and fauna of Late Pleistocene deposits on the Cotentin Peninsula, Normandy. *Philosophical Transactions of the Royal Society of London* B315: 231-265.
- Coope GR, Jones RL & Keen DH 1980 Stratigraphy and palaeoecology of peat at Fliquet, Jersey, Channel Islands. *Journal of Biogeography* 7: 187-195.
- Coope GR, Jones RL & Keen DH 1993 Fliquet Boreal and Arctic Peat. In Keen DH (ed.) *Quaternary of Jersey*. Field Guide. Cambridge, Quaternary Research Association. pp 110-117.
- Coope GR, Jones RL, Dickson JH & Keen DH 1987 Baie de Ecalgrain - insectes, macrorestes, palynologie. In Lautridou J.-P (ed.) *La Normandie. Field Guide for the Excursion of AFEQ 28th-31st May 1987*. Centre de Géomorphologie, Caen.
- Coope GR, Jones RL, Keen DH & Waton PV 1985 The flora and fauna of Late Pleistocene deposits at St. Aubins' Bay, Jersey, Channel Islands. *Proceedings of the Geologists' Association* 96(4): 315-323.
- Coope GR, Jones RL, Keen DH & Waton PV 1993 St. Aubin's Arctic Mud. In Keen DH (ed.) *Quaternary of Jersey*. Field Guide. Cambridge, Quaternary Research Association. pp 57-62.
- Davey NDW, Bridgland DR, Keen DH & Coope GR 1991 Maxey Gravel Pit: sections, fauna and flora. In Lewis SG, Whiteman CA & Bridgland DR (ed.) *Central East Anglia and the Fen Basin*. Field Guide. Cambridge, Quaternary Research Association. pp 183-208.
- Davies KH & Keen DH 1985 The age of Pleistocene marine deposits at Portland, Dorset. *Proceedings of the Geologists' Association* 96(3): 217-225.
- De la Vega AC, Smith DE, Keen DH & Jones RL 1996 Holocene coastal environments and sea-level change in the Bay of Skaill, Mainland, Orkney. In Hall AM (ed.) *The Quaternary of Orkney*. Field Guide. Cambridge, Quaternary Research Association. pp 84-96.
- De la Vega-Leinart AC, Keen DH, Jones RL, Wells JM & Smith DE 2000 Mid-Holocene environmental changes in the Bay of Skaill, Mainland Orkney, Scotland: an integrated geomorphological, sedimentological and stratigraphic approach. *Journal of Quaternary Science* 15(5): 509-528.
- Derbyshire E, Keen DH, Kemp RA, Rolph TA, Shaw J & Meng XM 1995 Loess-palaeosol sequences as recorders of palaeoclimatic variation during the last Glacial-Interglacial cycle: some problems of correlation in north-central China. *Quaternary Proceedings* 4: 7-19.
- Derbyshire E, Keen DH, Kemp RA, Shaw J & Wintle AG 1994 Loess-palaeosol sequences as recorders of palaeoclimatic variation during the last Glacial-Interglacial cycle in central China. In Funnell BM & Kay RLF (ed.) *Palaeoclimate of the last Glacial/Interglacial Cycle*. Special Publication 94/2 of the N.E.R.C. Earth Sciences Directorate, Swindon, NERC pp 27-32.
- Foster IDL, Charlesworth SM & Keen DH 1991 A comparative study of heavy metal contamination and pollution in four reservoirs in the English Midlands, U.K. *Hydrobiologia* 214: 155-162.
- Foster IDL, Charlesworth SM & Keen DH 1988 An evaluation of the quality and character of Wyken Slough and of its bottom sediments. *Sediments and Water Group Report, Coventry Polytechnic*. 36 pp. (Unpublished report).
- Foster IDL, Charlesworth SM & Keen DH 1988 The sedimentology and water balance of Swanswell Pool, Coventry. *Sediments and Water Group Report, Coventry Polytechnic*. 38 pp. (Unpublished report).
