

**WESTERN AUSTRALIAN
SOCIETY OF AMATEUR HERPETOLOGISTS**

SUBMISSION

to

**DEPARTMENT OF CONSERVATION & LAND
MANAGEMENT**

NOVEMBER 1991

ADDRESS
ALL CORRESPONDENCE RELATING TO
THIS SUBMISSION
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ABSTRACT

This submission presents arguments in favour of changes to the Department of Conservation & Land Management's (CALM) Policy (No. 22) concerning amateur herpetoculture and herpetology (keeping & study of reptiles or amphibians). Also included are methods by which these changes can be implemented simply and effectively. The benefits of this to both conservation and CALM are outlined and are believed to far outweigh any perceived negative factors.

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WESTERN AUSTRALIAN SOCIETY OF AMATEUR HERPETOLOGISTS

(WASAH)

WASAH was informally initiated on 16 November 1990 at Kalgoorlie, WA after CALM employees suggested that the only way to improve the untenable position of amateur herpetologists in this state is to form a lobby group and negotiate with CALM.

On that day in November four amateur herpetologists were present. On returning to Perth a further four amateurs became actively involved in discussions and decision making. Numerous others gave their support but did not wish to become actively involved for fear of jeopardising their current position by drawing attention to themselves.

We propose to lobby all and sundry for support. Our primary objective is to be recognised by CALM and given approval to maintain legally obtained reptiles and frogs in captivity. The term reptiles, where used in this document, is meant to include frogs.

Note: The term "amateur" is used here not out of disregard for professional herpetologists but because they are already considered by CALM. In fact, many world renown professional herpetologists support WASAH.

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** Only included with master submission*

INTRODUCTION

CALM has not requested submissions from the public on the keeping of reptiles by amateur herpetologists. However, as those with an amateur interest in herpetology are being increasingly alienated by CALM and because of the attempted prosecution under the Wildlife Conservation Act (see Annexure E) of an amateur herpetologist recently for a minor infringement, concern has mounted to the stage where we believe something needs to be done.

At present CALM does not generally recognise amateur herpetology. In fact, it totally prohibits the keeping of reptiles and amphibians by amateurs at all levels. Western Australia is the only state where this occurs. All other states and territories have provision for the keeping of some reptiles purely for the sake of keeping (see Annexure A).

Arguments by CALM for not liberalising their policy on keeping do little for education and conservation. CALM's arguments are discussed in Chapter 1.

To further support WASAH's request for a more liberal policy we include correspondence from some eminent Australian professional herpetologists (see Annexure G); a list of herpetological publications by amateurs (see Annexure D); and a list of new species collected by amateurs (see Annexure C),

Chapter 3 is a discussion on how WASAH perceives the ongoing operation of a more liberal policy and includes the fundamental rules for members.

To illustrate the interest by members of the public to be able to maintain reptiles we have included a petition. It must be remembered that the signatories on this are voting-age adults. We did not allow youngsters the opportunity to sign.

In this submission WASAH request that CALM formally recognise amateur herpetologists and herpetoculturalists opening the way for -

- 1) An exempt list of reptiles and frogs that may be taken and kept by amateur herpetologists. This exempt list of species to be implemented by way of an ongoing “**open season**” proclaimed by the Minister and published in the *Government Gazette*. Corresponding with the gazetted exempt list, all species on that list will be deemed by the Minister to be not recognised as fauna under the Wildlife Conservation Act. This de-recognition to be published by way of a notice in the *Government Gazette*. For a suggested exempt list see Annexure F.
- 2) Easy access by amateurs to Regulation 12A licences (or equivalent) to allow the keeping and breeding of reptiles and amphibians other than those on the exempt list.
- 3) Easy access by amateurs to Regulation 15 licences to allow the opportunistic collection of reptiles for the Western Australian Museum (WAM), etc.
- 4) To reduce the burden on CALM's resources WASAH would like to be self-regulating within current Wildlife Regulations and work closely with CALM. That is, rather than CALM vigorously pursuing minor offenders under the Act, WASAH and CALM sit together on a review board to determine action to take.

CHAPTER 1

A DISCUSSION PAPER ON CALM POLICY STATEMENT NO. 22:

TAKING, KEEPING AND DISPLAY OF LIVE REPTILES

- 1.1 The fundamental wrong perceived by WASAH is the discriminative policy directed at those who wish to maintain legally obtained reptiles and frogs. Bird people are already provided for adequately and we believe reptile people should be treated **equally**. There are provisions for this within the current Regulations (see Reg. 12A). As *Policy Statement No. 22* is formulated based to a large degree on the problems presented in the *Background* of that Policy, it is this *Background* discussed here.
- 1.2 It appears the policy has been put together with a lack of knowledge of the facts, or at least includes general statements that are not supported by the evidence at hand.

Reference: *Background, paragraph 3 -*

"The Department's objective is to protect and conserve reptiles in the wild throughout Western Australian."

Immediately there is an obvious problem here. CALM's other responsibility is forest management. This entails the necessary degrading of large natural forest areas with a varying degree of detrimental impact on the herpetofauna of these respective areas. This conflict of interest tends to cause more sceptical members of the public to question CALM's credibility. In recognising WASAH, and its role in education and conservation, CALM will be doing something more positive in this area.

