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THE THRUSH

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EDITOR'S MESSAGE

Kim Goldberg

This last year has been an interesting and productive one. As a club we can be proud of the work done by the grant people, headed by Donna Bohoslowich. Their cumulative effort has produced an increased awareness and appreciation of our local surrounds in the school children and community members who were exposed to their program. During the summer they conducted a series of nature walks and evening presentations. The grant itself may be over, but it has left behind a valuable resource for the community. A set of nine different slide shows, each dealing with some aspect of natural history, has been put together and is now on file at the Resource Center. These will be used in the future by the public schools of the area.

On June 11 we had our annual summer Bar-B-Q out at the van Kerkoerles. The weather of the day ranged from a slight drizzle to an outright downpour, but that didn't put any damper on the high spirits and good food. Visiting the van Kerkoerles is something like going to a miniature Wild Kingdom/Botanical Garden; a pair of their resident Canada Geese were the proud parents of five new goslings.

During this last year we've had many interesting guest speakers at our monthly meetings and many enjoyable outings on the weekends. But in spite of our action-packed itinerary, we are still plagued with that eternal problem of all clubs -- Participation. Our last few meetings were held with an embarrassingly small attendance, and at least one outing was cancelled because virtually no one showed up. This year we hope to increase the interest in the club's activities -- from both our own

members and the community at large. Our club can and should be a useful resource for this community. We are a group of people appreciative of the natural surroundings, and many of our members have specialized training in some aspect of the natural sciences. This year we hope to get more publicity out to the community about our activities. One positive step in this direction has been our move up to Malaspina College for our monthly meetings. This new location is not only more centrally located for our own members, but also has the reputation as a community facility, which will hopefully bring in some new members.

And finally I'd like to say something about the "Thrush" itself. I have enjoyed editing the last two issues, and hope to do more with it in the future. I would like to expand the range of material it features, and I'm looking for suggestions and contributions for future editions. I feel that in addition to the informative nature articles in every issue, there should also always be room for articles of opinion and more creative types of writing pertaining to nature. It also might be interesting to include more games and puzzles related to natural history. I would appreciate anyone's assistance in this matter, so please keep your eyes open and your minds thinking about possible material for future Thrushes. Thanks!

THE COOPERATIVE
BREEDING BIRD SURVEY, 1978

Peter van Kerkoerle

During the night of June 4th, three sleepy guys wound their way over that awfully poor road to Boomerang Lake to do another nesting bird count. This year the group consisted of Ken Knowles, Joe Woodcock, and myself.

The trajectory of the survey was the same as in previous years. It ran from Boomerang Lake to Green Mountain Road by way of Brannen Lake, East Wellington Road, Jinglepot and Wakesiah. This is a 25 mile stretch.

We started counting 30 minutes before sunrise, and were finished at approximately 9:30 a.m. Every half mile a three minute stop was made, and all birds heard or seen were noted. Cloud cover, wind velocity, and temperature were also important data.

Nearly every year we encounter a species which is not common or should not be here at all. The oddball this year was an overflying Common Loon. Such rareties, of course, are not important towards this count. It is the common birds which show trends, as they are seen on everyone's count and also in numbers.

If you look at the statistics, you'll see that the 1973 estimates of abundance were fixed at an index value of 100. Following years show a percentage increase or decrease.

(see following page for statistics)

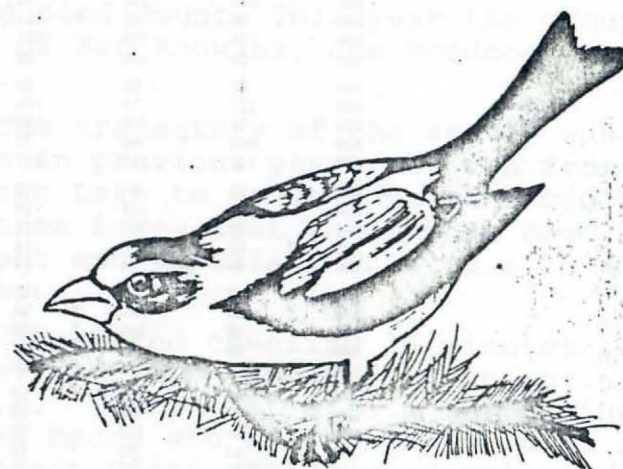
Table 21

Index numbers for bird populations, British Columbia (west of Rocky Mountains), from Breeding Bird Survey, based on 1973 index of 100