- Foster IDL, Charlesworth SM, Dearing JA, Keen DH & Dalgleish H 1991 Lake sediments: a surrogate measure of sediment associated heavy metal transport in fluvial systems? Sediment and Stream Water Quality in a Changing Environment: Trends and Explanation. *International Association of Hydrological Sciences Publication* 203: 321-328.
- Gao C, Keen DH, Boreham S, Coope GR, Pettit ME, Stuart AJ & Gibbard PL 2000 Last Interglacial deposits of the River Great Ouse at Woolpack Farm, Fenstanton, Cambridgeshire, England. *Quaternary Science Reviews* 19(8): 787-810.
- Gao C, Coope GR, Keen DH & Pettit ME 1998 Middle Devensian deposits of the Ivel Valley at Sandy, Bedfordshire, England. *Proceedings of the Geologists' Association* 109(2): 127-137.
- Gardiner V & Keen DH 1989 Geological Controls of Landform in the Assynt Region of Scotland. In Singh S & Tiwari RC (ed.) *Geomorphology and Environment*. Allahabad, Allahabad Geographical Society.
- Gibbard PL, Preece RC, Bates MR, Keen DH, Waller M & Long A 1999 South and Southeast England. In Bowen DQ (ed.) *A revised correlation of Quaternary deposits in the British Isles*. *Geological Society of London Special Report Number* 23: 58-65.
- Green CP, Coope GR, Currant AP, Holyoak DT, Ivanovich M, Jones RL, Keen DH, MacGregor DFM & Robinson JE 1984 Evidence for two temperate episodes in Late Pleistocene deposits at Marsworth, Buckinghamshire. *Nature* 309: 778-781.
- Green CP, Coope GR, Jones RL, Keen DH, Bowen DQ, Currant AP, Holyoak DT, Ivanovich M, Robinson JE, Rogerson RJ & Young C 1996 Stratigraphy and environment of Pleistocene deposits at Stoke Goldington, England. *Journal of Quaternary Science*, 11(1): 59-88.
- Green CP & Keen DH 1987 Stratigraphy and palaeoenvironments of the Stone Point deposits: the 1975 investigation. In Barber KE (ed.) *Wessex and the Isle of Wight, Field guide QRA*, pp. 17-20; Cambridge.

- Green CP, Keen DH, MacGregor DFM, Robinson JE & Williams RBG 1983 Stratigraphy and environmental significance of Pleistocene deposits at Fisherton, near Salisbury. *Proceedings of the Geologists' Association* **94**(1): 17-23.
- Green CP, Branch NJ, Coope GR, Field MH, Keen DH, Wells JM, Schwenninger J-L, Preece RC, Schreve DC, Canti MG & Gleed-Owen CP 2006 Marine Isotope Stage 9 environments of fluvial deposits at Hackney, North London, UK. *Quaternary Science Reviews* **25**(1-2): 89-113.
- Green CP, Allen T, Bowen DQ & Keen DH Swalecliffe, 1998. In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 57-60.
- Hallégouët B, Van Vliet-Lanoë B, Laurent M, Keen DH & Scourse JD 1997. The Mid-Pleistocene/Upper Pleistocene shore complex. In van Vliet-Lanoë B, Hallégouët B & Monnier J-L *The Quaternary of Brittany. Field Guide*. Rennes, Laboratoire d'Anthropologie. pp 47-53.
- Hammarlund D & Keen DH 1994 A Late Weichselian stable isotope and molluscan stratigraphy from Vanstads mosse, Scania, southern Sweden. *Geologiska Föreningens i Stockholm Förhandlingar (GFF)* **116**: 235-248.
- Hammarlund D & Keen DH 1994 Stable carbon and oxygen isotope studies of Late Weichselian lake sediments in Sweden and northern Poland, with palaeoclimatic implications. Appendix III. In Hammarlund D LundQua Thesis **31**: 1-17.
- Harding P, Keen DH, Bridgland DR & Rogerson RJ 1991 A Palaeolithic site rediscovered at Biddenham, Bedfordshire. *Bedfordshire Archaeology* **19**: 87-90.