Reference: *Background, paragraph 4 -*

"The need for strict policy regarding keeping is based on experience....." and "Keeping reptiles for hobby purposes can threaten the survival of wild populations."

WASAH is unaware of any Western Australian or Australian reptile threatened through amateurs taking or keeping. The broad-headed Snake (*Hoplocephalus bungaroides*) was believed by some to be threatened in New South Wales through over-collecting. It is now accepted that its survival is at risk through the removal of sandstone (for gardens) that it is associated with throughout its limited range. One of the rarest North American snakes (*Lampropeltis alterna*) known from only five specimens before the 2nd World War has been collected and avidly bred in captivity by keepers. It is now the most frequently exhibited species in both private and zoo collections (Tennant, 1985).

Reference: *Background, paragraph 5 -*

"Taking from the wild could affect the conservation status of scarcer varieties, but liberalisation of the policy would inevitably increase rates of collection from wild populations and disturbance of animals and their habitats."

This may be the case but the impact would be negligible. Ehmann *et al.* (1985) estimate 38,000 reptiles and frogs are taken in Australia each year for research and keeping. Of these, 20,000 are taken for research with the bulk taken wildlife authorities and museums during faunal surveys. Of the remaining 18,000, 16,000 are taken by keepers as food for reptile-specific feeders. These are the common geckos and skinks generally, and less than 2,000 are taken for keeping. Ehmann *et al.* also estimate 5 million reptiles and frogs are killed on Australian roads each year. Compare 38,000 to 5,000,000 - the impact would indeed be negligible!

Reference: *Background, paragraph 6 -*

Liberalisation of the policy would generally present problems with "administration and inspection of collections".

Reptiles are only marginally more difficult to inspect than birds. CALM should cultivate wildlife officers with a specific interest, i.e. if a WO is particularly interested in reptiles he/she should be encouraged in that area so they can be called upon to carry out inspections/handling if required.

Reference: *Background, paragraph 7 -*

"There is considerable illegal collection and trading of reptiles in Australia as well as smuggling of reptiles out of Australia."

WASAH believes this to be an unrelated issue. We do not and will not condone the illegal movement of fauna within or from Australia. Members of WASAH can assist the authorities in catching offenders by passing on information heard in this regard. We believe genuine amateurs to be the last people to be involved in the illegal trade mentioned.

Reference: *Background, paragraph 8 -*

WASAH does not deny that the granting of a licence is a *"privilege not a right"*. But, as the *"over-riding consideration in licensing decisions is the conservation of the reptiles in the wild"* we believe the contributions made by competent amateur herpetologists to the data on the biology, ecology and distribution of Australian reptiles are such that the privileged few should be expanded to include all competent amateur herpetologists in Western Australia. We go so far as to recommend the inclusion within the regulations a proviso covering amateur herpetologist licences. That is if the current

regulations (see Reg. 12A) are not broad enough to incorporate this.

- 1.3 Experience has shown in Australia that over stringent regulations can actually increase the incidence of illegal trafficking in protected fauna (Hodges, 1976).

LITERATURE CITED

- Ehmann, H. & Cogger, H.G.** 1985. Australia's endangered herpetofauna: a review of criteria and policies. *In. The Biology of Australasian Frogs & Reptiles* (Eds. G. Grigg, R. Shine & H. Ehmann), pp 435-447. Surrey Beatty & Sons, Sydney.
- Hodges, J.C.** 1976. Trafficking in fauna in Australia. *2nd Report of the House of Representatives Standing Committee on Environment & Conservation, September 1976*. Aust. Govt. Publ. Service, Canberra. 70 pp.
- Tennant, A.** 1985. The Grey-banded Kingsnake. In Reptile Keepers Assoc. Submission to New South Wales National Parks & Wildlife Service (Prepared by C. Chapman), Annexure G 1/2. RKA, Gosford, N.S.W.

CHAPTER 2

SOME BENEFITS OF A MORE LIBERAL POLICY ON

HERPTILE KEEPING IN WA

- 2.1 (a) An immediate benefit would be the increase in the number of people available for Reg. 4 licences (removal of reptiles considered pests). At present only a handful of licensees are listed, however, we believe there are many with the expertise to do this who wish to remain "underground" for fear of persecution by CALM. Many of the snakes removed are ideal as museum specimens (live animals are required for tissue sampling) as the benefit to the species in relocation is debatable. The public relations side of catch and removal (especially with snakes) can only be described as positive. Many of the reptiles removed from developed areas are ideal as captives for study by keepers.
- (b) Maintaining and observing animals in captivity give a person direction, a sense of purpose and enjoyment. The people who come in contact with a keeper will have their attitude enhanced positively - an area that requires a lot more work concerning snakes. Chance observations of captive reptiles have led to further study by biologists. Members of WASAH will be encouraged and directed to publish their observations.

- (c) Data collected on captive reproduction in even the most common species adds to the databank and can assist any program on captive breeding of rare or endangered species initiated later. Captive bred reptiles are ideal as specimens for study by keepers.
 - (d) Captive reptiles can be made available for biologists to examine, photograph or tissue sample (blood can be removed with no ill-effect to the reptile).
 - (e) Some studies require captive maintenance, breeding and controlled hybridisation. Enlisting the assistance of amateurs for this is cost-efficient. Large numbers of offspring require labour-intensive care. Offspring under study can be distributed amongst keepers to reduce the burden on limited resources.
- 2.2 Only some of the benefits of a more liberal policy are included here. Any interest by an individual in nature should be encouraged. Many of our foremost ecologists, taxonomists and general naturalists had their interest initiated as young amateurs. Western Australia has the added problem of being very large with a low human population density. All input on this state's herpetofauna by interested, genuine amateurs is invaluable in allowing us to further our knowledge on this faunal group.