Species	Annual indices				
	1973	1974	1975	1976	1977
Killdeer	100	• 64	• 100	152	125
Rufous Hummingbird	100	• 143	123	97	135
Common Flicker	100	• 78	98	• 163	155
Yellow-bellied Sapsucker	100	149	125	151	178
Traill's Flycatcher	100	94	100	88	79
Western Wood Pewee	100	84	50	68	• 46
Violet-green Swallow	100	127	76	116	164
Tree Swallow	100	96	78	105	93
Rough-winged Swallow	100	205	• 96	77	105
Barn Swallow	100	101	141	127	113
Cliff Swallow	100	75	63	202	283
Common Raven	100	99	144	168	218
Crow†	100	89	103	111	110
Black-capped Chickadee	100	• 51	60	54	• 41
Chestnut-backed Chickadee	100	64	54	• 84	92
Winter Wren	100	113	82	110	158
American Robin	100	• 83	80	• 94	• 83
Varied Thrush	100	98	146	• 128	• 111
Swainson's Thrush	100	98	92	105	99
Golden-crowned Kinglet	100	85	72	68	112
Ruby-crowned Kinglet	100	87	130	• 92	82
Cedar Waxwing	100	79	69	67	57
Starling	100	81	103	75	• 133
Red-eyed Vireo	100	84	75	• 91	109
Warbling Vireo	100	104	92	• 145	170
Orange-crowned Warbler	100	100	85	96	• 66
Yellow Warbler	100	111	• 88	108	91
Yellow-rumped Warbler	100	117	122	101	109
MacGillivray's Warbler	100	• 66	57	60	67
Wilson's Warbler	100	177	• 81	103	104
House Sparrow	100	114	118	144	• 69
Western Meadowlark	100	87	• 129	108	99
Red-winged Blackbird	100	82	137	• 62	76
Brewer's Blackbird	100	79	66	84	77
Brown-headed Cowbird	100	116	124	128	124
Western Tanager	100	104	110	118	111
Pine Siskin	100	95	151	163	• 80
American Goldfinch	100	120	99	126	108
Rufous-sided Towhee	100	89	71	• 143	186
Savannah Sparrow	100	• 66	71	87	90
Dark-eyed Junco	100	120	114	• 168	• 134
Chipping Sparrow	100	91	123	105	90
Song Sparrow	100	114	• 107	131	• 110
No. routes included in comparison	27	26	24	23	

*Index change greater than 95% significant.

†Common Crow and Northwestern Crow combined.



Grosbeak Goolash

- | | |
|-------------------------|------------------|
| 1/2 Cup sunflower seeds | 1/4 Cup all-bran |
| 1/2 Cup hamster pellets | 1/4 Tsp. sand |
| 1/3 Cup dog biscuits | 3/4 Cup suet |

Put sunflower seeds, hamster pellets, crushed dog biscuits, all-bran and sand into a coconut shell half. Set aside. Put suet through meat grinder and place in double boiler. Melt and set aside to cool and harden slightly. Reheat and while in liquid form pour 3/4 cup over ingredients in coconut shell. Refrigerate to harden.



Flicker Fricassee

1 Cup grape nuts
1 Cup raisins
1 Cup peanut hearts



$\frac{1}{4}$ Tsp. sand
 $1\frac{1}{3}$ Cups suet

Into an 8" x 8" cake pan, put grape nuts, raisins, peanut hearts and sand. Set aside. Put suet through a meat grinder, melt down in a double boiler and set aside to cool and harden slightly. Reheat and pour $1\frac{1}{3}$ cups over dry ingredients. Refrigerate until firm, cut in pieces and serve in plastic coated wire basket on tree trunk.

FALL STARGAZER

Dave Richards

I hope that you were able to sit outside during the late evenings when we were experiencing that warm, sunny weather in July and August. It was clear and comfortable -- in short, it was ideal for stargazing. Most people were able to recognize Venus, which lingered for hours in the west, and some people took the trouble to watch the meteor showers in early August, which were a disappointment compared to last year's spectacle.

Now that fall is here you might think of leaving your lawn chairs outside for a month or so to take advantage of some of the easily seen constellations. Look first for the Summer Triangle, through which passes the Milky Way. What we call the Milky Way is really one arm of our Milky Way galaxy, which is a slowly spinning pinwheel of one hundred billion stars. Look for the Summer Triangle by facing south and looking up. The right-hand star in the triangle is Vega, while the left-hand star is Deneb. Deneb is part of the Northern Cross or, if you prefer, it is part of Cygnus, the swan.