- Harrison S & Keen DH 2005 South West England. In Lewis CA & Richards A (eds.) *The glaciations of Wales and adjacent areas*. Birmingham, Longaston Press, 165-177.
- Horton A, Keen DH & Davey NDW 1991 Hicks No 1 Brickyard: description of sections and palaeoenvironment. In Lewis SG, Whiteman CA & Bridgland DR (eds) *Central East Anglia and the Fen Basin. Field Guide*. Cambridge, Quaternary Research Association. pp 163-171.
- Horton A, Keen DH, Field MH, Robinson JE, Coope GR, Carrant AP, Graham DK, Green CP & Phillips LM 1992 The Hoxnian Interglacial deposits at Woodston, Peterborough. *Philosophical Transactions of the Royal Society of London* **B338**: 131-164.
- Howard AJ, Keen DH, Mighall TM, Field MH, Coope GR, Griffiths HI & Macklin MG 2000. Early Holocene environments of the River Ure near Ripon, North Yorkshire, U.K. (Reply to correspondence by A.H. Cooper on a published paper). *Proceedings of the Yorkshire Geological Society* **53**(2): 155-156.
- Howard AJ, Keen DH & Hollin JT 1999 Amino acid dating of a molluscan fauna from Bassingham Fen, Lincolnshire: implications for the chronology of the Trent Terraces. *Proceedings of the Geologists' Association* **110**(3): 233-240.
- Howard AJ, Keen DH & Hollin JT 2000 Amino acid dating of a molluscan fauna from Malborough Fen, Lincolnshire: Implications for the chronology of the Trent terraces. (Reply to correspondence by M.G. Sumbler & A. Brandon on a published paper). *Proceedings of the Geologists' Association* **111**(4): 373-375.
- Howard AJ, Keen DH, Mighall TM, Field MH, Griffiths HI, Coope GR & Macklin MG 2000 Early Holocene environments of the River Ure, Wensleydale, North Yorkshire. *Proceedings of the Yorkshire Geological Society* **53**: 31-42.
- Jones M, Leng MJ, Eastwood WJ, Keen DH & Turney CSM 2002 Interpreting stable isotope records from freshwater snail shell carbonate: a Holocene case study from Lake Gölhisar, Turkey. *The Holocene* **12**(4): 543-548.
- Jones RL & Keen DH 1993 *Pleistocene environments in the British Isles*. Chapman and Hall, London.
- Jones RL, Birnie JF, Waton PV & Keen DH 1993 Grouville Marsh and Gorey Common Dunes. In Keen DH (ed.) *Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. pp 117-121.
- Jones RL, Birnie JF, Waton PV, Holyoak DT & Keen DH 1993 Goose Green or Beaumont Marsh (La Marais de St Pierre). In Keen DH (ed.) *Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. pp 131-136.
- Jones RL, Keen DH & Robinson JE 2000 Devensian Lateglacial and early Flandrian floral and faunal records from eastern Northumberland. *Proceedings of the Yorkshire Geological Society* **53**: 97-110.
- Jones RL, Keen DH, Birnie JF & Holyoak DT 1987 Holocene sea-level changes on Jersey. *Progress in Oceanography* **18**: 177-204.
- Jones RL, Keen DH, Birnie JF & Waton PV 1990 *Past Landscapes of Jersey-vegetation development and sea level change during the Flandrian Stage*. St. Helier, Société Jersiaise. 145 pp.
- Jones RL, Keen DH, Birnie JF, Waton PV & Holyoak DT 1993 St. Ouen's Bay, La Carrière and Le Port. In Keen DH (ed.) *Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. pp 136-142.
- Keen DH 1973 The age of the Hanborough Terrace of the River Evenlode. (Written discussion to a published paper). *Proceedings of the Geologists' Association* **84**(4): 479-481.
- Keen DH 1974 Notes on a Post-glacial "fossil" storm beach at Les Goubeyns and Rue de Galaad, Câtel. *Transactions of La Société Guernesiaise* **19**: 252-254.
- Keen DH 1975 Two aspects of the Last Interglacial in Jersey. *Annual Bulletin of La Société Jersiaise* **21**(3): 329-336.
