

PINES
COMICS

ICD
No. 1

SPECIAL CAMP ISSUE

APPROVED
BY THE
COMICS
CODE
AUTHORITY

25c

Mark Trail's

ADVENTURE BOOK OF NATURE



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BDD



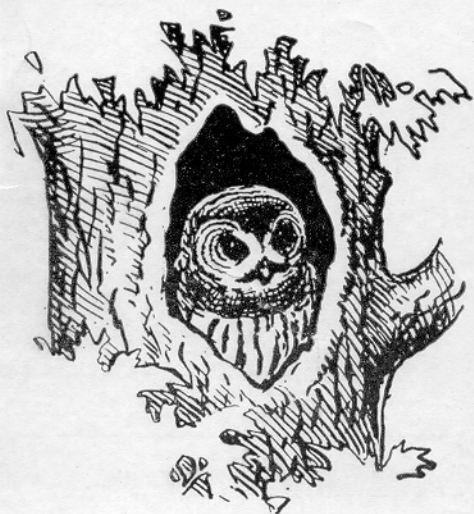
**Exciting Stories and
Facts About
Nature's Wonderland**

I HAVE spent a good deal of time hunting and fishing with native guides, both in the United States and Canada, and one of the things that impresses me about them all is their great knowledge of birds and fish and animals. Few of these men learned the secrets of the great outdoors in school rooms or from textbooks. They got their knowledge of our furred and feathered friends in the woods, on the mountains, and beside countless lakes and streams.

These outdoorsmen have taught me a great deal about the animals, birds, fishes and insects that make their homes in our forests and fields and waters. A most valuable lesson was how to observe wild creatures without frightening them. I learned from these woodsmen that one can discover far more by moving quietly through the woods, by sitting perfectly still on a fallen log, or by paddling a canoe noiselessly along a forest waterway. This is an interesting pastime, and it opens up a whole new world to those of us who wish to learn firsthand from Old Mother Nature.

Another important lesson picked up from my guides and camping companions is the habit of close observation. The American Indian developed this skill to a remarkable degree and to his great advantage. And once the camper, hiker, fisherman or hunter begins to notice every little thing along the trail, his days in the open will afford a great deal more pleasure and, incidentally, put more game on his table.

The hobby of studying nature from Nature, herself, is a lot of fun, and many of our greatest naturalists learned their animal and wood lore in this way. They have written a carload
(Continued on inside back cover)

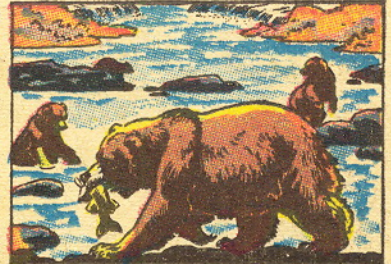


MARK TRAIL



MAMMALS

MAMMALS ARE MEMBERS OF THE ANIMAL KINGDOM WHICH ARE WARM-BLOODED, POSSESS HAIR IN SOME FORM AND NOURISH THEIR YOUNG WITH MILK



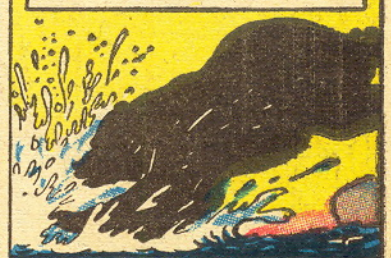
ALASKAN BROWN BEARS ARE AVID FISHERMEN, AND LIKE HUMAN ANGLERS, EACH HAS HIS OWN TECHNIQUE

THE CUSTOMARY METHOD USED BY THESE SHAGGY GIANTS IS TO WAIT MOTIONLESS AT THE STREAM'S EDGE UNTIL A SALMON SWIMS CLOSE...



...THEN A LIGHTNING JAB OF A FOREPAW PINS THE FISH AND SHARP TEETH DRAG IT ASHORE!

THEN THERE'S ALWAYS THE SHOW-OFF, WHO RACES DOWN THE BANK, DIVES BELOW THE SURFACE, AND COMES UP WITH A FISH!



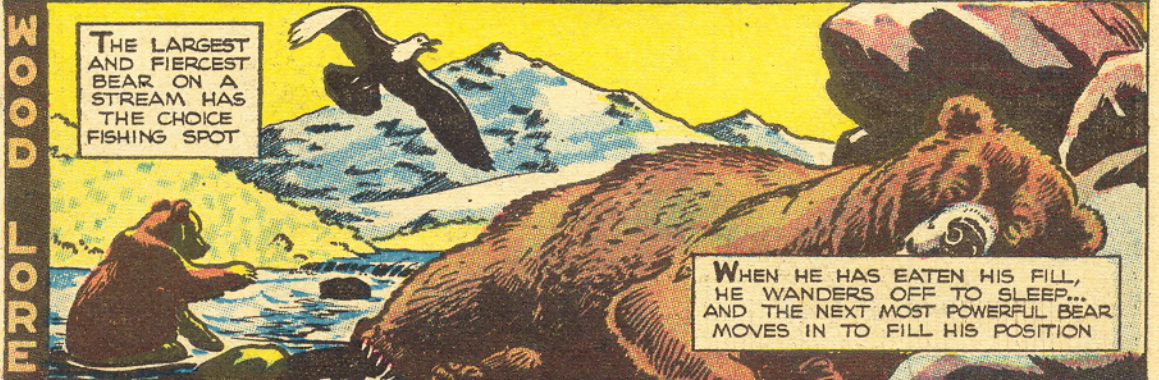
HOWEVER, ONE OLD-TIMER SITS IN THE SWIRLING WATER LIKE A STATUE



TO THE FISH HE'S JUST ANOTHER BOULDER IN THE STREAM, AND THEY SEEK SHELTER IN HIS SHADOW



SO WITHOUT NOISE OR EFFORT THIS DIGNIFIED VETERAN DEFTLY DIPS UP A FAT SALMON!



