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EDITORIAL

This is by way of a special issue, as we have recently received the details of the third International Bat Research Conference, and felt that these details should be made more widely available. However, we have been able to combine it with a progress report on the Australian Bat Banding Scheme and some other material.

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SECOND INTERNATIONAL BAT RESEARCH CONFERENCE

The Second International Bat Research Conference was attended by 86 scientists from 16 countries in Europe, North America and Africa. During the sessions held in the Zoological Laboratory of the University of Amsterdam, Netherlands, from March 18 to 22, 1970, 35 papers were presented, arranged under the following headings: Echolocation (Dr. J.D. Pye, London); Hibernation and thermoregulation (Prof. Dr. F.P. Mohres, Tubingen); Morphology (Prof. Dr. P. Pirlot, Montreal); Taxonomy and Zoogeography (Dr. V. Hanak, Prague); General biology and ecology (Dr. J.W. Sluiter, Utrecht and Dr. J. Gaisler, Brno). Most of the papers read were submitted for publication in the proceedings of the conference, which appeared in volume 40, no. 1, of the "Bijdragen tot de Dierkunde".

As well as the scientific contributions and discussions, some emphasis was made by participants of the conference on the general decline of bat populations and the need for protective attention. During a special meeting on bat conservation, presided by Dr. A. van Wijngaarden (Zeist), several speakers gave a survey on the population changes observed in recent years in their home countries, which covered most of Western Europe as well as parts of North America, Africa and Eastern Europe. Later, the conference agreed upon a resolution in this respect, which has been submitted to I.U.C.N.

The social events of the conference included a reception by the mayor and alderman of Amsterdam, and a film night at the Laboratory of Animal Physiology. Films were shown of bats catching

insects in a laboratory (Dr. DR. Griffin, New York), the birth of Greater horseshoe bats (Mr. A.G. Watson, Basigstoke) and noctules (Dr. P.A. Racey, London), sonar in bats (Dr. J.A. Simmons, Princeton), the FAO/UNDP research project on vampires and rabies in Mexico (Dr. U. Schmidt and Dr. A.M. Greenhall, Mexico City), and slow motion pictures of flying Pleocotus (Dr. U.M. Norberg, Goteborg).

After three session days, many of the participants joined on a two-day excursion to the marl excavations in South Limburg. In visits to two subterranean quarries ("Geulhemergroeve" and "Barakkengroeve") they got an impression of how little is left from the once famous bat populations hibernating in this region. Specimens were found of the species Pleocotus auritus, Rhinolophus hipposideros, Myotis myotis, M. dasynceme, M. daubentonii, M. mystacinus, M. emarginatus and M. nattereri. During a night reception which concluded the conference in the large "Municipal Cave", the municipality of Valkenburg presented the "Geulhemergroeve" to the Dutch State Forestry Service as a reserve for hibernating bats.

During and after the conference many participants emphasized their appreciation for the opportunity which the conference gave to meet colleagues from abroad, as well as the usefulness of gathering together the various biological disciplines which were concentrating on the one intriguing group of animals.

It was generally felt that there should be some kind of continuity in these meetings, preferably in countries which would facilitate participation of scientists from parts of the world which were now under-represented. It is a pleasure, therefore, to announce that a third international conference devoted to bat research is going to be organized by Dr. B. Dulic in Zagreb, Yugoslavia, most probably in 1972.

The Conference adopted the following resolution on bat conservation:

Bats are world wide and important in our ecosystem and to the human economy.

Delegates representing 20 nations stated that bats are declining, especially in highly urbanized areas.

The main causes are: pollution by insecticides, loss of habitat, killing of bats by man.

Certain countries have recognized the importance of conserving bats and have legislation protecting them.

Countries having protective legislation are:

Austria, Bulgaria, Czechoslovakia, Denmark, Federal Republic of Germany, Finland, German Democratic Republic,

Hungary, Italy, Mexico, Poland, Switzerland, U.S.A.  
(Texas, Arizona a.o.), U.S.S.R., Yugoslavia.