- Keen DH 1978 A Palaeolithic flint flake from Noirmont Point. *Annual Bulletin of La Société Jersiaise* **22**(2): 205-208.
- Keen DH 1978 The Pleistocene deposits of the Channel Islands. *Report, Institute of Geological Sciences* **78/26**, 15pp.
- Keen DH 1980 A report of a short field meeting in the Channel Islands, 24th-28th September 1979. *Quaternary Newsletter* **30**: 24-28.

- Keen DH 1980 The environment of deposition of the Hampshire "Plateau Gravels". *Proceedings of the Hampshire Field Club and Archaeological Society* 6: 15-24.
- Keen DH 1981 The Holocene deposits of the Channel Islands. *Report, Institute of Geological Sciences* 81/10, 12 pp.
- Keen DH 1982 Depositional sequence, age and palaeoenvironment of raised beaches and head in the Channel Islands and the central Channel. *Bulletin l'Association Française pour l'étude du Quaternaire* 9: 3-11.
- Keen DH 1982 Late Pleistocene Land Mollusca from the Channel Islands. *Journal of Conchology* 31: 57-61.
- Keen DH 1985 Late Pleistocene deposits and Mollusca from Portland, Dorset. *Geological Magazine* 122(2): 181-186.
- Keen DH 1986 A cold climate molluscan fauna from Portelet, St.Brelade. *Annual Bulletin of La Société Jerseyaise* 24(2): 270-274.
- Keen DH 1986 Late Pleistocene land Mollusca from Portelet, Jersey. *Journal of Conchology* 32(3): 200.
- Keen DH 1986 The Quaternary sequence in the Channel Islands. Chapter 5, pp 43-54. In Callow P & Cornford JM (ed.) *La Cotte de St.Brelade, Jersey-Excavations by C.B.M. McBurney 1962-1980*. Norwich, Geobooks.
- Keen DH 1987 Non-marine molluscan faunas of periglacial deposits in Britain. Chapter 24, pp 257-264. In Boardman J (ed.) *Periglacial processes and landforms in Britain and Ireland*. Cambridge, C.U.P.
- Keen DH 1987 Portland Bill - Upper Pleistocene marine and periglacial deposits. In Barber KE (ed.) *Wessex and the Isle of Wight. QRA Field Guide*. Cambridge, Quaternary Research Association. pp 81-95.
- Keen DH (ed.) 1989 *West Midlands. Field Guide*. Cambridge, Quaternary Research Association. 147 pp.
- Keen DH 1989 Froghall Pit. In Keen DH (ed.) *West Midlands. Field Guide*. Cambridge, Quaternary Research Association. pp 29-30.
- Keen DH 1989 Quaternary Deposits. Chapter 8, pp 82-94. In Bishop AC & Bisson G (ed.) *Jersey-Description of 1:25000 Channel Islands Sheet 2*. London, British Geological Survey, HMSO.
- Keen DH 1989 The molluscan fauna of a Flandrian tufa at Lower Beck, Malham, North Yorkshire. *Journal of Conchology* 33(3): 173-179.
- Keen DH 1989 The molluscan fauna of the Woodston Beds, Peterborough. *Conchologists' Newsletter* 110: 203-204.
- Keen DH 1990 Excavations on The Town Wall, Friars Road, Coventry (edited by Soden I). Appendix 2; Mollusca. *Coventry Museum Archaeology Unit, Archive Report*, 3 pp. (Unpublished report).
- Keen DH 1990 Significance of the record provided by Pleistocene fluvial deposits and their included molluscan faunas for palaeoenvironmental reconstruction and stratigraphy: case studies from the English Midlands. *Palaeogeography, Palaeoclimatology, Palaeoecology* 80: 25-34.
- Keen DH 1991 A second pearl from the Cromerian of the West Runton Freshwater Bed. *Conchologists' Newsletter* 116: 359-360.