It is quite common for constellations to have multiple names due to the many races and nationalities which have studied the stars. For example, the Little Dipper, which contains Polaris, is not a drinking cup in the Persian countries but instead is part of a story of revenge. Apparently the members of one family are circling a murderer, (Polaris), waiting for an opportunity to do him in. The Arabs have quite a number of legends of this type, whereas the English-speaking countries seem to pick more peaceful names such as the Plow, (Big Dipper).

If you look east you will see Pegasus, which appears as a square set on one corner. To the left of Pegasus is Andromeda, which contains a giant galaxy. This galaxy is 2.2 million light years away and is the farthest object which can be seen with the naked eye. It must be pitch black for us to see it, or we must use binoculars. Don't feel badly if you can't find it. For all we know it disappeared a couple of million years ago, because when we see it we are actually looking at old star light which left on its journey over two million years ago.

Ancient people used the heavens to tell the time and season. The appearance of Boötes, the headsman, is a much more reliable guide to spring than the fact that it happens to be warm for a couple of days. Similarly, the arrival of Capricorn high in the sky signalled the beginning of longer days. This is no longer quite true since the signs of the zodiac are out of alignment by well over a month.

If you are interested in learning more about the stars, you need a pair of binoculars and a simple star book. I would recommend the Golden Press book entitled Stars. This inexpensive book uses the Big Dipper as a starting point and works out from there. Under no circumstances should you consider buying an astronomical telescope until you know the constellations well. Nothing is more discouraging than to be told to look near the tip of the left side of Orion for the largest star known to man, when, in fact, you don't even know where Orion is. Binoculars cover a larger area of the heavens and are much easier to use. With these discouraging words behind me, let me wish you Happy Stargazing!

STARS OF AUTUMN

Ken Knowles

The sun crosses the sky lower and lower each autumn day; the nights grow longer. Late in December the sun enters the constellation Sagittarius, and is just above the Archer's Bow on the shortest day of the year. Here, at the southern limit of the sun's sweep, is the winter solstice where the sun seems to stand still for a while, resting for its six months' journey northward.

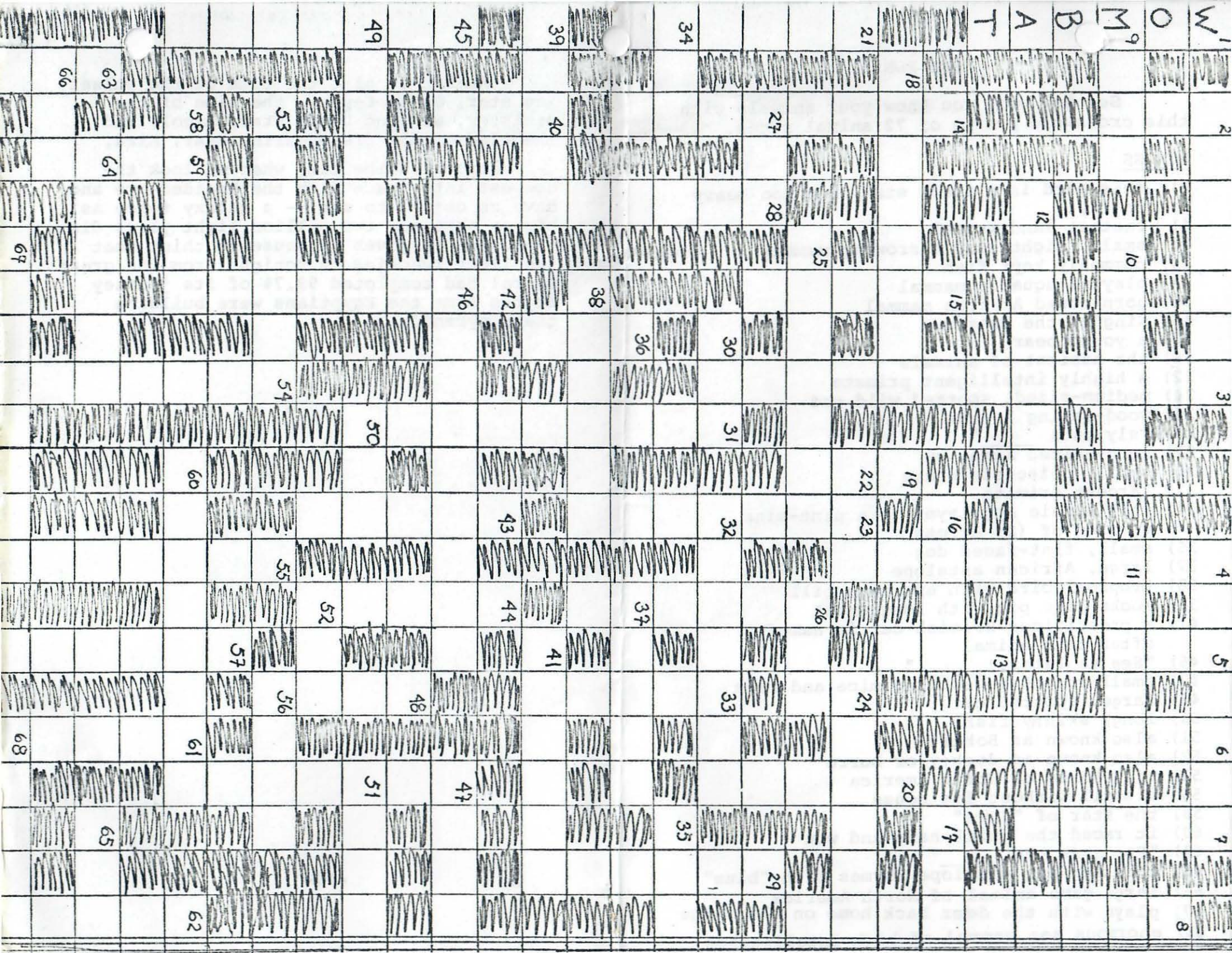
Autumn, like the spring season, is an in-between time for stargazers. The brilliant stars of summer are far to the west, and the brilliant stars of winter are beginning to rise. Dull and drab in comparison, the autumn sky has a beauty of its own, reflected in lore and legend.