THE LARGEST AND FIERCEST BEAR ON A STREAM HAS THE CHOICE FISHING SPOT

WHEN HE HAS EATEN HIS FILL, HE WANDERS OFF TO SLEEP... AND THE NEXT MOST POWERFUL BEAR MOVES IN TO FILL HIS POSITION

WOODFOL



LOOK FOR THIS SEAL WHEN YOU BUY A COMIC MAGAZINE. IT GUARANTEES QUALITY AND WHOLESOME ENTERTAINMENT.

VALLEY OF DESOLATION

AS WATER GROWS SCARCE IN HIS LOFTY PANAMINT FEEDING GROUNDS, THE NELSON BIGHORN DESCENDS FROM THE CRAGS...

AND BRAVING THE BLISTERING 140-DEGREE HEAT OF THE BARREN SALT FLATS, HE MIGRATES ACROSS THE DESOLATE VALLEY

OMINOUS DEATH VALLEY LIES BETWEEN THE RUGGED PANAMINT MOUNTAINS AND THE AMARGOSA RANGE

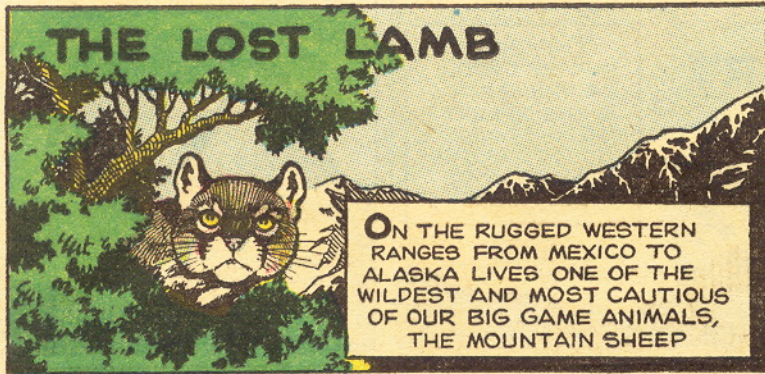
FOR INSTINCT DRIVES HIM ON THROUGH THE DREADED DESERT TO SINK EXHAUSTEDLY BY THE SWEET FRESH SPRINGS OF THE COOL AMARGOSA SLOPES

IN SPITE OF THE CONSTANT STRUGGLE HE MUST FACE, THE NELSON BIGHORN PREFERS THE FORSAKEN VALLEY OF DEATH TO THE DANGERS OF HUNTERS IN MORE BOUNTIFUL MOUNTAIN RANGES

AMONG THE FASCINATING FEATURES OF CALIFORNIA'S DEATH VALLEY NATIONAL MONUMENT IS THE DRY LAKE BED CALLED "RACETRACK PLAYA"

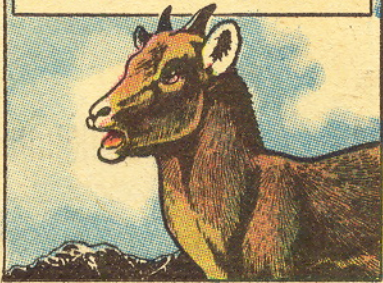
WHEN THE RACETRACK'S SMOOTH CLAY SURFACE BECOMES WET, THE WIND HOLDS A BOWLING MATCH WITH HUGE, UNANCHORED ROCKS, SKIDDING THEM ABOUT LIKE MATCHSTICKS ON THE SLIPPERY SURFACE

THE LOST LAMB



ON THE RUGGED WESTERN RANGES FROM MEXICO TO ALASKA LIVES ONE OF THE WILDEST AND MOST CAUTIOUS OF OUR BIG GAME ANIMALS, THE MOUNTAIN SHEEP

LOST AND FRIGHTENED, A BIGHORN LAMB BLEATS PLAINTIVELY FOR HIS MOTHER...



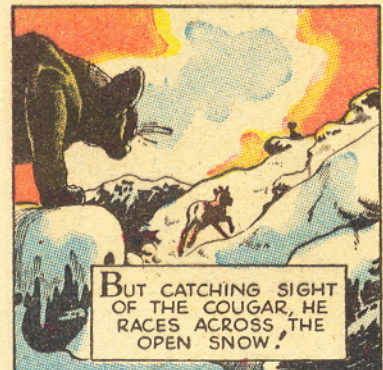
BUT A GREAT TAWNY COUGAR HEARS HIS CRY AND BEGINS STALKING HIM...



AND AS THE YOUNG SHEEP CLIMBS THE ROCKY MOUNTAINSIDE, THE BIG CAT DRAWS NEARER!



ON THE EDGE OF A DANGEROUS SNOW FIELD THE LAMB PAUSES, UNCERTAIN OF HIS FOOTING...



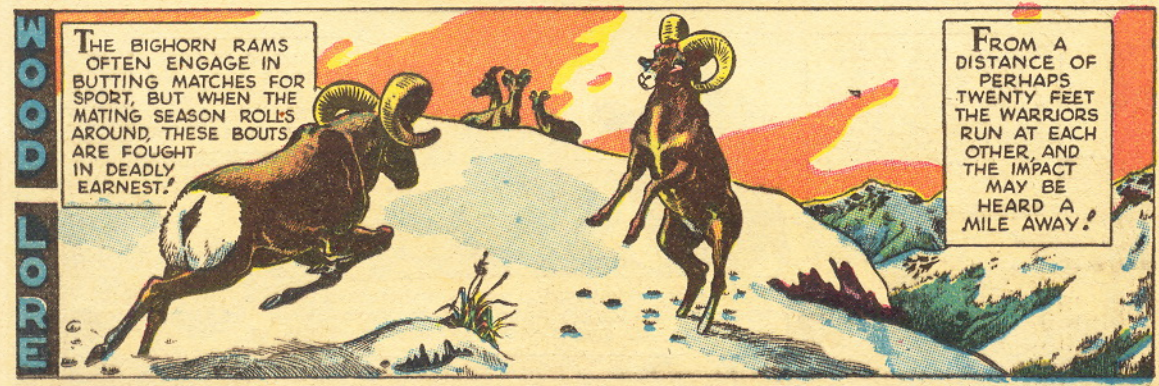
BUT CATCHING SIGHT OF THE COUGAR, HE RACES ACROSS THE OPEN SNOW.