- Keen DH 1992 Interglacial Mollusca from the Cradley Silts, Hereford and Worcester. (Appendix A In Barclay WJ, Brandon A, Ellison RA & Moorlock BSP: A Middle Pleistocene palaeovalley-fill west of the Malvern Hills). *Journal of the Geological Society of London* 149(1): 75-92.
- Keen DH (ed.) 1993 *The Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. 192 pp.
- Keen DH 1993 Flandrian deposits. In Keen DH (ed.) *Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. pp 33-35.
- Keen DH 1993 Pre-Flandrian deposits, landforms and environments. In Keen DH (ed.) *Quaternary of Jersey. Field Guide*. Cambridge, Quaternary Research Association. pp 11-20.
- Keen DH (ed.) 1994 Sussex and East Anglia. *Association Française pour l'étude du Quaternaire meeting guide, 12th-15th May, 1994*. [Compilation and contribution by D.H. Keen, 140 pp].
- Keen DH 1995 Late Pleistocene molluscan faunas from the loess of north-central China. *Quaternary Science Reviews* 14(7-8): 699-706.
- Keen DH 1995 Raised beaches and sea-levels in the Eastern Channel in the Middle and Late Pleistocene: problems of interpretation, and implications for the isolation of the British Isles. In Preece RC (ed.) *Island Britain: a Quaternary Perspective. Geological Society of London Special Publication No 96*, London, The Geological Society. pp 63-74.
- Keen DH 1997 The Quaternary of the South Midlands and the Welsh Marches. Annual Field Meeting, 24th-27th March 1997. Meeting Report. *Quaternary Newsletter* 82: 26-29.
- Keen DH 1998 Hope's Nose and Thatcher Rock. In Campbell S, Hunt CO, Scourse JD & Keen DH (eds) *The Quaternary of South West England*. London, Chapman & Hall, pp 164-167.
- Keen DH 1998 Kent's Cavern. In Campbell S, Hunt CO, Scourse JD & Keen DH *The Quaternary of South West England*. London, Chapman & Hall, pp 134-138.
- Keen DH 1998 Portland Bill In Campbell S, Hunt CO, Scourse JD & Keen DH *The Quaternary of South West England*. London, Chapman & Hall, pp 160-164.
- Keen DH 1998 Start Point to Prawle Point In Campbell S, Hunt CO, Scourse JD & Keen DH *The Quaternary of South West England*. London, Chapman & Hall, pp 167-170.
- Keen DH 1998 The Quaternary history of the Dorset, south Devon and Cornwall coasts. Introduction. In Campbell S, Hunt CO, Scourse JD & Keen DH *The Quaternary of South West England*. London, Chapman & Hall, pp 155-160.
- Keen DH 1999 The chronology of Middle Pleistocene ("Wolstonian") events in the English Midlands. In Andrews PJ & Banham PH (eds) *Late Cenozoic Environments and Hominid Evolution - a tribute to Bill Bishop. Geological Society of London Special Publication*, London, The Geological Society, 159-168.

- Keen DH 2000 The palaeoecology of ponds: evidence from the Pleistocene record. *In Pond Action (2000), Proceedings of the Ponds Conference, 1998. Oxford, The Ponds Conservation Trust.* 5-11.
- Keen DH 2001 The Geology of St Ouen's Bay. *In Patton MA & Finlaison MB (ed.) Patterns in a prehistoric landscape: the archaeology of St Ouen's Bay, Jersey. St Helier, Société Jersiaise,* pp 8-13.
- Keen DH 2001 Towards a late Middle Pleistocene non-marine molluscan biostratigraphy for the British Isles. *Quaternary Science Reviews* **20**: 1657-1665.
- Keen DH 2003 Glaciations in the Midlands - some revisions of traditional views. *Mercian Geologist* **15**(4): 242-243.
- Keen DH 2005 Appendix 1, Mollusca in Tooley MJ & Smith DE Relative sea-level change and evidence for the Holocene Storegga Slide tsunami at a site in Fife, Scotland, United Kingdom. *Quaternary International* **133/134**: 107-119.
