

“Bugging the Media”: TV broadcasting and the invertebrate agenda

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It seems even in this current age of scientific enlightenment our spineless invertebrate cousins are still being ignored and despised. It remains a hard call for anyone wishing to use the electronic media to push the case for the importance of invertebrates in biodiversity research and nature conservation. Not only do the prejudices of the general public have to be overcome, but so too do the negative pre-conceptions of those in editorial and financial control of the outlets. This is especially true of television, the major vehicle for getting a generalist message into the family home.

INTRODUCTION

Television is a medium that is dominated by percentages and proportions: success is governed by figures for *ratings*, *market share* and *houses using television*. The great contradiction is that while such objective analysis is applied to program performance, program selection and critique is a far more subjective process. So too is the following personal comment concerning the relationship between invertebrates and the small screen.

THE UNTOUCHABLES

Twenty years ago, textbooks talked about a million or more described species on Earth of which 5% were vertebrate. Now, taxonomists talk of tens of millions of species, with most of the extra millions being invertebrates. From dominating the species count, invertebrates now completely swamp it. This is a staggering change in emphasis — and one that has largely passed the world by. The reason was stated quite clearly in the textbook of the time: Barnes' *Invertebrate Zoology*, 3rd Edition (1974):

“Division of the Animal Kingdom into the vertebrates and invertebrates is artificial and reflects human bias in favor of man's own relatives.”

We humans have a predilection for ourselves and those organisms we recognize as being similar to us. We also talk of “Life on Earth” when we live on a planet that is two-thirds water. Salty fluid courses through our bodies and permeates our cells. Yet when we think of marine conservation it is one of the relatively few creatures fortunate to have been born with a backbone and the handicap of having to return to the surface to breathe, not the myriad organisms that support them. While it is from the oceans that life most likely arose, and where much of it still resides, it is

those creatures that share the dry land with us that attract most empathy.

When it comes to invertebrates, Australia truly is the lucky country. We are fortunate to be the home of some of the planet's most spectacular and diverse invertebrate faunas. On our northern shoreline we have vast limestone cities built by billions of budding coral polyps that form the largest biologically manufactured structures visible from space. Within these ramparts are living coral colonies that began life in the last millennium, old enough to have recorded sea surface temperatures from the time of the Crusades. We have the most marvelously poisonous spiders, cone shells, jellyfish and octopuses. Our seas are home to the world's largest clams and the biggest cuttlefish. Our soils, thin as they are, are home to the world's longest earthworms. Across the Tasman is the Giant Weta, the world's largest insect and somewhere deep underwater is the breeding ground of giant squids perhaps 20 metres in length and with eyes the size of dinner plates.

Yet, this wonderful picture is not what most people conjure up when asked to think of invertebrate Australians. Rather it is a narrower view of rogue American cockroaches, house flies, mosquitoes and the neatly stacked rows of insecticides, fleabombs and “cockroach hotels” that decorate every supermarket.

FEAR AND LOATHING

It would seem fair to argue that more air time and money is spent on advertising campaigns promoting the death and destruction of invertebrate pest species than is spent on extolling the virtues of their far more numerous spineless relations. There is money to be made in fear.

You are hardly likely to read about the billions of insects killed in 1997s South-east

Asian wildfires and the probable loss of entire species we may not even have known we had. You are certainly not going to be switching on the TV for shows with catchy names like “*Mad About Urochordata*”, “*Australia’s Strangest Sipunculids*” or “*Race Around the Cavity Slide*”. Oprah Winfrey is unlikely to host a show about “people who mount insect mouthparts for a living” even though talk shows have exhausted just about every other conceivable topic.

It is easy to think that invertebrates have been well served by the innumerable wildlife and natural history programs that have become a television staple over the last 30 years, but the subject matter has been overwhelmingly backboned in nature. With rare exceptions, “bugs” have been relegated to bit parts.

There are many people who have a sense of the world being inhabited by plants and animals on one hand and a whole lot of creepy crawly things on the other. Humans are something else again — somehow separate and beyond the rest of existence. Until recently, most invertebrate groups have not even been legally defined as animals (a situation which remains very confused) and most phyla are a complete mystery to the general public. We clear forest, grassland and seafloor. We modify our rivers and wetlands. And we know not what we lose.

SPEAKING PERSONALLY

I became professionally involved with invertebrates at university, ending up studying the eyeballs of serpulid polychaete tube-worms. I remember being quite surprised at the time that here was an incredibly conspicuous reef animal that I had almost to myself. Plenty of people had scared these colourful worms down their tubes, but few had taken a closer look when they came back out.

In the 1980s, the waves of economic rationalism washing our shores looked set to undermine the sort of basic speculative research on non-commercial species that so much invertebrate biology is founded on. I left the salty seas of marine biology for the uncertain waters of television. My decision was as much about survival as opportunity. Indeed, of my polychaete mentors of the time, few still retain their research or curatorial positions as budget cuts for “non-essential” projects have taken hold.