Autumn, though an off season for bright stars, is a time of wonderful creatures, strange stars, and celestial characters. This is the time of the Royal Family -- the Vain Queen, Sorrowful King, Enchanted Lady, and Modest Hero -- the time of the Snake-haired Monster, Winged Horse, and Ravenous Sea Beast. It is also the time of the watery constellations with the Water Carrier, Sea-going Goat, Dolphin, Wading Bird, and Three Famous Fishes -- faint star groups scattered over a huge background, like tiny islands in a dark sea.

The Big Bear has gone to his den beyond the North Star, and Cassiopeia is at her best. Kaus Australes and Fomalhaut sweep across the southern sky, and Aquarius shoulders his Water Jar.

Autumn is also the time of the pulsating star, Delta Cephei, the time of the sinister, winking Demon Star, Algol, and the time of the disappearing star, Mira.

Autumn is the time when we look the deepest into space with the unaided eye and have an object to see -- a galaxy twice as big as ours and two million light years distant. And it gives us pause to think that the light reaching us tonight from the great spiral had completed 99.7% of its journey at the time the Egyptians were building their pyramids.



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WORD FUN

See how well you know your animals with this crossword puzzle of 72 animal names.

ACROSS

- 2) this bird is a track star, but too heavy to fly
- 4) fastest land mammal
- 9) small, sightless, burrowing mammal
- 10) commonly kept fish
- 11) playful aquatic mammal
- 12) horn-nosed African mammal
- 16) King of the Beasts
- 17) a young bear
- 18) the nosiest of animals
- 22) a highly intelligent primate
- 24) medium-sized, spotted wild cat
- 25) wood-eating insect
- 26) "sly as a _____"
- 27) long-haired Asian ox
- 30) small, poisonous snake
- 32) largest primate
- 34) this Aussie egg-layer is a pint-size version of (2) Across
- 35) small, flat-faced dog
- 37) large, African antelope
- 38) tropical bird with enormous bill
- 39) looks like pig with long snout
- 41) a prestigious British car is named after this animal
- 46) "See ya later, _____!"
- 47) small rodent resembling mice and rats
- 49) large, spotted cat
- 50) long, skinny fish
- 51) also known as Bobcat
- 52) also known as donkey or burro
- 53) wild horse of North America
- 56) a snail without its house
- 58) the star of "Jaws"
- 60) it raced the quick hare and won
- 64) "Pop goes the _____"
- 65) this African antelope rhymes with "blue"
- 66) large game animal of North America
- 67) plays with the deer back home on the range
- 68) enormous sea mammal of high intelligence