Since bats migrate internationally the conference recommends that other countries should provide legislation to protect these mammals.

Additionally it was agreed that further investigations of the ecology of bats is essential for their conservation, and any necessary control of local populations should be done by qualified persons.

Dr. S. Daan, Amsterdam

### THIRD INTERNATIONAL BAT RESEARCH CONFERENCE

The Third International Bat Research Conference will be held in Yugoslavia, at the National Park, Plitvice, from September 5 to 10, 1972. Full details, together with a preliminary application form, are enclosed with this issue of Australian Bat Research News.

### MISCELLANEA

A Further Albino Bat - On 20th February, 1971, Andrew Spate and Elery Hamilton-Smith were banding Miniopterus schreibersii at Nargun's Cave, in East Gippsland, Victoria, and collected a further albino specimen. This was a lactating female (hence at least 2 years of age), so was photographed, banded, and released. It is also significant to report that the population appeared to be appreciably smaller than in previous years; recent information reveals that a local gentleman (?) has been entering the cave to shoot bats with a double-barrelled shotgun. He apparently doesn't like bats! We are trying to ensure that he is identified and appropriate action taken.

### BAT-BANDING IN AUSTRALIA 1967-70

During the period July 1, 1967 to June 30, 1970, 7,792 bats of 8 species were banded. The Bent-winged Bat, Miniopterus schreibersii, accounted for 6,530 of this total. The total number of bats banded since 1957 is 59,133 of 16 species.

The numbers of each species banded and recovered during 1967-70, together with the totals for 1957-70, are given in the following table:

## 4.

	Banded		Recovered			
	1967-70	1957-70	1967-70		1957-70	
			New Bats	Total Times	New Bats	Total Times
Unpouched Free-tailed Bat, <u>Taphozous georgianus</u>	3	160			29	30
False-vampire Bat, <u>Macroderma gigas</u>	8	34				
Eastern Horseshoe Bat, <u>Rhinolophus megaphyllus</u>	875	1977	26	29	154	195
Dusky Horseshoe Bat, <u>Hipposideros ater</u>		16				0
Little Mastiff Bat, <u>Tadarida planiceps</u>		1				
Large-footed Myotis, <u>Myotis adversus</u>	1	168			53	105
Gould's Wattled Bat, <u>Chalinolobus gouldi</u>	101	171			17	17
Chocolate Wattled Bat <u>Chalinolobus morio</u>		316	7	7	8	8
Greater Pied Wattled Bat, <u>Chalinolobus dwyeri</u>		50			26	53
Little Brown Bat, <u>Eptesicus pumilus</u>	273	1069	45	122	205	411
Greater Broad-nosed Bat, <u>Nycticeius rueppellii</u>		48				
Eastern Broad-nosed Bat, <u>Nycticeius orion</u>		5				
Bent-winged Bat, <u>Miniopterus schreibersii</u>	6530	53476	961	1027	6418	7828
Little Bent-winged Bat, <u>Miniopterus australis</u>		1570	1	2	260	341
Lesser Long-eared Bat, <u>Nyctophilus geoffroyi</u>	1	71			8	10
Greater Long-eared Bat, <u>Nyctophilus timoriensis</u>						
Totals	7792	59133	1040	1187	7178	8998

There does not appear to have been any outstanding movements recorded during 1967-70, although a detailed examination of the retrap schedules has not been made. The following longevity records are of interest - all have the longest elapsed time between banding and recovery for their respective species:

Eastern Horseshoe Bat, Rhinolophus megaphyllus 10-3028 ♀

Banded Sea Cave No. 2, Durras North, N.S.W. 10.5.64 J.McKean  
Retrapped at banding place 21.8.69

Elapsed time = 5 years, 3 months and 11 days.

