



## MARINLIT: A Marine Literature Database

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A vital component in any research programme is awareness of the chemical literature both past and current. To assist our endeavours in marine natural products chemistry, MARINLIT, a marine literature database, was established in 1984. MarinLit was designed around APPLE computers and the current version uses FOXBASE<sup>+</sup>/MAC to establish the relational database. MARINLIT requires 7Mb of disk space and is operative on all Macintosh computers.

In constructing this database the focus has been on creating a tool useful at the outset of an investigation. The emphasis therefore is on taxonomic and biological data - information not readily available from CAS. The various other features of MARINLIT such as molecular weight and molecular formula searching as well as the extensive use of keywords (>300) as descriptors become apparent on using the database.

Recent years have seen the development of various databases for the recovery of the literature on marine natural products and related areas. Inevitably, these databases have grown from individual efforts to keep in touch with the chemical literature on marine natural products. Just as inevitably these databases show the personal bias of the creator(s) to certain areas or to certain data. One or two of these databases are now available on a commercial or semi-commercial basis.

Our marine chemistry group in New Zealand has been no exception to this trend and as a consequence have invested a lot of thought, time and energy into the development of our own data retrieval system. *It is a foregone conclusion that no one approach to the construction of a database will suit all persons.* For our group, MARINLIT has paid handsome dividends and is an invaluable research tool allowing rapid access to a wide cross-section of data relevant to marine natural product research. For example

Do you want to know what previous work has been carried out on a Family of the Order Poecilosclerida?

How many papers have been published on monoterpenes from the Rhodophyta?

Is your interest in a certain geographical region?

Has a compound of this molecular formula been reported before, or perhaps of a certain molecular weight?

Is your interest in carbohydrates from sea pens, or allelochemicals from sea hares?

Perhaps your interest is in antiviral agents from marine algae, or cytotoxic agents from ascidians?

And so on. The combinations are almost endless.



MARINLIT has evolved over a seven year period and covers most aspects of marine natural products chemistry. The files now contain nearly 4500 records, each consisting of all the usual bibliographic information, together with up to 12 key words per record from a choice of over 300 descriptors from 18 broad fields. Where appropriate, molecular formulae, molecular masses and taxonomy are included. A conscious decision not to include spectral data was made at an early stage, but as an alternative approach we have made allowance in the database for the inclusion of graphical representation of structures.

The emphasis we place on the use of this database is as an aid to the **dereplication** of collection samples, rather than as a tool to assist in structure determination. By taking this approach, we feel that a much more rational choice can be made in the **selection** of a sample to commence work on. The selection of sample is arguably the most critical in the sequence from collection through to characterisation of a metabolite. To achieve this particular emphasis we have attached as much taxonomic data as possible to each bibliographic record. Thus a search can be initiated not simply on say metabolites of type x from sponges, but rather metabolite x from sponges of a given genus/species, (or family or order) etc.

The database is updated regularly with information from a two-weekly standard search on CAS, and other sources.

Apart from the style of the system one major difference is that this database is Macintosh oriented, thus offering all the convenience and simplicity of the Macintosh environment. All of the information is rapidly accessible through a custom-developed program using FOXBASE<sup>+</sup>/MAC. Facilities are available for multiple field searching using a full range of logical operators and the output of search results can be readily formatted to suit individual requirements. The minimum configuration would be a Macintosh Plus with 1Mb memory and equipped with a hard disc, but there would be benefits in speed and convenience by using a faster Macintosh with more memory.

MARINLIT is available at a modest cost. By offering you, or your group, access to MARINLIT we are not embarking on a commercial venture, rather we are attempting to limit the very real costs associated with maintaining a good bibliographic source. Our suggestion is this: become a member of the MARINLIT co-operative and pay an annual maintenance fee thereafter.

For this you would get the custom-developed program written in FOXBASE<sup>+</sup>/MAC code for accessing the also supplied data files, and about every 6 months we would provide updated files.

It is not an ideal world, so inevitably mistakes and omissions will be found, maybe bugs in the program, perceived biases in the selection of the data and so on. At this point we would stress that we see this as a **co-operative** venture, so naturally we would encourage members of the co-operative to make suggestions, correct errors and so on. In this way, at each update, MARINLIT becomes more effective.

Details on the cost and the availability of MARINLIT can be obtained by contacting the authors (see foot note a).

We can only emphasise that personally we have found MARINLIT to be very effective, we are trying to spread costs, not make money and would like to see the system develop on a co-operative basis within the community of marine natural product chemists.

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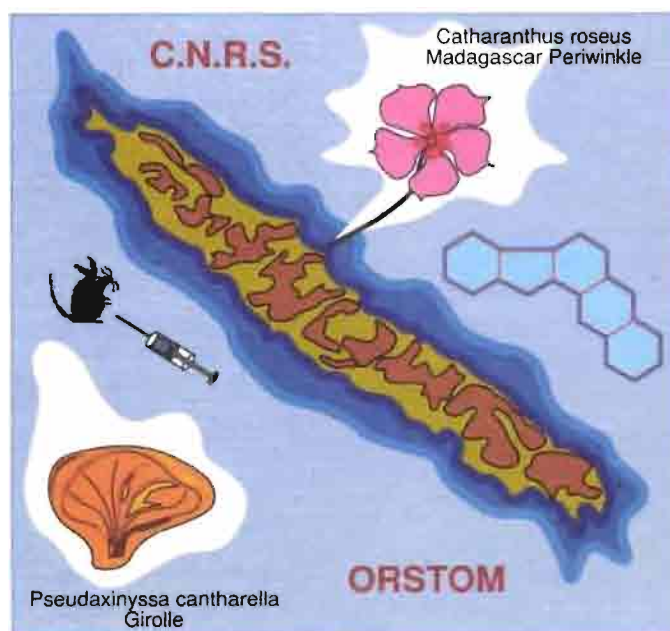
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