DOWN

- 1) small, bear-like marsupial
- 2) nocturnal bird of prey
- 3) river horse
- 4) large, aquatic reptile related to (46) Across
- 5) type of newt
- 6) slow-moving, aquatic reptile with mobile home
- 7) Africa's laughing scavenger dog
- 8) famaliar, extinct marine arthropod
- 13) pesky picnic pest
- 14) anomolous egg-laying mammal
- 15) carries its own water supply
- 19) victim of many laboratory experiments
- 20) black and white and striped all over
- 21) Little Miss Muffet's phobia
- 23) never takes off his tux
- 24) "strong as an _____"
- 26) this mammal's name rhymes with "merit"
- 28) Aussie hopper with built-in luggage compartment
- 29) a Ford product is named after this North American predator
- 31) four-footed pincushion
- 33) high-altitude pack animal
- 36) dairy on legs
- 40) "All animals are equal, but some are more equal than others."
- 42) subsists on those pesky picnic pests of (13) Down
- 43) Yul and Telly have something in common with this bird
- 44) Eucalyptus leaf connoisseur
- 45) pint-size version of (28) Down
- 47) large scavenger bird
- 48) edible, spiney fish
- 54) highest jumper
- 55) African mammal built for necking
- 57) movie: "Three Days of the _____"
- 59) "eye like a _____"
- 61) Shakespeare's "Taming of the _____"
- 62) "quiet as a _____"
- 63) feathered omlette maker