Chocolate Wattled Bat, Chalinolobus morio 10-4020 ♀  
 Banded Murra-el-elevyn Cave, Cocklebidy, W.A. 17.1.65  
 E. Hamilton-Smith  
 Retrapped at banding place 12.1.69 (6 others banded at the  
 same time were also retrapped)  
 Elapsed time = 3 years, 11 months and 26 days.

Little Brown Bat, Eptesicus pumilus 00-1332 ♂  
 Banded Flemington Caves, Mileura Station, Cue, W.A.  
 21.6.66 S.J.J.F. Davies  
 Retrapped at banding place 11.12.69  
 Elapsed time = 3 years, 5 months and 20 days.

Bent-winged Bat, Miniopterus schreibersii 030-04355 ♀  
 Banded Cheitmore Cave, near Braidwood, N.S.W. 29.3.58  
 D. Purchase  
 Retrapped at Point Danger Mine, Major's Creek, N.S.W.  
 27.6.70  
 Elapsed time = 12 years, 2 months and 29 days. Distance  
 and direction = 14 miles north.

Little Bent-winged Bat, Miniopterus australis 020-22616 ♀  
 Banded Yessabah Bat Cave, near Kempsey, N.S.W. 8.7.61  
 P.D. Dwyer  
 Retrapped at banding place 15.12.68  
 Elapsed time = 7 years, 5 months and 7 days.

During the period July 1, 1967 to June 30, 1970, bats  
 were banded by: Beck, M.W.R.; Dew, Barbara; Green, R.H.;  
 Hamilton-Smith, E.; Heyne, K.; McKean, J.L.; Moulds, M. (for  
 P.D. Dwyer); Shirrefs, F.A.; Spate, A.P.; Walsh, W.P.; and  
 Young, A.

The following additional banding sites were used during  
 1967-70:

False Vampire Bat, Macroderma gigas

Northern Territory

M\* Pine Creek, Kohonoor Mine 13°50'S., 131°50'E.  
 OC Pine Creek, 49 WNW., 94 mile Rockshelter 13°31'S.,  
 131°12'E.

Eastern Horseshoe Bat, Rhinolophus megaphyllus

New South Wales

LC Braidwood, 30S., Cheitmore Cave 35°48'S., 149°41'E.  
 SC Palm Beach 33°35'S., 151°20'E.

Victoria

LC Buchan, Duke's Cave 37°30'S., 148°10'E.  
 LC Buchan, 8 E., Mooresford Cave 37°30'S., 148°16'E.  
 M Club Terrace, 6 S. 37°38'S., 148°54'E.

Large-footed Myotis, Myotis adversus

## Victoria

LC Buchan, Duke's Cave 37°30'S., 148°10'E.

Gould's Wattled Bat, Chalinolobus gouldi

## Australian Capital Territory

NR Canberra 35°20'S., 148°57'E.

## New South Wales

NR Goulburn 34°45'S., 149°43'E.

B Orchard Hills, Methodist Church 33°46'S., 150°42'E.

Little Brown Bat, Eptesicus pumilus

## Northern Territory

LC Katherine, near, Ronan's Cave 14°28'S., 132°16'E.

## Queensland

T Ballara 20°57'S., 139°57'E.

M Ravenswood 20°06'S., 146°54'E.

## Tasmania

NR Lilydale 41°15'S., 147°12'E.

Bent-winged Bat, Miniopterus schreibersii

## New South Wales

LC Braidwood, 34 S., Bendithera Main Cave 35°57'S.,  
149°46'E.

LC Bungonia, Chalk Cave 34°49'S., 150°01'E.

SC Narooma, Main Beach Cave 36°14'S., 150°08'E.

M Yetholme 33°27'S., 149°49'E.

## Queensland

LC Chillagoe, Royal Arch Cave 17°09'S., 144°31'E.

LC The Caves, Cammoo Cave 23°11'S., 150°28'E.

## Victoria

LC Buchan, Mabel Cave 37°30'S., 148°10'E.