WITH A GREAT BOUND THE MURDEROUS FELINE LANDS ON THE SNOW, BUT HIS WEIGHT IS TOO MUCH!



THE MOTHER BIGHORN FINDS HER OFFSPRING SAFE ON A ROCKY PINNACLE, AS TONS OF SNOW AND ICE BURY THE WOULD-BE KILLER.



THE BIGHORN RAMS OFTEN ENGAGE IN BUTTING MATCHES FOR SPORT, BUT WHEN THE MATING SEASON ROLLS AROUND, THESE BOUTS ARE FOUGHT IN DEADLY EARNEST.

FROM A DISTANCE OF PERHAPS TWENTY FEET THE WARRIORS RUN AT EACH OTHER, AND THE IMPACT MAY BE HEARD A MILE AWAY!

WOOD LORE

SHIP OF THE DESERT

THE ONE-HUMPED CAMEL, OR DROMEDARY, IS THE DESERT-DWELLING ARAB'S FOOD, TRANSPORTATION AND CLOTHING



THE BELIEF STILL PREVAILS THAT THE CAMEL CAN GO WITHOUT WATER FOR EXTREMELY LONG PERIODS OF TIME

BUT TO REMAIN HEALTHY THE "SHIP OF THE DESERT" NEEDS WATER EVERY THREE DAYS



SUPPOSEDLY THE CAMEL STORES WATER IN HIS HUMP, BUT ACTUALLY THE HUMP IS COMPOSED OF FAT...



...WHICH SUSTAINS HIM WHEN FOOD IS SCARCE



AND WHEN THE CAMEL DRINKS YOU'D THINK HE WERE LOADING A MONTH'S SUPPLY

HOWEVER, THE STOMACH DOES HAVE A COMPARTMENT FOR STORING AN EXTRA GALLON OF WATER



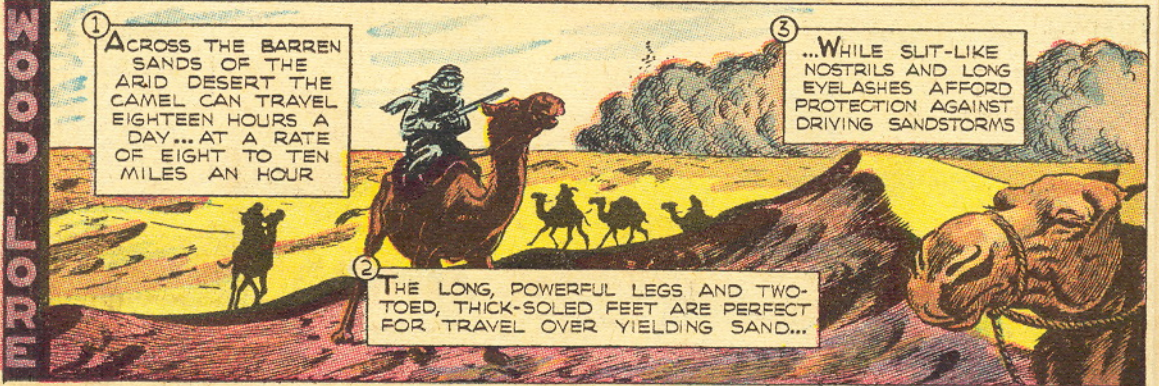
FOR HE CAN EASILY TAKE ON SEVEN GALLONS OR MORE!



① ACROSS THE BARREN SANDS OF THE ARID DESERT THE CAMEL CAN TRAVEL EIGHTEEN HOURS A DAY... AT A RATE OF EIGHT TO TEN MILES AN HOUR

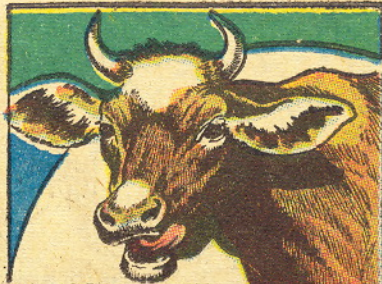
③ ...WHILE SLIT-LIKE NOSTRILS AND LONG EYELASHES AFFORD PROTECTION AGAINST DRIVING SANDSTORMS

② THE LONG, POWERFUL LEGS AND TWO-TOED, THICK-SOLED FEET ARE PERFECT FOR TRAVEL OVER YIELDING SAND...



