

About BUGZ

Full-text electronic archive of the *Bibliography of New Zealand Terrestrial Invertebrates 1775 - 1993*

What is BUGZ?

BUGZ is a user-friendly web interface designed to allow full-text search and retrieval of information from New Zealand's largest compilation of invertebrate literature – the 'BUGS' bibliography (Ramsay & Crosby 1992). 'BUGZ' contains a literature database of 16,080 articles on the terrestrial invertebrates of New Zealand, published between 1775 and 1993 and provides full-text indexing of the more than 200,000 pages of text scanned from the articles of the BUGS bibliography. This massively enhances the search capabilities and subsequent access to archived information on the taxonomic status, life history, ecology, and conservation significance in the primary literature on New Zealand's terrestrial invertebrates.

Apart from the ability to undertake full-text searching, BUGZ is the first New Zealand biodiversity database to allow dynamic matching of its entire full-text database against the taxonomic namebank of uBio – the universal Biological indexer and organiser. Namebank is a reconciled list of over 8,000,000 taxonomic names (including homonyms, synonyms and common names) and creates a virtual link to an ever-increasing number of international biodiversity databases (e.g. GBIF, NCBI, ITIS, Species 2000) that may contain additional biodiversity information useful to the user.

History of the BUGS bibliography

'BUGS' had its origins in the library of the late David Sharp (1840 - 1922) of England, who was recorder for the Insecta section of the Zoological Record (1886 - 1922). Purchased by the Cawthron Institute in 1921, at the instigation of the late Robin Tillyard (1881 - 1937), it became the foundation of the Cawthron library, subsequent DSIR Entomology library, and finally the Landcare Research library. In 1956, the late David Miller produced the first comprehensive bibliography of New Zealand entomology, a project that included over 4000 references and took 15 years to complete. A further 30 years of work by Graeme Ramsay and Trevor Crosby produced the BUGS bibliography, which was a guide to 14,500 references from about 950 periodicals, numerous books, and about 750 theses and projects from New Zealand universities published between 1775 and 1985 (Ramsay & Crosby 1992). All written sources in the public domain were included in the BUGS bibliography, including both core scientific papers and popular accounts. Ramsay and Crosby (1992) estimated that about 95% of the core literature and at least 60% of the popular literature was included for the major invertebrate groups. A partial update of the bibliography was undertaken from 1985 to 1993, adding a further ~1500 references to BUGS. It is this 1993 list of 16,080 articles that BUGZ draws on to provide information for users, and no value judgements have been made concerning the quality and status of information in the references.

Why the BUGZ project was needed

Information stored in scientific publications is probably the single most important primary source of information on terrestrial invertebrate biodiversity in New Zealand. However, efficient access to this material is often difficult or time consuming due to inadequate indexing of publications and the difficulty in locating the few remaining copies of many older articles. The information retrieval service created by Ramsay and Crosby (1992) for the BUGS bibliography was the first attempt to provide a streamlined retrieval system for New Zealand invertebrate literature. Released in 1992 this was known as BUGS on-disc and was subsequently updated as part of the CD-ROM Spectrum 1994 (which contained the update from 1985 to 1993). These original electronic bibliographies facilitated information retrieval on the basis of a thesaurus of over 4000 content descriptors, but were inevitably limited in not being able to access the full text of the articles. As part of the Department of Conservation's goal to improve access to biodiversity information in New Zealand, BUGZ has been implemented to help address Objective 9.5 of the New Zealand Biodiversity Strategy (NZBS) 2000: Share information and best practice: Develop resources and systems that promote the consolidation and sharing of information about indigenous biodiversity and hands-on biodiversity management. More generally, BUGZ also aims to improve access to information on terrestrial invertebrates in New Zealand for as wide a range of specialist and non-specialist end-users as possible, including not just research scientists and conservation managers, but also local authorities, iwi and hap, sector groups, communities and landowners (Objective 1.1 of the NZBS). With increased access to information on New Zealand invertebrates, BUGZ will foster information sharing at all levels from increased local community awareness and involvement in actions that support the conservation and sustainable use of biodiversity at a local level in New Zealand (Objective 8.1), to national strategies for information sharing on biosecurity issues (Objective 5.1), and to international cooperation on biodiversity management (Objective 10.2 of the NZBS) and better biosecurity at the border (Objective 5.3).

Special features of BUGZ

Apart from the ability to undertake full-text searching, BUGZ is the first New Zealand database to allow dynamic matching of its entire full-text database against the taxonomic namebank of uBio – the universal Biological indexer and organiser. Namebank is a reconciled list of over 8,000,000 taxonomic names (including homonyms, synonyms and common names), by matching the names on individual pages of the core BUGS literature, BUGZ creates a virtual link to an ever-increasing number of international databases (e.g., GBIF, NCBI, ITIS, Species 2000) and other 'expert systems' that may contain additional biodiversity information useful to the user.

Limitations and future developments

Where copyright restrictions allow, scanned images of articles from the BUGS bibliography are available for download free of charge, as scanned image files of the highest quality possible. The underlying text content of the articles is accessible through a full-text search facility in BUGZ, but is not available for downloading with each article. This allows complete flexibility to the user, while at the same time only giving access to the unaltered version of the article as it was originally published, without risk of inadvertent error through imperfect text recognition or rekeying. BUGZ is envisaged as an updatable database and hopefully future funding will allow us to expand on the resource and make links to present-day publications available in due course.

Project funding

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References

Ramsay, G. W.; Crosby, T. K. 1992: Bibliography of New Zealand terrestrial invertebrates 1775 - 1985, and guide to the associated information retrieval database BUGS. *Bulletin of the Entomological Society of New Zealand* 11: 1 - 440.