LC Buchan, 8 E., Mooresford Cave 37°30'S., 148°16'E.

M Club Terrace, 6 S. 37°38'S., 148°54'E.

RC Genoa, 2SE., "Bat Cave" 37°30'S., 149°37'E.

SC Warrnambool, "Blow Hole" 38°23'S., 142°29'E.

M Wulgulmerang, 9 ESE. 37°08'S., 148°25'E.

## \* Type of roosting site:

B = in a building; OC = other caves in sedimentary rocks;  
 LC = limestone cave; RC = rock crevices;  
 M = mine; SC = sea cave;  
 NR = not recorded T = tunnel.

Due to the paucity of new data arising from the recovery of banded bats the publication of Annual Reports on Bat-Banding in Australia have been temporarily suspended. A culmulative report will be published when enough data is available.

## CURRENT LITERATURE

Mount Etna Caves (116 pp., edited J.K. Sprent, published University of Queensland Speleological Society, \$2.75, 1971) is an extremely valuable series of papers on this area. Some papers from this volume are abstracted below, but others which appear include Geology & Caves (Shannon), Fossils (Hill), Meteorology (Graham), Survey (Sprent), Lepidoptera (Hancock), Birds (Sprent), Flora (Webb & Tracey), Historical (Caffyn) and Conservation (Bourke). One of the most pleasing aspects of the volume is the integration of various aspects, largely due to Mike Bourke's excellent review of the conservation issue at Mt. Etna, but also to sound work by the editor.

The World of Bats (N. Leen and A. Novick, published Editas Lausanne, Switzerland or in U.S.A. by Holt, Reinhart & Winston, 1969) has at last brought bats into the "coffee-table" sector of the publishing industry. This is a large (12" x 10 $\frac{1}{4}$ ") book with extremely generous illustrations, many of which are in colour. The photographs are superb, the printing of the highest standard, and Alvin Novick's text is accurate and zoologically sound, but so clear as to be easily read by the intelligent layman. Novick has written entirely from personal knowledge, and has not attempted to provide a true world coverage - this is probably a major factor contributing to the quality of the finished product, as his experience is extremely wide, and trying to gain a more comprehensive world view by reviewing the literature would have robbed the book of vitality.

Papers of Australian Interest: Some items below merely give further data on papers listed previously, often by title only (numbers to 0082) while others (numbers from 0083) have not been listed earlier.

0026 HAMILTON-SMITH, E. 1970.- Biological Aspects of Cave Conservation. This paper has been reprinted in A.S.F. Newsletter, 50: 7-14.

0032 HOLLAND, G.P. 1969.- Contribution towards a monograph of the Fleas of New Guinea. Mem. Ent. Soc. Canada, 61:1-77.

The only fleas recorded from New Guinea bats are Pulex irritans (from Syconycteris crassa), Thaumapsylla longiforceps (from Hipposideros diadema) and Porribius papuanus sp. n. (from "bat").

0042 LAVERY, H.J. & JOHNSON, P.M. 1968.- Mammals and Birds of the Townsville District, North Queensland. I. Introduction and Mammals. Qld. J. Agr. Anim. Sci., 25: 29-37.

Nineteen species of bats are listed, together with notes on habitat and abundance. Thirteen of these are new records for the area.

0043 LIDICKER, W.Z. & ZEIGLER, A.C. 1968.- Report on a Collection of Mammals from Eastern New Guinea, including species keys for fourteen genera. Univ. Calif. Publ. Zool., 87: 1-64.

Species keys are given for Rousettus, Dobsonia, Syconycteris, Pipistrellus. Some further details are provided for the species Rousettus amplexicaudatus brachyotis, Dobsonia moluccensis magna, D. m. anderseni, Syconycteris crassa papuana, Pipistrellus imbricatus, and P. papuanus.

- 0054 PHILLIPS, C.J. 1968.- Systematics of Megachiropteran bats in the Solomon Islands. Univ. Kansas Publ. Mus. Nat. Hist., 16: 777-837.