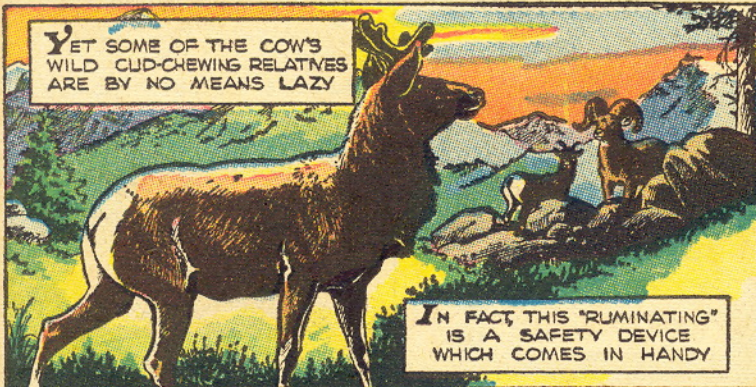
BUILT-IN PANTRY

HOOFED ANIMALS HAVING A FOUR-COMPARTMENT STOMACH FOR STORING UNCHEWED VEGETATION ARE KNOWN AS RUMINANTS



THE METHODICAL CUD-CHEWING OF THE SLEEPY-EYED COW SEEMS TO STEM FROM PURE LAZINESS

YET SOME OF THE COW'S WILD CUD-CHEWING RELATIVES ARE BY NO MEANS LAZY



IN FACT THIS "RUMINATING" IS A SAFETY DEVICE WHICH COMES IN HANDY

WITH POSSIBLE DANGER ON EVERY SIDE, THE WARY BROWSERS MUST COLLECT FOOD RAPIDLY



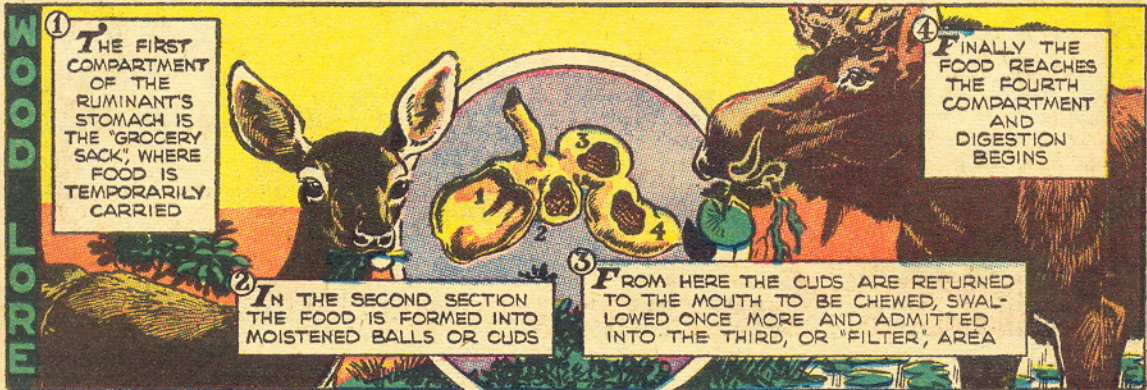
WASTING NO TIME ON CHEWING THEY HURRIEDLY SWALLOW AND STORE IT IN THE "MARKET BASKET" SECTION OF THE STOMACH



THEN, IN THE SAFETY OF A QUIET SECLUDED SPOT, THE RUMINANT BRINGS UP "CUDS" TO BE THOROUGHLY CHEWED AND SWALLOWED FOR KEEPS



AND SHOULD THE CUD-CHEWER BE FORCED TO FLEE, HE TAKES HIS LUNCH ALONG TO BE "EATEN" AFTER DANGER IS PAST



1 THE FIRST COMPARTMENT OF THE RUMINANT'S STOMACH IS THE "GROCERY SACK", WHERE FOOD IS TEMPORARILY CARRIED

2 IN THE SECOND SECTION THE FOOD IS FORMED INTO MOISTENED BALLS OR CUDS

3 FROM HERE THE CUDS ARE RETURNED TO THE MOUTH TO BE CHEWED, SWALLOWED ONCE MORE AND ADMITTED INTO THE THIRD, OR "FILTER," AREA

4 FINALLY THE FOOD REACHES THE FOURTH COMPARTMENT AND DIGESTION BEGINS

A SLIPPERY MANEUVER

THE CARIBOU IS PERFECTLY EQUIPPED FOR LIFE ON THE FROZEN BARRENS OF THE ARCTIC TUNDRA



IN THE MISTY HALF-LIGHT OF THE ARCTIC NIGHT A CARIBOU FINDS HIMSELF CUT OFF FROM THE HERD

HOT ON HIS HEELS A WOLF PACK CLOSES IN FOR THE KILL

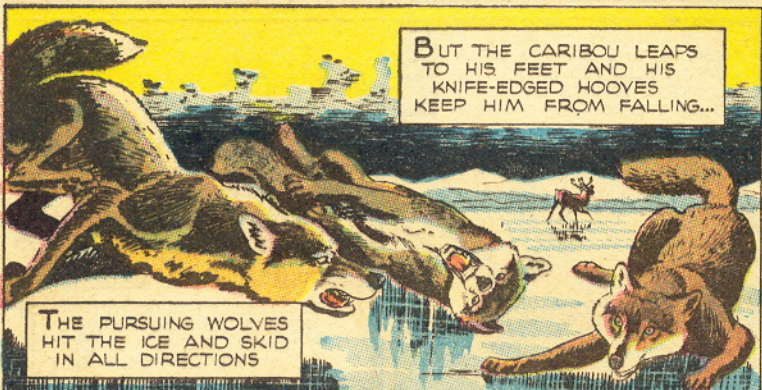


BUT THE CARIBOU STILL HAS A TRICK UP HIS SLEEVE

DASHING OUT ON A FROZEN LAKE, HE SITS BACK ON HIS HAUNCHES AND GOES SKIMMING OVER THE SURFACE



BUT THE CARIBOU LEAPS TO HIS FEET AND HIS KNIFE-EDGED HOOVES KEEP HIM FROM FALLING...