- Keen DH, van Vliet-Lanoë B & Lautridou J-P. 1996 Two long sedimentary records from Jersey, Channel Islands: stratigraphic and pedologic evidence for environmental change during the last 200kyr. *Quaternaire* **7**(1): 3-13.
- Keen DH, Bateman MD, Coope GR, Field MH, Langford HE, Merry JS & Mighall TM 1999 Sedimentology, palaeoecology and geochronology of Last Interglacial deposits from Deeping St James, Lincolnshire, UK. *Journal of Quaternary Science* **14**(5): 411-436.
- Keen DH & Bridgland DR 1986 An interglacial fauna from Avon No 3 terrace at Eckington, Worcestershire. *Proceedings of the Geologists' Association* **97**(3): 303-307.
- Keen DH, Coope GR, Jones RL, Field MH, Griffiths HI, Lewis SG & Bowen DQ 1997 The Middle Pleistocene deposits at Frog Hall Pit, Warwickshire, England and their implications for the age of the type Wolstonian. *Journal of Quaternary Science* **12**(3): 183-208.
- Keen DH & Green CP 1987 Stratigraphy and palaeoenvironments of the Stone Point deposits. *In Barber KE (ed.) Wessex and the Isle of Wight-QRA Field Guide.* Cambridge, Quaternary Research Association. pp 16-20.
- Keen DH, Hardaker T & Lang ATO 2006 A Lower Palaeolithic industry from the Cromerian (MIS 13) Baginton Formation of Waverley Wood and Wood Farm Pits, Bubbenhall, Warwickshire, U.K. *Journal of Quaternary Science* **21** (5): 457-470.
- Keen DH, Harmon RS & Andrews JT 1981 U-series and amino-acid dates from Jersey. *Nature* **289**: 162-164.
- Keen DH, Jones RL & Robinson JE 1983 A Late Devensian and Early Flandrian fauna and flora from Kildale, North-east Yorkshire. *Proceedings of the Yorkshire Geological Society* **44**(4): 385-397.
- Keen DH, Jones RL, Evans RA & Robinson JE 1988 Late Devensian and early Flandrian faunal and floral assemblages from Bingley Bog, West Yorkshire. *Proceedings of the Yorkshire Geological Society* **47**(2): 125-138.
- Keen DH, Lauriat-Rage A, Brebion PH, Lefebvre D, van Vliet-Lanoë B & Hallégouët B 1997 The calcareous shore-face complex of eastern St Brieuc Bay. *In van Vliet-Lanoë B, Hallégouët B & Monnier J-L The Quaternary of Brittany. Field Guide.* Rennes, Laboratoire d' Anthropologie. pp 17-21.
- Keen DH & Lautridou J-P 1982 Report on an overseas field meeting in Normandy. *Quaternary Newsletter* **38**: 32-38.
- Keen DH, Robinson JE, West RG, Lowry F, Bridgland DR & Davey NDW 1990 The fauna and flora of the March Gravels at Northam Pit, Eye, Cambridgeshire, England. *Geological Magazine* **127**(5): 453-465.
- Keen DH, van Vliet-Lanoë B & Lautridou J.-P 1993 Belcroute and Portelet. *In Keen DH (ed.) Quaternary of Jersey. Field Guide.* Cambridge, Quaternary Research Association. pp 62-77.
- Lang ATO & Keen DH 2005 Hominid colonisation and the Lower and Middle Palaeolithic of the West Midlands. *Proceedings of the Prehistoric Society* **71**: 63-83.
- Lang ATO & Keen DH 2005 A further andesite handaxe from Waverley Wood Quarry, Warwickshire. *Lithics* **24**: 32-36.
- Langford HE, Bateman MD, Boreham S, Coope GR, Fletcher W, Green CP, Keen DH, Mighall TM, Rolfe C & Schreve DC 2004 Funtham's Lane East. *In Langford HE & Briant RM (eds) Nene Valley. Field Guide.* Cambridge, Quaternary Research Association, pp 69-106.