27 species and subspecies are described and keys provided for their determination. New forms described are Dobsonia inermis minimus and Nyctimene albiventer minor. The paper includes a gazetteer and a discussion on zoogeography and speciation.

- 0067 STORCH, G. 1968.- Funktionsmorphologische Untersuchungen an der Kaumusculatur und an Korrelierten Schädelstrukturen der Chiropteren. Abhandl. Senck. Naturforsch. Ges., 517: 5-87.

A thorough examination of the musculature and structure of the bat skull in a number of species, including some Australian and Pacific forms. It is concluded that the pattern of the masticatory muscles connects the bats with the Insectivora and lower primates. No evidence is found to support the hypothesis of separate phylogeny of mega- and micro-chiroptera. Differences in structure are linked with feeding habits, phylogenetic position and body size.

- 0082 ZEIGLER, A.C. & LIDICKER, W.Z. 1968.- Keys to the Genera of New Guinea Recent Land Mammals. Proc. Calif. Acad. Sci., (4th ser.) 36(2): 33-71.

Includes keys to Pteropidae, Emballonuridae, Rhinolophidae, Molossidae, and Vespertilionidae.

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- 0083 AITKEN, P.F. 1970.- South Australian Mammals. Reprint from South Australian Year Book 1970, 8 pp. 8 photographs.

Fifteen bats are listed and their relative abundance noted.

- 0084 ALLISON, F.R. & MIDDLETON, G.J. 1971.- Bat-flies from Chillagoe Caves, North Queensland. J. Syd. Speleo.Soc., 15: 29-30, 1 pl.

Lists Basilina musgravei (from E. pumilus), Basilina sp., Penicillidia vandeuseni and Nycteribia parilis (from Miniopterus sp.)

- 0085 BUTLER, W.H. 1970.- A summary of the vertebrate fauna of Barrow Island. W. Aust. Nat., 11(7): 149-160.

Includes records of Taphozous georgianus and Eptesicus pumilus.

- 0086 DEW, Barbara B. & McMILLAN, Bruce 1970.- Seasonal variation of Polychromophilus melanipherus (Sporozoa : Haemoproteidae) in the Bent-winged bat Miniopterus schreibersii in New South Wales. Parasitology, 61: 161-166.

Gametocytes of a polychromophilid parasite indistinguishable from those of P. melanipherus are commonly found in the blood of the Bent-winged bat Miniopterus schreibersii in New South Wales. There is a seasonal variation in infection rate, this being lowest in April (0%) and highest in August (up to 82.7%) and in density of parasitaemia. This variation is the reverse to that found in the same species of bat in the Northern Hemisphere. The reproductive biology of M. schreibersii in New South Wales is considered in relation to the seasonal variation in infection rate. The main vectors of parasitism are likely to be the nycteribiid flies, Penicillidia oceanica and Nycteribia parilis n.ss.

- 0087 DWYER, P.D. 1971 (dated 1970).- Mammals, pp. 44-59 in Mount Etna Caves (Brisbane: University of Queensland Speleological Society), 10 photographs.

Six species of bats, five of which are cave-dwelling, are listed for the area. Observations relating to distribution within the area and to biology are given for Taphozous georgianus, Macroderma gigas and Rhinolophus megaphyllus. The biology of Bent-winged bats (M. schreibersii and M. australis) is described with reference to breeding, seasonal changes in abundance at particular roosts, and social composition of colonies. A large population (300,000 to 400,000) of these species is dependent upon one cave at Mt. Etna for giving birth and rearing young. Establishment of a small nursery colony of M. australis in a storm-water tunnel is recorded. (See also paper on conservation by R.M. Bourke in the same volume.)

- 0088 HALL, L.S. 1971 (dated 1970).- A collection of the bat, Chalinolobus morio (Gray) from the Nullarbor Plain, Western Australia. Helictite, 8: 51-57.