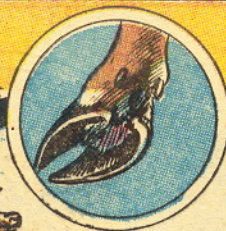


THE PURSUING WOLVES HIT THE ICE AND SKID IN ALL DIRECTIONS

THEN HE RACES AWAY, LEAVING HIS ENEMIES TO FLOUNDER AWKWARDLY BACK TO SHORELINE



PROTECTED BY A THICK WIND-PROOF COAT WHICH ALSO ACTS AS A LIFE PRESERVER IN WATER, THE CARIBOU SELDOM SUFFERS FROM THE ELEMENTS



SHARP-SPLAYED HOOVES WITH LARGE DEW CLAWS ENABLE THE CAMEL OF THE TUNDRA TO TRAVEL EASILY OVER BOTH SLIPPERY ICE AND DEEP SNOW DRIFTS

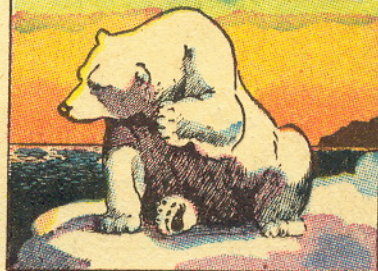
WOOD LORE



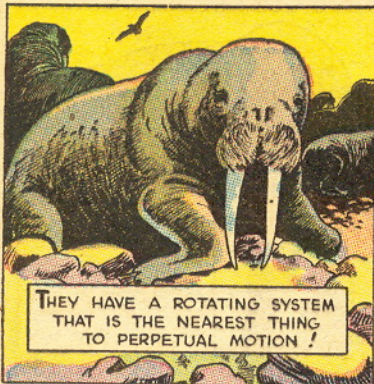
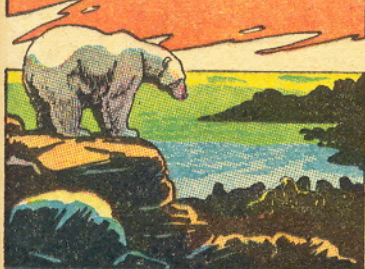
SNOWLAND SENTINELS

TO PROTECT THEMSELVES, MANY SPECIES OF ANIMALS HAVE LEARNED HUMAN-LIKE COOPERATION...THE BERING SEA WALRUS IS ONE OF THEM

THE WILY POLAR BEAR HAS LITTLE OPPORTUNITY TO STEAL A YOUNG WALRUS...

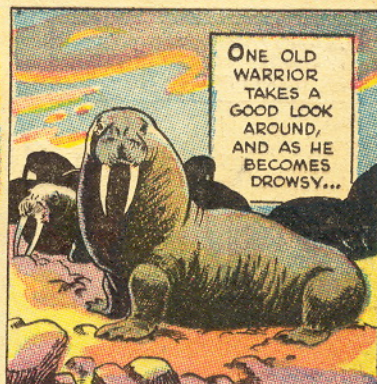


FOR ALTHOUGH THE SNOOZING WALRUSES NEVER POSTS A SENTINEL...

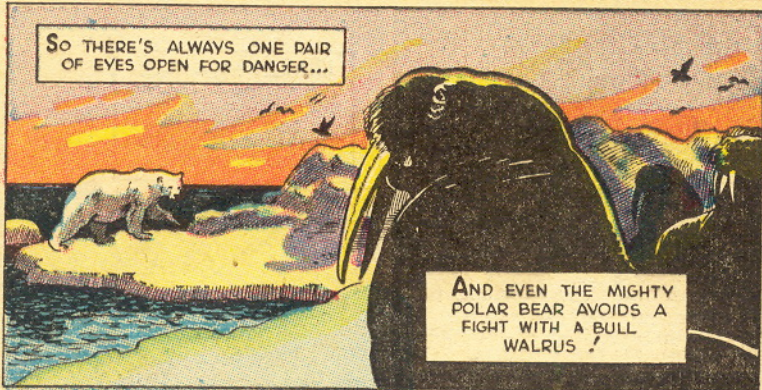


THEY HAVE A ROTATING SYSTEM THAT IS THE NEAREST THING TO PERPETUAL MOTION !

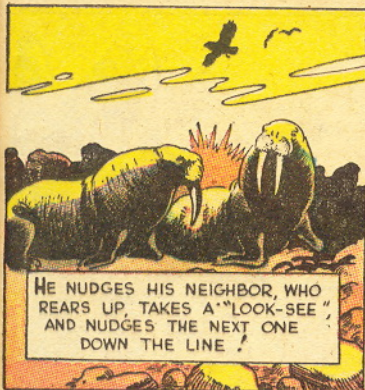
ONE OLD WARRIOR TAKES A GOOD LOOK AROUND, AND AS HE BECOMES DROWSY...



SO THERE'S ALWAYS ONE PAIR OF EYES OPEN FOR DANGER...

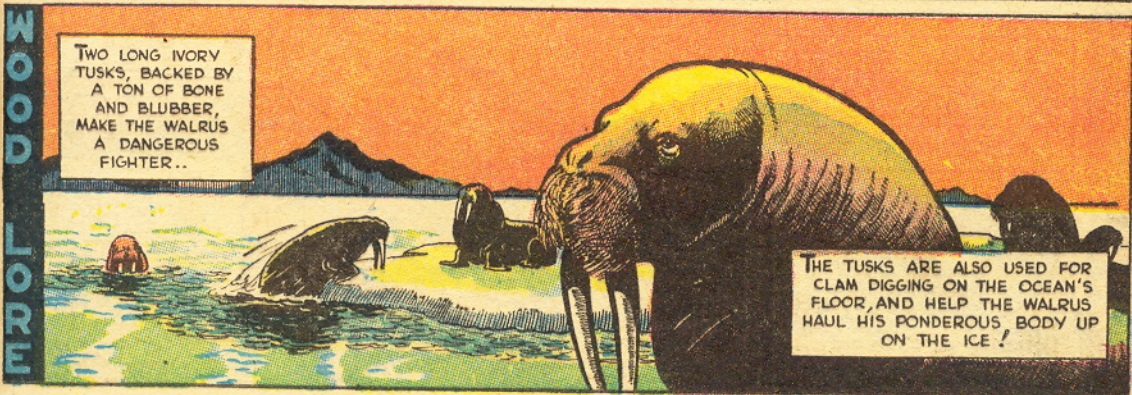


HE NUDGES HIS NEIGHBOR, WHO REARS UP, TAKES A "LOOK-SEE", AND NUDGES THE NEXT ONE DOWN THE LINE !