At the ABC it was suggested that I should avoid filming — along with the usual small children and animals — anything with roots in the ground or that was “smaller than six

inches”. It was only partly a joke. Things that do not move tend to be less interesting on a moving image. Animals that are small and cryptic tend to be very difficult to film — and they tend to be “bugs”.

Like it or not, bugs for most people have been perceived as a turn-off, and turning off is what television executives are terrified of — especially in the ratings dominated commercial cable and broadcast media. There have been exceptions of course. For four years, we ran a popular environmental science series on ABC-TV called “A Question of Survival” which often championed the cause of invertebrates. To this day, ABC Radio transmits “Earthbeat” which still manages to do likewise.

GOOD NEWS WEEK

While it is easy to be cynical, it is also possible to be optimistic. We are lucky in Australia to have a dynamic and diverse media — both print and electronic, public and private. There has been a number of invertebrate success stories over the years. The unlikely winner would have to be the earthworm. Nearly every science, gardening, home improvement and current affairs TV program has done a story on the positive recycling powers of worms and their importance to soils. So too have the corresponding radio programs and most of the print media. The Australian public has responded to the extent that worms and worm farms are for sale in nearly every hardware and nursery across the country and even a few supermarkets.

Appreciation of those invertebrates that you can eat has also improved markedly over the last 20 years. Three decades ago sea urchins, cephalopods and a whole variety of shellfish were considered useful only for bait. Now they are on many a menu. Most people are also aware of coral reefs and their need for conservation, even if there is still confusion over what a coral colony really is.

There have been a few

After a long wait, invertebrates have started appearing more often in natural history programs. Indeed, they have become the stars of shows like “Night of the Bogong”, “Incredible Suckers” and “Alien Empire”. There has even been the successful feature film, “Microcosmos”. Perhaps this is because the world is beginning to run out of lions and tigers and elephants. Perhaps program makers have finally realized that 99% of the animal kingdom has been almost completely unfilmed. One thing is for sure, never before

have we had the range of technologies available that make it far easier to visualize the world of invertebrates. Recent advances in microscopy, the development of extraordinarily small and light sensitive cameras, and the infinite possibilities of 3D computer animation have all helped make it possible to experience the world from an invertebrate's perspective.

Another big change is the way invertebrates have wormed their way into the classrooms across the country. Children love bugs. This is one really major chink in the armour of public aversion to animals without backbones. Almost every child in Australia will do some course of work on "minibeasts" (such as beetles, worms and caterpillars) before leaving primary school. The more intricate, dangerous or colourful the creature the more popular they are. But without encouragement, a child's natural enthusiasm can be easily swamped by the fears and prejudices of others before they reach adulthood.

IT IS NOT EASY BEING GREEN

Invertebrates as subject matter is one thing. Getting a conservation message across is another. Appeals to the ethics and logic of conserving invertebrate species will make little or no headway against an industry that has become wary of committing funds and airtime to programs with a predominantly "green angle". This fear seems to stem from the late 1980s and early 1990s when networks seized upon popular concern about climate change and a deteriorating world environment. Some of the blockbuster polemics broadcast had the result of making audiences feel either angry, guilty or afraid. It is not clear whether there are only so many times that people will switch on for such a message or whether audiences rejected the quality and content of the programs themselves.

Couple this recent broadcasting history with the fact that most environmental series require expensive and exotic filming, and you find few distinctly environmental programs being commissioned in the late 1990s.

All of this probably says more about the mechanics of the way the electronic media tries to second guess its audience rather than the audience itself. Every time a survey is done asking people what they want to see on television, science and environment are always near the top of the list. The international success of cable channels such as *Discovery* and *National Geographic* suggests that this audience desire is real.

As for international programs on invertebrate conservation, one of the main sources of co-production funding is the USA, a country with a bug image problem even worse than ours. Programs like "Alien Empire", the BBC series on the natural history of insects, rated much better in the UK and Australia than it did in the US where it was not considered very successful.

THE GOOD, THE BAD AND THE UGLY

Much of what we see on the screen is a simple world of good versus evil, "bad guys" versus "good guys". It is not very believable. What all of us need to do — whether invertebrate specialists, vertebrate specialists, botanists or program makers — is try to allude to the complexity of living systems.

The best dramas and movies — the ones that stay in our hearts and minds — are the ones where the characters are more than two-dimensional cut-outs and the outcome does not follow a familiar fairytale scenario. Drama at its best is where our characters and their interactions are complex and their actions are played out in context with their emotional or physical environment. This level of realism in a film or article about slugs, cestodes or stick insects will help lodge invertebrates in the public's mind. It is neither easily achieved nor often wanted.

SELLING THE STORY

The trick to slipping worms, flies and slugs past media executives and into lounge rooms and dinner conversations across the country is to use techniques perfected by our invertebrate cousins: stealth, persistence and subterfuge.

Establishing an Invertebrate Agenda is really two problems in one. The first is getting people interested in invertebrates. The second is trying to get them to care. To raise invertebrate environmental concerns in a show, the best chance is to slip these into programs which could be more easily promoted as politics, natural history or science. Stressing "environment" or "invertebrate" in a proposal is more likely to doom it to the circular filing cabinet.