- Langford, H.E., Bateman, M.D., Penkman, K.E.H., Boreham, S., Briant, R.M., Coope, G.R & Keen, D.H. 2007. Age-estimate evidence for Middle and Late Pleistocene aggradation of River Nene 1st Terrace deposits at Whittlesey, eastern England. *Proceedings of the Geologists' Association*, **118**, in press.
- Langford HE, Keen DH & Griffiths HI Sutton Cross 2004 *In Langford HE & Briant RM (eds) Nene Valley. Field Guide.* Cambridge, Quaternary Research Association pp 162-173.
- Lautridou J-P (ed.) 1982 *The Quaternary of Normandy* (translated by DH Keen). C.R.D.P., Caen, 88 pp.
- Lautridou J.-P, van Vliet-Lanoë B & Keen DH 1993 Correlations with Normandy and Brittany. *In Keen DH (ed.) Quaternary of Jersey. Field Guide.* Cambridge, Quaternary Research Association. pp 24-27.
- Lautridou J-P, Keen DH, Monnier J-L 1986 The loess and other Pleistocene periglacial deposits of northwest Europe including their relationships with marine formations and features. *Field Guide for the INQUA Loess Commission and the Periglacial Commission of the IGU, Centre de Géomorphologie, Caen,* 214pp.
- Leng MJ, Sloane HJ, Keen DH & Duller GAT 1998 Slug shells - records of palaeoclimate. *NERC Isotope Geosciences Laboratory Report; Project IP/524/0997,* 10 pp. (Unpublished report).
- Lewis SG, Maddy D, Buckingham C, Coope GR, Field MH, Keen DH, Scaife RG & Scott, K 2006 Pleistocene fluvial sediments of the Upper River Thames at Latton, Wiltshire, England. *Journal of Quaternary Science* **21**: 181-205.

- Lister AM & Keen DH 1989 Snitterfield Pit and faunal remains. In Keen, DH (ed.) West Midlands. Field Guide. Cambridge, Quaternary Research Association. pp 34-37.
- Lister AM, Keen DH & Crossling J 1990 Elephant and molluscan remains from the basal levels of the Baginton-Lillington Gravels at Snitterfield, Warwickshire. *Proceedings of the Geologists' Association* **101**(3): 203-212.
- Lowe JJ, Coope GR, Keen DH & Walker MJC 1994 High resolution stratigraphy of the last glacial-interglacial transition (LGIT) and inferred climatic gradients. In Funnell BM & Kay RLF (ed.) *Palaeoclimate of the last Glacial/Interglacial Cycle*. Special Publication 94/2 of the NERC Earth Sciences Directorate, Swindon, NERC pp 47-52.
- Maddy D, Brandon A, Coope GR, Douglas TD, Green CP, Gao C, Howard AJ, Keen DH, Richards A, Sinclair JM, Smith KA, Sumbler MG & Worsley, P 1999. English Midlands. In Bowen DQ (ed.). A revised correlation of Quaternary deposits in the British Isles. *Geological Society of London Special Report Number* **23**: 29-44.
- Maddy D, Bridgland DR & Keen DH 1987 Investigation of a probable Upton Warren Interstadial site near Bengeworth, Worcestershire. *Quaternary Newsletter* **52**: 16-22.
- Maddy D, Keen DH, Bridgland DR & Green C.P 1991 A revised model for the Pleistocene development of the River Avon, Warwickshire. *Journal of the Geological Society of London* **148**(3): 473-484.
- Maddy D, Lewis SG & Keen DH 1999 Pleistocene palaeomeanders of the River Avon, Warwickshire. *Proceedings of the Geologists' Association* **110**(2): 163-172.
- Maddy D, Lewis SG, Scaife RG, Bowen DQ, Coope GR, Green CP, Hardaker T, Keen DH, Rees-Jones J, Parfitt S & Scott K 1998 The Upper Pleistocene deposits at Cassington, near Oxford, England. *Journal of Quaternary Science* **13**(2): 205-232.
- Meijer T 1998 References of relevant publications about Eemian deposits: a base for a European Eemian Bibliography. Netherlands Institute for Applied Geosciences-TNO Publication for the INQUA-SEQS Symposium: The Eemian. Local sequences, global perspectives, Kerkrade, 6-11th September 1998. [with contribution by DH Keen and 24 others to a 2300 reference database]. 126 pp.