CHAPTER 3

THE OPERATION OF A MORE LIBERAL CALM POLICY

CONCERNING AMATEUR HERPETOLOGY

- 3.1 Arguments supporting and benefits of a relaxing of CALM's present policy prohibiting almost totally amateur herpetology in Western Australia are included elsewhere in this submission. All other states and territories have provision for their respective residents to pursue an interest in this field from the most basic level, ie. to keep, maintain and observe some of the more common and captiveadaptable reptiles, through to more specialised research (see Annexure A).
- 3.2 At the basic level WASAH would produce care sheets to allow those wishing to maintain reptiles on the exempt list to do so in optimum conditions. WASAH would also encourage keepers to register their reptiles with the society and keep notes on all aspects of reptile husbandry. To complement this notekeeping we envisage, in the future, a newsletter published by the society to allow keepers to publish their husbandry notes and observations locally. This emphasis on notekeeping will prepare tyro amateur herpetologists for more advanced research.
- 3.3 Rather than take reptiles from natural areas of bush (defined here as crown land as other areas are prohibited for this purpose under existing Acts & Regulations) members of WASAH and other interested keepers will be educated in trapping the more elusive species and directed to only remove animals from areas earmarked for development or

other degradation. To reduce the numbers of reptiles removed from the wild keepers successfully breeding those in their care to make these available (at their discretion) to other keepers and potential keepers. At this basic level we would prohibit members (& try to influence non-members in this regard also) from keeping species not naturally occurring in their region. WASAH would also expect members to allow researchers access to their reptiles as long as this does not result in stress or injury to these reptiles (access at keeper's discretion).

- 3.4 At an advanced level WASAH would expect members to have access to Reg. 12 licences (or similar amateur licence) to allow the keeping and breeding of species not on the exempt list. Applicants will generally need to be members to be considered for this advanced licence and will be required to register the species and numbers they hold with the society. We foresee many of the reptiles acquired under this licence to come from Reg. 4 removals. Purpose for this licence is to allow the keeping and study of species not included on exempt list by keepers experienced in notekeeping and husbandry at a basic level. This licence to be restricted, generally, to members over 18 years old however exceptions may arise.
- 3.5 Easy access to Reg. 15 licences will allow members to remove roadkilled specimens, photograph individuals and collect reptiles of significance for major scientific institutions. Reptiles collected under this licence to be transferable to keeper's licence (Reg. 12?) until death when it is passed onto institution.

- 3.6 Members will be encouraged to assist scientific institutions if requested. Programs where members can be of significant assistance are those in the field of captive breeding - our resources and expertise economically available while at the same time enlarging captive stock available to other members.
- 3.7 While members of WASAH will be required to adhere to its rules and recognise its constitution, they, along with non-members, may be found in breach of the Wildlife Conservation Act at some time. In these cases, the action to be taken to be decided by a panel of elected members along with a representative from CALM. This would allow the Act to be applied in the spirit intended and reduce the workload of CALM personnel.
- 3.8 WASAH will, from time to time, conduct courses on handling of venomous species and identification for members, CALM personnel and anyone else who may be interested.

WASAH RULES FOR MEMBERS

- i) Members will cooperate with CALM and avoid breaching the Wildlife Conservation (& CALM) Act.
- ii) Members will endeavour to encourage non-members with an interest in herpetology to become members so that they will operate within the rules of the society.
- iii) Members' actions will reflect an attitude of conservation and education concerning herpetofauna at all times.
- iv) Members will advise the executive committee of any information obtained concerning trafficking in fauna.
- v) Members that come in contact with children who keep reptiles or frogs will assist, direct and encourage those children to register their animals with WASAH and keep notes on all aspects of their behaviour and husbandry.
- vi) Members (over 18) will assist the public in the removal of reptiles from both private and public areas where there is a threat to the reptile or a perceived threat to a member of the public.
- vii) Members will cooperate and assist major research institutions ie. WAM, CALM Wildlife Research, universities, etc.
- viii) Members' animal enclosures will be suitable, clean and secure.
- ix) Members under the age of 18 will not keep potentially dangerous elapids or hydrophids.
- x) Members will not dispose of any animal in a way as might impact on known distributions of that animal or have an effect on a population genetically.
- xi) Members, if requested, will assist hospitals in any way possible, ie provide venom.
- xii) Members will not remove reptiles from private property without approval to do so from the owner or his/her representative.

ANNEXURES A to F

to accompany

**WESTERN AUSTRALIAN SOCIETY OF
AMATEUR HERPETOLOGISTS**

submission

to

**DEPARTMENT OF CONSERVATION & LAND
MANAGEMENT**

ANNEXURE A

KEEPING REPTILES IN OTHER STATES & TERRITORIES

New South Wales

".....you are also allowed to keep certain reptiles in captivity. You may keep no more than two reptiles without a licence, as long as they are chosen from those listed in this leaflet."

Reference: National Parks & Wildlife Service leaflet on *Keeping Reptiles in N.S.W.* Publ. by N.S.W. Govt. (1989).