A collection of 23 live specimens and 26 complete skeletons of the bat, Chalinolobus morio (Gray), were taken from two caves on the Nullarbor Plain. Tables of their forearm and skull measurements are presented. A comparison of the forearm measurements of Nullarbor specimens of C. morio with those of eastern Australian specimens of this species revealed a statistically significant difference ( $p < 0.01$ ). In Western Australia, it is generally recognised as a tree dweller. Records of other species of bats collected on the Nullarbor Plain are given.

- 0089 HAMILTON-SMITH, E. 1971 (dated 1970).- Preliminary notes on the cavernicolous invertebrate fauna of the Mt. Etna Caves area, Central Queensland, pp. 65-71 in Mount Etna Caves (Brisbane: U.Q.S.S.)

Includes brief references to bat parasites and to guanophilic fauna. The cosmopolitan beetle Alphitobius diaperinus (Tenebrionidae) is the dominant species in the guano of Bat Cleft Cave.

- 0090 HAMILTON-SMITH, E. 1971.- Where do the bats go - and when? Nargun, 3(9): 6-8 (Vict. Speleo. Assoc., roneo).

Brief descriptions of Miniopterus schreibersii, Rhinolophus megaphyllus and Myotis adversus, with notes on the kinds of data which could usefully be collected by speleologists in the Buchan area.

- 0091 HAMPTON, J.W.F., & SEEBECK, J.H. 1970.- Native Mammals in Victoria IV. Mammals of the Riddell District. Vic. Nat., 87: 192-204.

Includes Chalinolobus gouldii.

- 0092 HARRIS, J.A. 1970.- Bat-guano Cave Environment. Science, 169: 1342-3.

Comments upon an earlier paper by Poulson & White, pointing out that caves inhabited by large numbers of bats provide widely varying environmental conditions for other life, as contrasted with the relatively constant cave environment stressed by Poulson & White. Some data is provided in respect to the Carrai Bat Cave.

- 0093 KEMP, D.H. 1971 (dated 1970).- Notes on ticks in Mt. Etna Caves, pp. 72-3 in Mount Etna Caves (Brisbane: U.Q.S.S.).

Brief references to bat parasites.

- 0094 KOOPMAN, Karl F. 1971.- Taxonomic notes on Chalinolobus and Glauconycteris (Chiroptera, Vespertilionidae). Amer. Mus. Novit., 2451: 1-10.

The African genus Glauconycteris is shown to be a subgenus of the Australasian genus Chalinolobus. The two Pacific Island taxa of Chalinolobus are called C. tuberculatus and C. gouldi neocaledonicus. Some species of Glauconycteris are also dealt with in detail.

- 0095 KULZER, E., NELSON, J.E., MCKEAN, J.L. & MOHRES, F.P. 1970.- Temperature Regulation in Australian Bats (Microchiroptera) Z. verg. Physiol., 69: 426-451 (in German).

Summary: 1. Temperature regulation in a representative cross section of 15 species of Australian bats (Fam. Emballonuridae, Megadermatidae, Rhinolophidae, Hipposideridae, Vespertilionidae, Molossidae) was investigated during a South to North Crossing of the continent. Among these are included the two endemic genera Rhinonictis and Macroderma. They all together form a representative section of the Australian bat fauna.

2. The difference between the body temperature during the daily sleep period and the daily activity period shows the degree of temperature control in these bats. Except for Taphozous georgianus and Macroderma gigas all species studied had body temperatures which were close to the environmental temperatures during the resting phase. This was especially marked in bats from the family Vespertilionidae, Rhinolophidae and Molossidae. In the tropical species there is little lowering of body temperature during sleep in the normal environment of the warm caves. In these bats extended exposure to cold leads to uncontrolled hypothermia and exhaustion.