AND EVEN THE MIGHTY POLAR BEAR AVOIDS A FIGHT WITH A BULL WALRUS !

TWO LONG IVORY TUSKS, BACKED BY A TON OF BONE AND BLUBBER, MAKE THE WALRUS A DANGEROUS FIGHTER..



THE TUSKS ARE ALSO USED FOR CLAM DIGGING ON THE OCEAN'S FLOOR, AND HELP THE WALRUS HAUL HIS PONDEROUS BODY UP ON THE ICE !

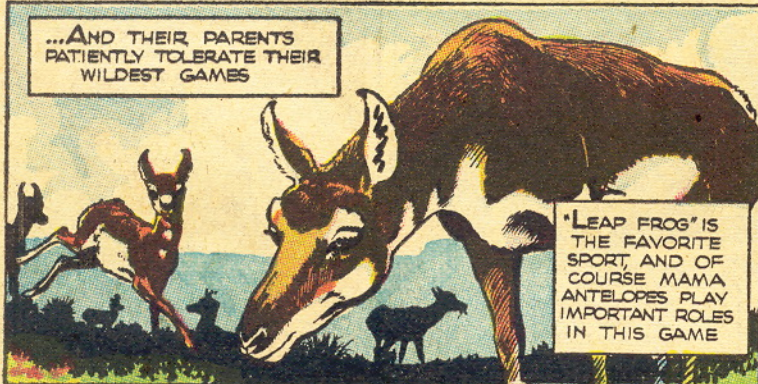
ANTELOPE ANTICS

FROM THE HOUR THEY ARE BORN, YOUNG ANTELOPE MUST DEPEND ON THEIR LEGS FOR THEIR SAFETY



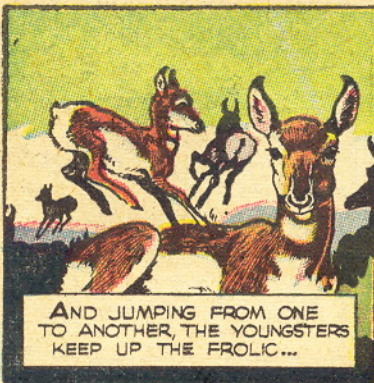
ANTELOPE KIDS SEEM TO ACCEPT LIFE AS ONE CONTINUOUS ROMP...

...AND THEIR PARENTS PATIENTLY TOLERATE THEIR WILDEST GAMES



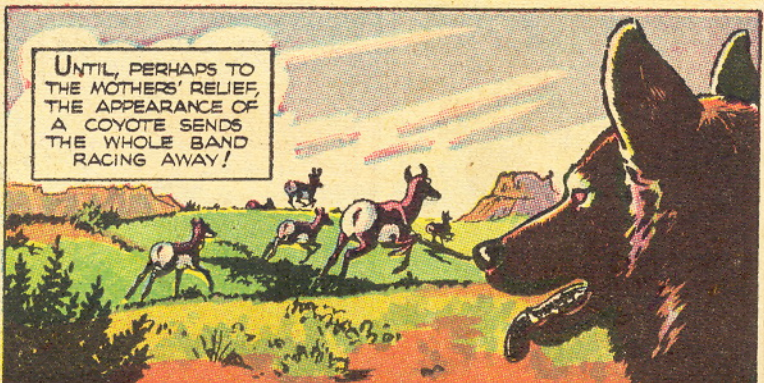
"LEAP FROG" IS THE FAVORITE SPORT AND OF COURSE MAMA ANTELOPES PLAY IMPORTANT ROLES IN THIS GAME

AS THE DOES LIE RESTING NEAR A WATERHOLE, THE KIDS HOP UP ON THEIR BACKS

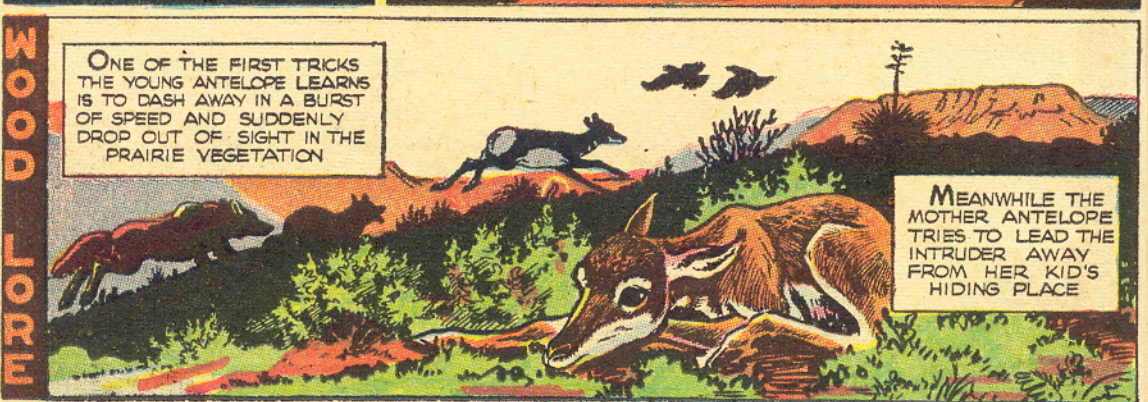


AND JUMPING FROM ONE TO ANOTHER, THE YOUNGSTERS KEEP UP THE FROLIC...

UNTIL, PERHAPS TO THE MOTHERS' RELIEF, THE APPEARANCE OF A COYOTE SENDS THE WHOLE BAND RACING AWAY!