Victoria

"A licence is not required to keep the species listed below, but the animals must come from a legal source:" Listed are a number of birds, frogs and reptiles.

Reference: Department of Conservation & Environment leaflet on *Keeping Wildlife in Vic.* (1990).

South Australia

"There are a number of species of native animals which can be kept and sold without a permit." Listed are a number of birds and reptiles.

Reference: Dept. of Environment & Planning leaflet on the *Permit System for Keeping & Selling Protected Animals.* (1990)

Northern Territory

"Wildlife which may be kept without a permit." Listed are a number of birds, mammals, reptiles and frogs.

Reference: Conservation Commission leaflet on *Protection & Keeping of Wildlife in the Northern Territory.* Undated 1990.

Queensland

Provision to license private reptile keepers. Lists species.

Reference: Dept. of Environment & Heritage, Queensland National Parks & Wildlife Service leaflet. (1990).

A.C.T.

An exempt (from licence) list as well as provision to license private keepers.

Reference: Weigel (1989) *Care of Australian Reptiles in Captivity.* Reptile Keepers Assoc.

Tasmania

Any non-endangered reptile may be kept.

Reference: Weigel (*loc. cit.*)

ANNEXURE B

Reprinted from the Wildlife Conservation Regulations (Act 1954)
(2): 11.

WILDLIFE LICENCE 12A

- (1) The Minister may issue licences to be known as wildlife licences to keep fauna, other than avian fauna, authorising a person to keep the fauna specified in the licence in captivity or confinement and to breed such fauna as may be specified in the licence.
- (2) Where a person is the holder of a licence issued under Reg. 12 the Minister may, instead of issuing a licence under subregulation (1) of this regulation, endorse the licence issued to that person authorising him to keep in captivity or confinement such fauna as is specified in the endorsement.
- (3) A licence issued or endorsed under this regulation may specify the species or class of fauna and the number of such fauna that the holder thereof is authorised to breed and keep pursuant to the licence.
- (4) An application for a licence issued or an endorsement made under this regulation or for the renewal thereof -
 - (a) shall be in writing addressed to the Conservator of Wildlife;
 - (b) shall set out the species of the fauna sought to be kept pursuant to the licence or endorsement;
 - (c) shall specify the species of the fauna to be kept pursuant to the licence that will be used for breeding;
 - (d) shall state the fauna (by species & number) already held by the applicant at the time of making the application; and
 - (e) the location of the premises at which the applicant proposes to hold the fauna pursuant to the licence or endorsement.
- (5) A licence issued or an endorsement made under this regulation is valid for a period of twelve months.
- (6) The fee payable for the issue or endorsement of a licence under this regulation or for the renewal thereof is \$1.00 & if the licence relates to protected fauna an additional amount of \$1.00 is payable in respect of each species of protected fauna specified in the licence or endorsement.
- (7) The holder of a licence issued or endorsed under this regulation shall not -
 - (a) have in his possession or control any fauna other than the fauna specified in or endorsed on his licence;
 - (b) have in his possession or control any fauna in excess of the number specified in or endorsed on his licence;
 - (c) breed any fauna other than fauna that he is permitted to breed under the licence;
 - (d) breed or keep any fauna in captivity or confinement at any premises other than the premises specified in or endorsed on his licence; or
 - (e) sell or otherwise dispose of any fauna other than fauna that are not protected fauna under Act.

ANNEXURE C

NEW SPECIES & SUBSPECIES OF LIZARDS & SNAKES (HOLOTYPE) COLLECTED BY AMATEUR HERPETOLOGISTS IN WESTERN AUSTRALIA

Definition of *amateur* here for this selected list refers to those who study herpetology for the love of it and are not academically qualified.

All the following species except *Pseudechis butleri* were described by the late Dr Glen Storr.

Geckos

Crenadactylus o.rostralis 1978; *Diplodactylus fulleri* 1978; *D.g.rex* 1988; *D.jeanae* 1988;
D.rankini 1979; *D.wilsoni* 1983

Legless lizards

Aclys c.major 1988; *Aprasia haroldi* 1978; *A.fusca* 1979; *Delma butleri* 1987; *D.haroldi* 1987;
Pletholax g.edelensis 1978.

Dragon Lizards

Ctenophorus yinnietharra 1981; *Tympanocryptis butleri* 1977; *T.l.houstoni* 1982.

Skinks

Ctenotus b.euclae 1971; *C.gemmula* 1974; *C.hanloni* 1980; *C.rubicundus* 1978; *C.zastictus* 1984,
Lerista axillaris 1991; *L.christinae* 1979; *L.concolor* 1990; *L.dorsalis* 1985; *L.flammicauda* 1985;
L.gascoynensis 1986; *L.griffini* 1982; *L.haroldi* 1983; *L.onsloviana* 1984; *L.petersoni* 1976;
L.p.decora 1978; *L.maryani* 1991; *L.robusta* 1990; *L.simillima* 1984; *L.strictopleura* 1985; *L.talpina*
1991; *L.uniduo* 1984; *L.varia* 1986; *L.viduata* 1991; *Menetia amaura* 1978; *Notoscincus butleri* 1979.

Monitor Lizards

Varanus p.rubidus 1980.