3. A capability for rewarming is necessary for an efficient awakening out of the deep daily lethargy. Bats with such a capability are said to be heterothermic. Eleven of the species studied are of this type. The rewarming speed (thermogenesis) is greater in Vespertilionid-, Rhinolophid- and Molossid-bats and is equal to that of many European species from the same families. In contrast the rewarming is very slow in the tropical Taphozous australis and Rhinonictoris aurantius. This conforms with tropical species from Africa and India.

4. In a temperature regulated room at Monash (9-10 def. C, 95% rel. hum.) we studied the ability of the tropical Myotis adversus from Cairns to hibernate. After an acclimatization period of a fortnight these bats stayed in deep hibernation for three weeks. They were able to rewarm themselves either spontaneously or after mechanical stimulation. During hibernation they showed the same respiratory pattern as hibernating European species and lost about 14-20 mg. of weight daily.

5. It is most unlikely that they would have to tolerate similar environmental conditions at any time in their natural habitat near Cairns. From this and similar experiments with Rhinolophus and Tandaria we suggest that there has been a very early evolutionary development of heterothermy long before the various species immigrated into the different continents. It was the most important prerequisite for the evolution of natural hibernation in the cool temperate zone.

0096 LANZA, B. 1969.- The baculum of Pteropus and its significance for the phylogenesis of the genus (Mammalia, Megachiroptera). Monitore Zool. Ital. (n.s.), suppl. III: 37-68.

Details of the baculum of many species of Pteropus are given. It is shown that the phylogenetic significance of this organ is doubtful, as the evidence obtained from its study conflicts with that obtained from an examination of cranial and dental characters, external

morphology and geographic distribution. It is suggested that the morphological affinities shown in the baculum are due to parallelism. It is shown that the baculum may be used to separate species which are otherwise close when considered in association with other characteristics. (Note the author reaches different conclusions from those of his earlier paper in *Monitore Zool. Ital.*, 70-71: 507-542, 1963)

- 0097 McKEAN, J.L. 1971.- Geographical Relationships of New Guinea Bats (Chiroptera) Search, 1: 244-5.

New Guinea bats are discussed in terms of zoogeographical affinities and relationships with various faunal regions. Competition and historical junctions or disjunctions between regions are seen as significant determining factors.

- 0098 MADDOCK, T.H. 1971.- Summarized report of observations on cave-dwelling Chiroptera in South Australia 1970. Cave Explor. Group (S. Aust.) Ann. Report 1970-71:12-13.

In 1970, Miniopterus schreibersii arrived at the Bat Cave, Naracoorte, during November and did not produce young until December. This conflicts with earlier observations. Some notes are given on the use of other caves by bats, climatic conditions in the Bat Cave, and recaptures of banded bats.

- 0099 MARLOW, B.J. 1970.- A record of a mastiff bat, Tadarida plicata, from the Cocos Keeling Islands. *Mammalia*, 34: 544-5.

A single specimen of T. plicata is recorded from the Cocos Keeling Islands.

- 0100 MIDDLETON, G.J. 1969.- A case for the conservation of Colong Caves Reserve, New South Wales, Australia. Stud. Speleol., 2: 1-11.

Includes references to the occurrence of Miniopterus schreibersii and Rhinolophus megaphyllus.

- 0101 ROBERTS, F.H.S. 1970.- Australian Ticks, Melbourne: CSIRO, 267 pp., 90 figs.

A comprehensive monograph of Ixodoidea in Australia. Species recorded from bats are Ixodes simplex simplex, I. kopsteini, Haemaphysalis bancrofti, Argas australiensis and Argas (Carios) sp. Previous records of I. vespertilionis are now considered to have been in error. The occurrence of I. kopsteini is recorded for the first time.

- 0102 WAKEFIELD, N.A. 1971.- Book Review - A guide to the Native Mammals of Australia. Vict. Nat., 88: 46-50.

A review, to which is appended as a supplement, a considerable amount of additional data on the distribution of mammals in Vict. This includes five bats (but omits reference to the occurrence of Myotis adversus in South-Western Victoria - Ed.)