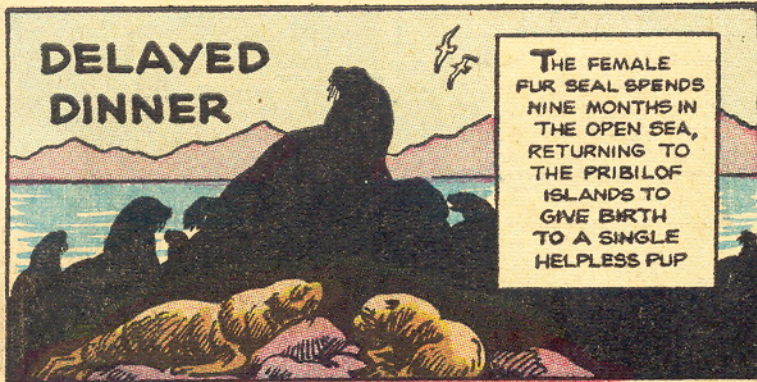


ONE OF THE FIRST TRICKS THE YOUNG ANTELOPE LEARNS IS TO DASH AWAY IN A BURST OF SPEED AND SUDDENLY DROP OUT OF SIGHT IN THE PRAIRIE VEGETATION



MEANWHILE THE MOTHER ANTELOPE TRIES TO LEAD THE INTRUDER AWAY FROM HER KID'S HIDING PLACE

DELAYED DINNER



THE FEMALE FUR SEAL SPENDS NINE MONTHS IN THE OPEN SEA, RETURNING TO THE PRIBILOF ISLANDS TO GIVE BIRTH TO A SINGLE HELPLESS PUP



AMID THE UPROAR OF TEE/ING LIFE ON A PRIBILOF BEACH, TUBBY, A FUR SEAL PUP, LIES IMMOBILE ON THE SAND.



TUBBY IS SO FULL OF MILK HE LOOKS LIKE A MINIATURE BLIMP, AND EVEN IF HE WANTED TO, HE COULDN'T MOVE!

THE REASON HE MAKES SUCH A LITTLE PIG OF HIMSELF IS BECAUSE HIS MEALS ARE FEW AND FAR BETWEEN!



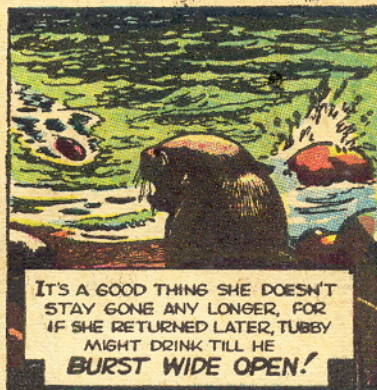
FOR AS SOON AS HE'S FED, MAMA DIVES INTO THE SEA AND GOES FISHING!!



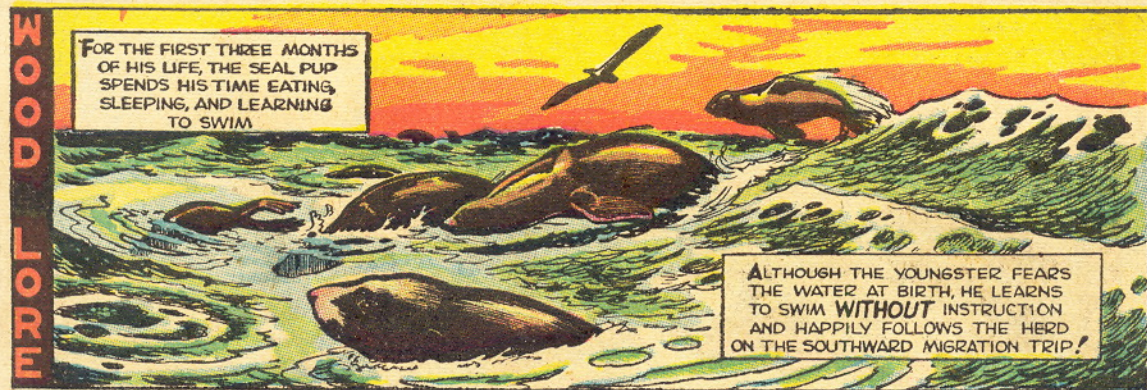
SHE'S OFTEN GONE FOR AWHOLE WEEK, AND IF TUBBY SHOULD GET HUNGRY BEFORE SHE RETURNS, IT'S JUST TOO BAD...



SINCE SEAL COWS FEED ONLY THEIR OWN OFFSPRING AND WILL NOT ADOPT AN ORPHAN!



IT'S A GOOD THING SHE DOESN'T STAY GONE ANY LONGER, FOR IF SHE RETURNED LATER, TUBBY MIGHT DRINK TILL HE BURST WIDE OPEN!

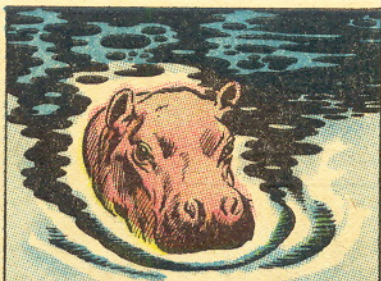
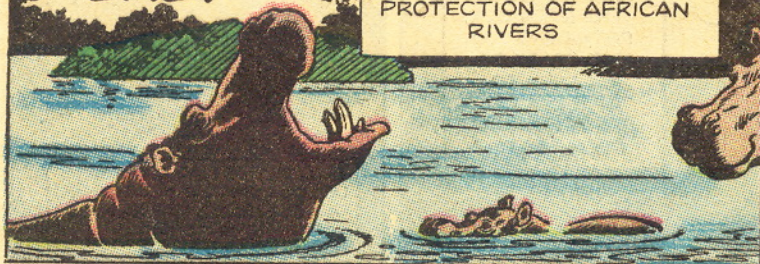


FOR THE FIRST THREE MONTHS OF HIS LIFE, THE SEAL PUP SPENDS HIS TIME EATING, SLEEPING, AND LEARNING TO SWIM

ALTHOUGH THE YOUNGSTER FEARS THE WATER AT BIRTH, HE LEARNS TO SWIM WITHOUT INSTRUCTION AND HAPPILY FOLLOWS THE HERD ON THE SOUTHWARD MIGRATION TRIP!