Snakes

Ramphotyphlops howi 1984; *R.kimberleyensis* 1977; *Demansia calodera* 1978; *D.rufescens* 1978;
Denisonia atriceps 1980; *D.ordensis* 1984; *Pseudechis butleri* Smith, 1982; *Rhinoplocephalus*
s.bushi 1988; *R.s.nullarbor* 1981.

ANNEXURE D

A SELECTED LIST OF ARTICLES & BOOKS BY AMATEUR HERPETOLOGISTS

There are literally hundreds of articles by Australian amateur herpetologists published in the various journals - only a few are included here.

Books

- Bush, B. (1981) *Reptiles of the Kalgoorlie-Esperance Region*. Author, Esperance. 46pp.
- Cann, J. (1978) *Tortoises of Australia*. Angus & Robertson, Sydney. 140pp.
- Davey, K. (1970) *Australian Lizards*. Periwinkle, Melbourne. 111pp.
- Goode, J. (1967) *Freshwater Tortoises of Australia & New Guinea*. Landsdowne Press, Melbourne. 154pp.
- Griffiths, K. (1984) *Reptiles & Frogs of Australia*. View Productions, Sydney. 120pp.
- McPhee, D. (1979) *The Observers' Book of Snakes & Lizards of Australia*. Methuen Aust. Pty. Ltd. 157pp.
- Mirtschin, P. & Davies, R. (1982) *Dangerous Snakes of Australia*. Rigby, Sydney. 207pp.
- Schmida, G. (1985) *The Cold-Blooded Australians*. Doubleday, Sydney. 208pp.
- Swanson, S. (1976) *Lizards of Australia*. Angus & Robertson, Sydney. 140pp.
- Wilson, S. & Knowles, D. (1988) *Australia's Reptiles: A Photographic Reference to the Terrestrial Reptiles of Australia*. Collins, Sydney. 447pp.
- Worrell, E. (1952) *Dangerous Snakes of Australia*. Angus & Robertson, Sydney. 66pp.
- (1958) *Song of the Snake*. Angus & Robertson, Sydney. 210pp.
- (1963) *Reptiles of Australia*. Angus & Robertson, Sydney. 207pp.

Articles

- Adams, D. (1973) The Broad-headed Snake (*Hoplocephalus bungaroides*). *Herpetofauna* 5 (4): 19-22.
- Anstis, M. (1981) Breeding biology & range extension for the NSW frog *Kyarranus sphagnicalus* (Anura: Leptodactylidae). *Aust. J. Herpetology* 1 (1): 1-9.
- Armstrong, G. (1980) Records of the long-necked tortoise *Chelodina longicollis*. *Herpetofauna* 11 (2): 27.
- Barnett, B. (1979) Incubation of the sand goanna (*Varanus gouldii*) eggs. *Herpetofauna* 11 (1): 21-22. (1981) Observations on fish-feeding in reptiles. *Herpetofauna* 13 (1): 11-13.
- Bevan, J. (1983) A defensive reaction of *Gonocephalus spinipes* (Dumeril) *Herpetofauna* 14 (2): 99
- Bridge, G. (1979) The small-eyed snake (*Cryptophis nigrescens*). *Vic. Herp. Soc. News*. 13: 17-18.
- Browne-Cooper, R. (1983) Notes on reproduction of the Bearded Dragon *Pogona minor*. *Herpetofauna* 15 (1).

- (1990) Aquatic behaviour in *Hemiergis peronii* (Scincidae). *Herpetofauna* 20 (1).
- & Maryan, B. (1988) Record of diurnal feeding in *Vermicella bertholdi* (Jan, 1859) (Serpentes: Elapidae). *Herpetofauna* 18 (2).
- Browne-Cooper, R. & Maryan, B. (1990) Observations of *Ctenotus angusticeps* (Scincidae) on Airlie Island. *Herpetofauna* 20 (1).
- & Robinson, D. (1989) The amphibian, reptile & mammal fauna of the Murray-Serpentine River Delta, South-west Western Australia. *West. Aust. Nat.* 18 (2).
- Bush, B. (1982) Suggestions for improving the conservation of WA herpetofauna. *S.A. Herp. Group News*.
- (1983) Notes on reproductive behaviour in the tiger snake (*Notechis scutatus*). *West. Aust. Nat.* 15 (5): 112.
- (1983) Notes on reproduction in captive *Menetia greyii* (Lacertilia: Scincidae). *West. Aust. Nat.* 15 (6): 130.
- (1983) A record of reproduction in captive *Delma australis* & *D.fraseri* (Lacertilia: Pygopodidae). *Herpetofauna* 15 (1): 11.
- (1984) Male/male combat in the Western Banjo Frog *Lymnodynastes dorsalis* (Gray). *Herpetofauna* 15 (2): 43.
- (1984) Seasonal aggregation behaviour in a mixed population of legless lizards, *Delma australis* & *D.fraseri*. *Herpetofauna* 16 (1): 1.
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- (1989) An unsuccessful breeding record for the Western Carpet Python, *Morelia spilota imbricata*. *Herpetofauna* 18 (1): 30.
- (1990) Polymorphism in captive bred siblings of the snake, *Pseudonaja nuchalis*. *Herpetofauna* 19 (20): 28.
- (1989) Ontogenetic colour change in the Gwardar, *Pseudonaja nuchalis*. *West. Aust. Nat.* 18 (2): 25.
- Christian, T. (1978) Notes on the incubation of olive python *Liasis olivaceus* eggs. *Herpetofauna* 9 (2): 26.
- (1981) *Varanus tristis* - a variable monitor. *Herpetofauna* 12 (2): 7-12.
- Cook, R. (1973) The wall lizard *Cryptoblepharus boutonii virgatus*. *Herpetofauna* 6 (2): 15-16.
- Czechura, G.V. (1974) A new south-east locality for the skink *Anomalopus reticulatus*. *Herpetofauna* 7 (1): 24.
- Day, K. (1980) Notes on the birth of the pygmy spiny-tailed skink, *Egernia depressa* (Günther) in captivity. *Herpetofauna* 11 (2): 29.
- De Lissa, G. (1981) Notes on the skink *Sphenomorphus tenuis*. *Herpetofauna* 13 (1): 33.
- Ehmann, H. (1980) Diurnal perching by the southern spiny-tailed gecko, *Diplodactylus intermedius*. *Herpetofauna* 12 (1): 37.
- (1983) The natural history and conservation status of the Adelaide Pygmy Bluetongue Lizard *Tiliqua adelaidensis*. *Herpetofauna* 14 (1): 61-76.
- Fitzgerald, M. (1983) Notes on water collection by the bearded dragon *Amphibolurus vitticeps*. *Herpetofauna* 14 (2): 93.
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ANNEXURE E