The cynics among us will tell you that selling your story to the electronic media is a little like the strategy employed to obtain a successful grant outcome. It helps to emphasize at least one of the following:

- the research is in "the national interest"
- the research is "ground-breaking"
- the results will be "nearly instantaneous"

- the project has “guaranteed results”
- the team has “a proven track record”

It might seem hard to expect the media to take invertebrates seriously when your scientific colleagues barely do themselves, but the time has come to put our phyla where our “pharynxes” are. The biggest selling point is usually the people who live with, or work on, these animals and not the creatures themselves. Personalizing subject matter is difficult with phyla other than our own but whatever the invertebrate story you want to get across to the public, it must be a story and it needs to have a context. The bottom line is that when you are dealing with unloved or unknown organisms it helps if you can make that context human.

HITTING THE TARGET

It is better, of course, not to wait to be “discovered” but to target the media directly. But before you do this you should think carefully about what sort of audience you are after and the sort of coverage you want.

A truly newsworthy story will get picked up by the Big Three: newspapers, radio news and TV news. If it is really gripping, you might get feature articles and programs produced that cover the story in more detail. Print and radio can react almost instantly to an event but the nature of television means often lengthy delays — especially if remote locations, impossible filming environments and peculiar animal behaviour is involved.

Most institutions are obliged to put out a general press release or press kit to the standard media channels — the papers, radio and the TV newsrooms. Although electronic news and current affairs will often pick up on stories that first make it into print, if you want to get in-depth coverage in the form of a featured television report or documentary, you might want to consider giving the producers a head start before the story has already made a splash elsewhere on TV. In an industry which is highly competitive, producers can be reluctant to commit resources unless reasonably certain not to be beaten to the punch.

So does that mean TV should be avoided? Of all three of the three big media, television is the one with the greatest potential reach. A television set is found in 99.8% of households in Australia. If a television set is on, chances are high that people are watching it. They will turn over or off if they get bored but you can read this on the figures. Even on the ABC, a 7:30 *Report* or *Quantum*

story will beam on to 500 000–1 000 000 television sets at a time across the country. Prime time on a commercial channel will give you even larger audiences. There is less guarantee that a particular article is read in a paper or listened to on the radio, and generally the potential audience is lower.

Choosing a specific program or branch of the media will inevitably mean choosing a specific type of audience, a style of storytelling and a level of intellectual content. An article in a magazine like *Nature Australia* or *Australian Geographic* will provide good coverage with a high level of scientific accuracy and context. It will be read mostly by people already well-versed in the subject matter and who probably already appreciate the importance of invertebrates.

The television alternative to the printed magazine — a program like *Quantum* or *Burke's Backyard* — can achieve something similar. Less detailed perhaps, but capable of reaching a wider and more diverse audience.

Radio has many of the advantages of print. Its subject matter is not limited to availability of pictures, and thoughts can be connected in ways that are not dictated in terms of conventions of picture editing and screen narrative. Radio is particularly good at the conversation and the personal essay. Both print and radio have an advantage over television of being able to devote more air-time and column inches to develop complex ideas.

By strategic targeting rather than a scatter-gun approach, you should be able to sell a version of the story for radio, print, and TV. Whichever outlet you choose, try and link your tale to an Internet site. It can be your own, one connected with the program or publication, or preferably both. This ensures that those people with access can delve deeper if they wish and react to what they have heard, read or seen before inspiration evaporates.

Do not expect to have your story treated like a scientific publication. It will be simplified. Qualifications of fact will not always be wanted, but filmable sequences will be. Individuals will be focused on, rather than teams and you will not be given the chance to thank all your funding bodies or affiliated organizations. The tendency, though not the rule, is that in the electronic media, the more detailed and accurate the content the smaller the likely audience. In terms of transmission of facts and information you still cannot beat the written word, but for creating an immediate awareness and emotional connection with the public, television is ideal.

Once you have targeted your media quarry, approach them armed with some of your own footage, photographs and press releases if necessary. The Coral Reproduction Group at James Cook University proved this most effectively in the mid 1980s with the discovery of mass coral spawning. The story was quite literally sexy and spectacular, which helped, but without a concerted effort it would have been years before the story really surfaced. It made a splash at the time and has done every year since.

THE FUTURE

If there is any truth in the highly subjective generalizations above, it may not apply for long. The analogue Media is metamorphosing into its new digital replacement. How much of the old structure will be left when it fully emerges is still unclear. Digital technology is

putting professional news gathering tools in the hand of the amateur. Digital broadcasting should diversify yet again the outlets for thought and discussion. The Internet has already allowed individuals and institutions direct contact with the public at large.

Change is definitely in the airwaves for invertebrates. Never before has Science had the fascinating insights into the wonders of the spineless kingdom as we do now. Never before have we had the proliferation of technology and media to bring these stories to the public's attention. Never before has it been so important to do so. The time is now overdue for invertebrates to march on to our small screens in a big way.

REFERENCES

- Barnes, R. D., 1974. *Invertebrate Zoology*. W. B. Saunders Company: Philadelphia.