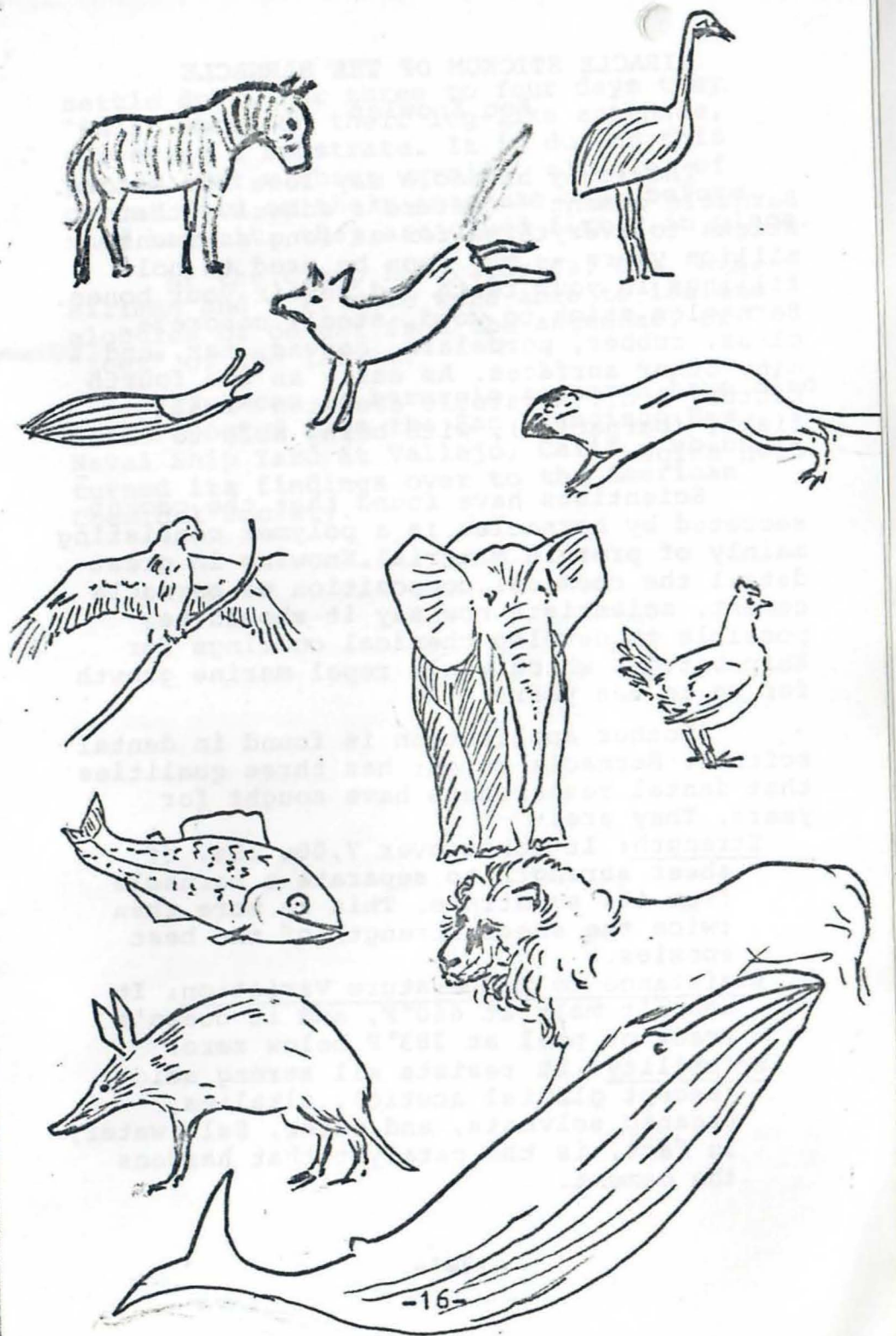
ANSWERS

ACROSS

- 2) Ostrich
- 4) Cheetah
- 9) Mole
- 10) Guppy
- 11) Otter
- 12) Rhinoceros
- 16) Lion
- 17) Cub
- 18) Elephant
- 22) Ape
- 24) Ocelot
- 25) Termite
- 26) Fox
- 27) Yak
- 30) Asp
- 32) Gorilla
- 34) Emu
- 35) Pug
- 37) Eland
- 38) Toucan
- 39) Tapir
- 41) Jaguar
- 46) Alligator
- 47) Vole
- 49) Leopard
- 50) Bel
- 51) Lynx
- 52) Ass
- 53) Mustang
- 56) Slug
- 58) Shark
- 60) Tortoise
- 64) Weasel
- 65) Gnu
- 66) Elk
- 67) Antelope
- 68) Whale

DOWN

- 1) Wombat
- 2) Owl
- 3) Hippopotamus
- 4) Crocodile
- 5) Eft
- 6) Turtle
- 7) Hyena
- 8) Trilobite
- 13) Ant
- 14) Platypus
- 15) Camel
- 19) Rat
- 20) Zebra
- 21) Spider
- 23) Penguin
- 24) Ox
- 26) Ferret
- 28) Kangaroo
- 29) Cougar
- 31) Porcupine
- 33) Llama
- 36) Cow
- 40) Pig
- 42) Aardvark
- 43) Eagle
- 44) Koala
- 45) Wallaby
- 47) Vulture
- 48) Bass
- 54) Gazelle
- 55) Giraffe
- 57) Condor
- 59) Hawk
- 61) Shrew
- 62) Mouse
- 63) Hen



MIRACLE STICKUM OF THE BARNACLE

Ken Knowles

The lowly barnacle may lose its stigma. Barnacle cement -- nature's adhesive that sticks to everything for as long as twenty million years -- may soon be used to hold fillings in your teeth and repair your bones. Barnacles stick to wood, steel, concrete, glass, rubber, porcelain, canvas, tar, and many other surfaces. As early as the fourth century B.C., Aristotle credited "small fish", (barnacles), with being able to slow down ships.

Scientists have found that the cement secreted by barnacles is a polymer consisting mainly of protein material. Knowing in great detail the chemical composition of barnacle cement, scientists now say it should be possible to develop chemical coatings for ship bottoms which would repel marine growth for up to ten years.

Another application is found in dental science. Barnacle cement has three qualities that dental researchers have sought for years. They are:

Strength: It takes over 7,000 lbs. of sheer strength to separate a barnacle from its substrate. This is more than twice the sheer strength of the best epoxies.

Resistance to Temperature Variation: It doesn't melt at 660°F, and it doesn't crack or peel at 383°F below zero.

Solubility: It resists all strong acids, (except glacial acetic), alkalies, organic solvents, and water. Salt water, in fact, is the catalyst that hardens the cement.

Anything that will withstand the wetting, drying, and violent abuse of the ocean surf the year round will certainly withstand the rigors of a tough steak or misplaced cherry pit. The moisture always present in the mouth would help barnacle cement retain its adhesive property.