Reprinted from *Herpetofauna* (1991): 21 (1):

THE ROLE OF THE AMATEUR HERPETOLOGIST IN WESTERN AUSTRALIA

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Without Prejudice

INTRODUCTION

In view of a recent court case involving Paul Orange, an amateur herpetologist Vs. the Department of Conservation & Land Management (CALM), the authors felt it necessary to embark upon an objective discussion regarding the limitations of the current Wildlife Act and its implications on the future of amateur herpetology in this State. We define an amateur herpetologist as one who studies herpetology for the love of it and who is not academically qualified.

Our understanding of the cause for litigation is as follows:-

In 1987 P. Orange amateur herpetologist declared under amnesty to CALM his small collection of reptiles. He took this step in order to apply for a licence to continue the maintenance of his collection. He had kept extensive & detailed notes of observations both in the field and in captivity, some of which have been published. Following his declaration Orange gave CALM wildlife officers access to his notes and permission to view his collection. He was assured by CALM officers that it was to his benefit to do so and that they were assessing his ability to keep a reptile collection. Information contained in those notes disclosed four geckos (two *Gehyra variegata* & two *Heteronotia binoei*) had been fed to snakes in his possession.

On 10 April 1990 he was advised in a letter from CALM that he would be granted a licence to keep reptiles in captivity - and then at a later date he was prosecuted for feeding them these four geckos.

The two gecko species in question are ideal for feeding many lizard-eating snakes. Greer, 1989 (p 62) states: '*Heteronotia* is one of the most wide-spread and abundant gecko genera in Australia. It occurs throughout the continent except for the far south-western and south-eastern corners and can be incredibly abundant, especially in disturbed habitats such as rubbish tips. Indeed, when collecting tips one sometimes gets the impression that there is at least one *Heteronotia* under every piece of ground cover, and it is axiomatic amongst reptile collectors that when nothing else is stirring one can always count on uncovering *Heteronotia*.'

It is the opinion of the authors that *Gehyra variegata* is equally as common. This case poses the question: is there any protection in law when declarations are made under amnesty? In the following we raise other questions, provide some amateur perspectives, outline the role of amateurs in W.A. and make some considered recommendations.

DISCUSSION

The late Dr Glen Storr of the WA Museum was one of the most productive members of the Australia herpetological community. Much of his great output would not have been achieved without contributions of specimens and field data by a small group of dedicated amateurs. Clearly government resources and funds are severely limited in many areas of biological research. These deficiencies are often overcome (usually at considerable personal expense) by the activities of self-motivated naturalists.

Western Australia has a large and diverse reptile fauna with half of the continent's species occurring within its borders. There are simply not enough professionals in our small population to effectively study important issues like conservation and ecology. At the recently held first World International Herpetological Conference in England many professionals indicated clearly that their interest and much of their early training involved looking after 'pet' amphibians and reptiles as children or young adults. This is more or less impossible in Western Australia under the current Wildlife Act.

HOW AMATEURS CONTRIBUTE TO THE ADVANCEMENT OF AUSTRALIAN HERPETOLOGY

(A) By providing specimens to institutions for study by professional herpetologists and biologists. The large number of specimens lodged in Australian museums were provided by amateurs who in the last 12 years have discovered the following new taxa in WA:-

- i) 55% of the large gecko genus *Diplodactylus*.
- ii) 25% of the legless lizards. No new species were discovered by professionals during this period.
- iii) 50% of Australia's largest reptile genus, the striped skinks *Ctenotus* spp.
- iv) 86% of WA's largest reptile genus, the burrowing skinks *Lerista* spp.

(B) By the publication of articles in journals and magazines. In addition, the most comprehensive photographic reference work on Australia's reptiles was produced in 1988 by two amateur herpetologists - S.Wilson and D.Knowles.

(C) Amateurs readily make their photographs available for use in publications and educational programmes. An example of this is the series of identification handbooks on amphibians and reptiles occurring in this State, produced by the WA Museum with grant money provided by Harry Butler.