- Morzadec MT (ed.) 1990 *Field Guide Brittany/Normandy/Jersey INQUA Sub-commission on the shorelines of Northwest Europe*. Rennes, Department of Geology, University of Rennes [with contribution by DH Keen].
- Mottershead DN, Gilbertson DD & Keen DH 1987 The Pleistocene marine deposits of Torbay - a reappraisal. *Proceedings of the Geologists' Association* **98**(3): 241-257.
- Murton JB, Baker A, Bowen DQ, Caseldine CJ, Coope GR, Currant AP, Evans JG, Field MH, Green CP, Hatton J, Ito M, Jones RL, Keen DH, Kerney MP, McEwan R, McGregor DFM, Parish D, Robinson JE, Schreve DC, Smart PL 2001 A late Middle Pleistocene temperate-periglacial-temperate sequence (Oxygen Isotope Stages 7-5e) near Marsworth, Buckinghamshire, UK. *Quaternary Science Reviews* **20**(18): 1787-1825.
- Parfitt SA, Owen F & Keen DH 1998 Pleistocene stratigraphy, vertebrates and Mollusca, Black Rock, Brighton In Murton JB, Whiteman CA, Bates MR, Bridgland DR, Long AJ, Roberts MB & Waller MP (ed.) *The Quaternary of Kent and Sussex. Field Guide*. London, Quaternary Research Association. pp 146-150.
- Pentecost A, Viles HA, Goudie AS & Keen DH 2004 The travertine deposit at Shelsley Walsh, Hereford and Worcestershire. *Transactions of the Woolhope Naturalists Field Club* **50**(1): 25-36.
- Rogerson RJ, Keen DH, Coope GR, Robinson JE, Dickson JH & Dickson CA 1992 The fauna, flora and palaeoenvironmental significance of deposits beneath the low terrace of the River Great Ouse at Radwell, Bedfordshire, England. *Proceedings of the Geologists' Association* **103**(1): 1-14.
- Rousseau D-D & Keen DH 1989 Malacological records from the Upper Pleistocene at Portelet (Jersey, Channel Islands): comparisons with western and central Europe. *Boreas* **18**: 61-66.
- Ruffignac C de, Bowen DQ, Coope GR, Keen DH, Lister AM, Maddy D, Robinson JE, Sykes GA & Walker MJC 1995. Late Middle Pleistocene interglacial deposits at Upper Strensham, Worcestershire, England. *Journal of Quaternary Science* **10**(1): 15-31.
- Schreve DC, Bridgland DR, Allen P, Blackford JJ, Fazakerley R, Gleed-Owen CP, Griffiths HI, Keen DH & White MJ 2002 Late Middle Pleistocene environments of the Lower Thames: sedimentology, palaeontology and archaeology of the Corbets Tey Formation at Purfleet, Essex, UK. *Quaternary Science Reviews* **21**(12/13): 1423-1464.
- Schreve DC, Harding P, Bridgland DR, Allen P, Clayton F, Keen DH & White MJ 2006 A Levallois knapping site at West Thurrock, Lower Thames, U.K.: its Quaternary context, environment and age. *Proceedings of the Prehistoric Society* (in press).
- Shotton FW, Keen DH, Coope GR, Gibbard PL, Aalto M, Peglar S, Currant AP & Robinson JE 1993 The Middle Pleistocene deposits of Waverley Wood Pit, Warwickshire, England. *Journal of Quaternary Science* **8**(4): 293-325.
- Taylor JA & Keen DH 1991 Obituary. William Phillip Seymour 1954-1990. *Quaternary Newsletter* **64**: 41.
- Vliet-Lanoë B van, Laurent M, Bahain JL, Balescu S, Falguères C, Field MH, Hallégouët B & Keen DH 2000 Middle Pleistocene raised beach anomalies in the English Channel, regional and global stratigraphic implications. *Journal of Geodynamics* **29**: 15-41.