One group of scientists headed by Dr. R. Keller at the University of Akron, Ohio has been studying cement production in adult barnacles. What they found is this: when the animal is removed from the shell, a yellowish, jelly-like mass that covers the inner base of the shell remains behind. In the jelly-like mass are a series of paired nodes, or glands. From these glands Dr. Keller has extracted two distinct fluids. One fluid, a whitish substance, is believed to be the precursor of shell material. The other, a brownish substance, they believe is cement. It hardens in about 15 minutes in salt water.

From the studies the scientists believe that each time the barnacle's shell grows, the animal produces another pair of glands. One gland secretes shell material that is added to the edge of the existing shell. The other gland secretes cement that glues down the new portion of the shell permanently.

At the Battelle Memorial Institute's William F. Clapp Laboratories in Mass., two histochemists have isolated the cement that is secreted by larval barnacles when they first attach themselves to a substrate.

Early in their seven year life, barnacles are free-swimming larvae, but at a certain age -- about one month after they hatch -- they begin looking for a place to

settle down. For three to four days they "walk" about on their leg-like antennae, surveying a substrate. It is during this period that without warning, globules of cement form on their antennae and, before they know it, they are glued firmly in place.

At the Clapp Laboratories, Drs. R.E. Hillman and P.F. Nace were able to isolate globules of cement from the antennae, or "feet" of the larvae.

Advances in barnacle research have also been reported from the San Francisco Bay Naval Ship Yard at Vallejo, Calif., which turned its findings over to the American Chemical Society.

LETTER TO THE EDITOR

Hello Kim and Nanaimo District Naturalists,

Sure liked the spring volume of the "Thrush". I always look forward to these issues.

You wanted people to respond to Ken Knowles' article -- well, I agree with him on everything. We are much too wasteful, and really, what do we need cats and dogs for? I know some people need dogs and cats on the farm, but the city?

I love cats especially, but I love birds too, and they don't always go together.

I've always been supporting "Nature Canada" and "Wildlife" and I hope I can continue, but I just recently adopted a child, (through Foster Parent Plan), and that was a really big thrill. Our young people are ever so important. We must teach them conservation along with love and a half-decent life.

Sincerely,

Irma Grew
(May 7, '78)

(Why can't Doris Day, Zsa zsa, etc. spend their thousands and time on children rather than dogs! This would be a better world.)

(Editor's note: This is one member's response to Ken Knowles' article, "Our Own Priorities", which appeared in the last "Thrush". Let's have more input! There's plenty of room for every opinion in this public forum section of the "Thrush".)

HEAD SPACE -- NATURALLY

Ken Knowles

Nowadays it's quite fashionable to use the expression "head space". "My head's in this space", "her head's in that space", "if only I could get my head in the proper space", and so on ad infiboredom. This is the greatest day and age for people analyzing their problems, (and other peoples' as well), and spending or wasting many hours doing it.

Then there are the various group therapy sessions such as Transcendental Meditation, Eckankar, Hare Krishna, and many more such as the conventional religions, and that good old standby -- the psychiatrist.

Everybody's searching and seeking in this book and that book for the answer to their problems, when, with just a little thought, the answer is probably right under our noses and written in the first book, (according to some), on the subject of head space. "Do unto others as you would have them do unto you", is the quote I'm referring to. "Corny", some will say, "out of date", or, "too idealistic", others say, or some say, "it's just plain garbage". Well, that's fine, but perhaps if people treated us as they wished we would treat them, then we wouldn't need all this head space material thrust upon us in such great abundance.

For instance, suppose the users of 2-4-D followed the rule, or the developers of Duke Point, just to name some examples. Perhaps without all these added aggravations we wouldn't need all the crutches, because we wouldn't be so hung up with ourselves and our problems.

This sounds all very good I know, but of course to have everything go peacefully and rosy would certainly put a lot of writers out of work and they wouldn't be able to flood the market with head bocs such as, I'm OK, You're OK, Your Erroneous Zones, and about two thousand more exotic books telling us how to elevate our minds to outer space so as to survey the whole mess unimpeded.

No, to eliminate these books would give us too much time on our hands and what would we do with that? Go out bird-watching, or botanizing, or just plain smelling the flowers along the way. Don't get trapped doing that, for then you'll find your own head space -- naturally.

NANAIMO DISTRICT NATURALISTS

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MEMBERSHIPS

\$7.00 per year - Family

\$5.00 per year - Single

\$3.00 per year - Students and
Seniors

All new memberships and renewals are payable
to the Treasurer:

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