(D) By the voluntary capture and removal of dangerously venomous snakes from residential areas and their subsequent release into undisturbed bushland. This service is assisted by CALM.

(E) An important contribution to public awareness is achieved through slide shows and general talks often in combination with a display of live animals, and leading field excursions. Amateurs tirelessly endeavour to educate and promote a responsible attitude towards reptiles offering the choice of developing "respect through understanding" or maintaining "fear through ignorance".

(F) By conducting privately funded expeditions to poorly known and remote areas not normally visited by the small body of professionals. Amateurs also carry out both funded and unfunded surveys of vertebrates for museums, wildlife institutions, naturalist clubs and shires.

We further quote from Dr Alan Greer's *Evolution & Biology of Australia's Lizards*:

"In gathering the material for this book, I have been impressed by two aspects of the current state of knowledge of Australian lizard biology and indeed Australian herpetology in general. The first is the role of amateurs and the second is the amount of information still locked away in peoples' heads or in unpublished theses and reports. Amateurs have contributed substantially to the development of Australian herpetology, as will be evident from the references to their work in this book. Their importance derives primarily from their observation of live animals: captive specimens, a species seen during a field trip, or a local fauna. Unfortunately, the role of amateurs in Australian herpetology is now under threat from certain state authorities. Rules and regulations make it increasingly difficult to collect, keep or even disturb in order to observe or photograph native fauna. For many amateurs who are often either too young to fight or have no affiliation with another, protective bureaucracy like a museum or university, this means giving up or going 'underground'. As a result, much opportunity for knowledge and personal development through investigation, discovery and discussion is lost." Weigel (1988) also states that the attitude of the Western Australian government towards amateur herpetology differs significantly from all other States and Territories and that inquiring hobbyists should be aware that the detection and prosecution of unlicensed keepers is vigorously pursued by CALM. To our knowledge only three amateur herpetologists are legally entitled to keep reptiles in the entire Perth region - a population of one million people.

We believe that parts of the Act that cover to protection of fauna were poorly written by people who had limited knowledge of the subject. It is clear that there are many unforeseen implications which more or less completely outlaw an amateur's active interest in herpetology. This results in the following scenarios:-

(A) As is the case in any field of interest, over-control results in no control which, therefore, leads to the loss of information from those amateurs who have been forced through fear of prosecution to 'go underground'. Potentially valuable members of the herpetological community are sometimes forced underground as a result of 'out of hand' rejection of a formal legal application to keep fauna for educational or study purposes.

(B) Wildlife officers trained to enforce this draconian Act often fall into the trap of having to justify their position by directing their attempted convictions at responsible 'known' naturalists rather than the 'unknown' and difficult to detect criminal elements. Wildlife officers need to develop skills to enable them to detect the 'unknown' rather than monitor the 'known'. Close liaison with detectives in the WA Police Force would undoubtedly increase their ability to apprehend real offenders. A number of classic examples of attempted convictions by CALM against innocent (but ignorant of the new law) naturalists have ended up in court with the outcome of CALM losing. Why? Because the prosecuting officers did not properly investigate the subject by tracing reputations, eg contacting the local museum, zoo etc.

(C) Wildlife officers also tend to over-scrutinise existing permit holders in order to further justify their enforcement activities. This leads to the permit holder continually feeling that the enforcers don't trust them - a situation that does not promote mutual respect. Surely the time wasted pursuing dedicated and licensed amateurs could be better spent seeking out any real offenders.

(D) This State has produced one of Australia's foremost herpetological taxonomist, Dr Glen Storr. We strongly doubt that within the framework of the existing Act there is room for a new generation of both professional and non-professional herpetologists. Both city and country children with a keen interest in frogs or reptiles are continually confronted with the destruction of habitats by developers, miners and farmers. They realise that many thousands of their favourite animals perish in the name of 'progress'. How is it, they wonder, that adults can destroy so many amphibians and reptiles and they are not allowed to keep a tree frog or bobtail skink so that they may learn about it? Why does the Act not cater for the encouragement of an active interest which in the long run is the essence of community awareness about nature conservation.

A SUGGESTED PHILOSOPHICAL CHANGE TO THE ACT

Recognition of the fact that the interest of professional and non-professional adults usually stem from childhood. Amateurs can and will make valuable contributions to the knowledge and understanding of herpetology in Australia. The Act should be re-structured in such a way as to allow this to occur.

Note: The amalgamation between the Fisheries & Wildlife and the Forestry Departments in Western Australia was motivated by political and economic considerations. This reflects a conflict of interest - development Vs. conservation.

The implementation of an amended Act would accommodate amateur herpetologists in the following ways:-

- a) By establishing a more positive working relationship between the new Department and amateur herpetologists.
- b) Given foreseeable budgetary restraints on government departments in general, field survey work must correspondingly decrease. If encouraged, certified amateurs could make up the shortfall. Ongoing survey work that may have had to be discontinued can now continue. Amateurs should be encouraged to re-open existing traplines thus collecting valuable seasonal information that may otherwise not have been collected. In the case of pit-trapping practices amateur herpetologists should recognise the need to collect representatives of all material trapped. Mammalogists, entomologists and arachnologists should be informed of the programme as a matter of course and vice versa.
- c) Some amateurs would be very interested in breeding rare and endangered reptile fauna. This is another area where the resources of CALM are limited. Captive breeding programmes could be designed and supervised by professional scientists to involve amateurs for collecting, monitoring or breeding. For example, the threatened Lancelin Island striped skink *Ctenotus*

lancelini, the lined burrowing skink *Lerista lineata* and the south-western population of the woma python *Aspidites ramsayi* could benefit from such programmes.

- d) With the implementation of an 'amateur friendly' system those people who keep reptiles illegally would, under amnesty, make themselves known. Consequently their experiences would be shared.
- e) Once the amateur herpetologist population is quantified objectives and bonafides can then be defined and confirmed. This would naturally lead to the formation of an amateur herpetological group which would encourage keeping standards, oversee captive breeding programmes, recruitment of responsible new members and the dissemination of information through informal and formal avenues. Exempt lists should be cooperatively prepared.
- f) A protocol of interaction should be established between the governing body and the licensed amateurs. For example, inspection of legally maintained collections should be arranged by appointment.
- g) The new Department should employ or train officer(s) competent in reptile husbandry techniques.

CONCLUSION

Given the opportunity, there is potential for a quantum leap in cooperation and dissemination of knowledge of herpetology in Western Australia. The authors hope that this discussion will be seriously considered both by CALM and the readers of this journal. There is an obvious need for review of the above mentioned issues in the light of cooperative achievements of amateurs, professionals and wildlife authorities in the Eastern States.

[Footnote]: On 16 November, 1990 a magistrate in the Kalgoorlie Courts dismissed all four charges against Paul Orange, and awarded the maximum available costs to him.

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ANNEXURE F

SUGGESTED EXEMPT LIST

FROGS

Slender Tree Frog	(<i>Litoria adelaidensis</i>)
Green Tree Frog	(.. <i>caerulea</i>)
Red-thighed Frog	(.. <i>cyclorhynchus</i>)
Bull Frog	(.. <i>moorei</i>) Desert
Tree Frog	(.. <i>rubella</i>)

TURTLES

- i) Western Long-necked Turtle (*Chelodina oblonga*) ii)
- Northern Long-necked Turtle (.. *rugosa*)
- iii) Flat-shelled Turtle (.. *steindachneri*)

One turtle species per region where resident ie, i) South-west region; ii) Northwest (Kimberley) region; iii) Central-west (Greenough, Murchison & Pilbara) region.

LIZARDS

Stone Gecko	(<i>Diplodactylus granariensis</i>)
Northern Spiny-tailed Gecko	(.. <i>ciliaris</i>)
Southern Spiny-tailed Gecko	(.. <i>spinigerus</i>)
Dtella (gecko) All species	(<i>Gehyra</i> spp.)
Binoe's Gecko	(<i>Heteronotia binoei</i>)
Velvet Marbled Gecko	(<i>Oedura marmorata</i>)
Barking Gecko	(<i>Underwoodisaurus millii</i>)
Burton's Legless Lizard	(<i>Lialis burtonis</i>)
Three-lined Skink	(<i>Bassiana trilineatum</i>)
Wall Lizard	(<i>Cryptoblepharus plagiocephalus</i>)
Comb-eared Skinks	(<i>Ctenotus fallens</i>)
..	(.. <i>inornatus</i>)
..	(.. <i>labillardieri</i>)
..	(.. <i>pantherinus</i>)
..	(.. <i>saxatilis</i>)

Desert Skink	(<i>Egernia inornata</i>)
King's Skink	(.. <i>kingii</i>)
	(.. <i>formosa</i>)
Napoleon's Skink	(.. <i>napoleonis</i>)
	(<i>Hemiergis initialis</i>)
	(.. <i>peronii</i>)
	(.. <i>quadrilineata</i>)
Sand-swimming Skinks	(<i>Lerista bipes</i>)
.. ..	(.. <i>griffini</i>)
.. ..	(.. <i>lineopunctulata</i>)
.. ..	(.. <i>macropisthopus</i>)
.. ..	(.. <i>muelleri</i>)
Gray's Skink	(<i>Menetia greyii</i>)
Butler's Skink	(<i>Morethia butleri</i>)
Grass Skink	(.. <i>obscura</i>)
Central Bluetongue	(<i>Tiliqua multifasciata</i>)
Western ..	(.. <i>occipitalis</i>)
Mainland Bobtail Skink	(.. <i>rugosa</i>)
Ring-tailed Dragon	(<i>Ctenophorus caudicinctus</i>)
Netted Dragon	(.. <i>inermis</i>) Ornate
Dragon	(.. <i>ornatus</i>)
Reticulated Dragon	(.. <i>reticulatus</i>)
Two-pored Dragons	(<i>Diporiphora bennettii</i>)
.. ..	(.. <i>magna</i>)
.. ..	(.. <i>winneckei</i>)
Western Bearded Dragon	(<i>Pogona minor</i>)

SNAKES

Children's Python	(<i>Lialis childreni</i>)
Stimson's Python	(.. <i>stimsoni</i>)
Whip Snakes	(<i>Demansia psammophis</i> spp.)
Gould's Snake	(<i>Rhinoplocephalus gouldii</i>)
Monk Snake	(.. <i>monachus</i>)
Little Spotted Snake	(.. <i>punctatus</i>)
Desert Banded Snake	(<i>Vermicella anomala</i>)
Banded Sand Snake	(.. <i>bertholdi</i>)