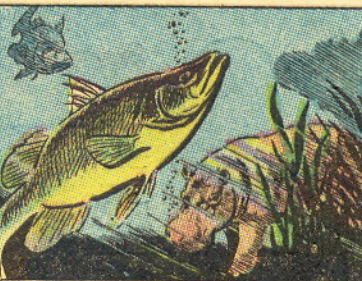
WATER BABY

THE GROTESQUE MOTHER HIPPOPOTAMUS BEARS HER YOUNG IN THE PROTECTION OF AFRICAN RIVERS



FROM THE HOUR HE IS BORN THE HIPPOPOTAMUS IS A TRUE "WATER BABY"

IN FACT, FOR THE FIRST FEW DAYS HE REFUSES TO VENTURE ASHORE

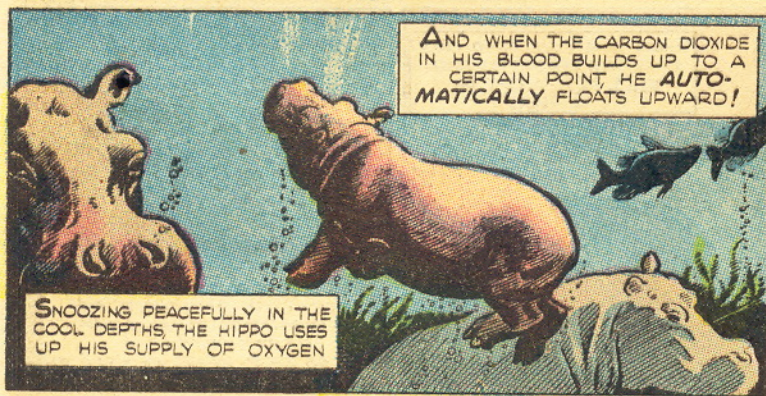


THE ABILITY TO HOLD HIS BREATH AND RISE TO THE SURFACE FOR AIR COMES NATURALLY TO THE YOUNG HIPPO

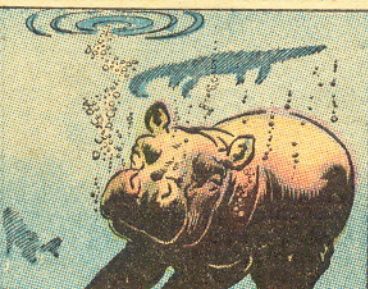
FOR HIS BUILT-IN "SUPPLY AND DEMAND" OXYGEN REGULATOR WORKS EVEN WHILE HE SLEEPS



AND WHEN THE CARBON DIOXIDE IN HIS BLOOD BUILDS UP TO A CERTAIN POINT, HE **AUTO-**MATICALLY FLOATS UPWARD!

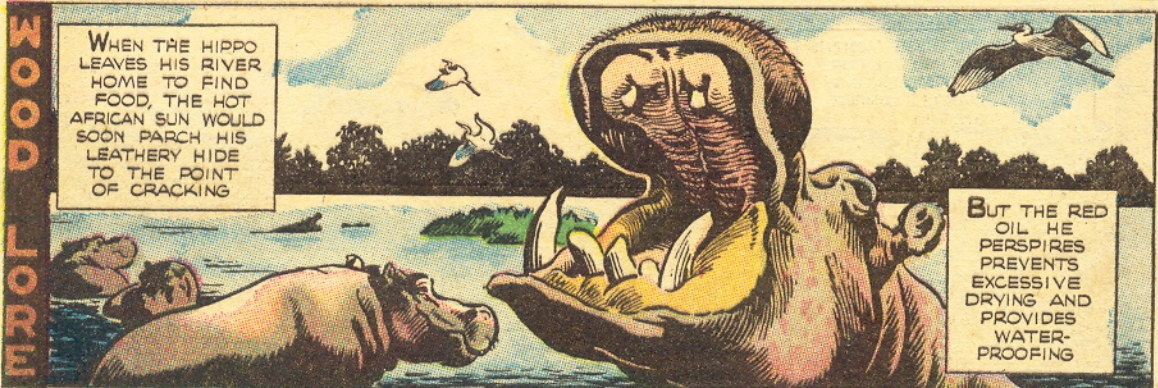


SNOOZING PEACEFULLY IN THE COOL DEPTHS, THE HIPPO USES UP HIS SUPPLY OF OXYGEN



ALTHOUGH STILL ASLEEP, THE BABY HIPPO TAKES IN A LUNG-FUL OF AIR AND BLISSFULLY SINKS BACK TO THE BOTTOM

WHEN THE HIPPO LEAVES HIS RIVER HOME TO FIND FOOD, THE HOT AFRICAN SUN WOULD SOON PARCH HIS LEATHERY HIDE TO THE POINT OF CRACKING



BUT THE RED OIL HE PERSPIRES PREVENTS EXCESSIVE DRYING AND PROVIDES WATER-PROOFING

MOOD LOCAL

FRUSTRATED FELINE

SINCE MOTHER NATURE FAILED TO GIVE THE PORCUPINE SHARP WITS TO HELP HIM ESCAPE HIS ENEMIES, SHE CLOTHED HIM IN A PROTECTIVE ARMOR OF SHARP SPINES

A LEAN AND HUNGRY LYNX DOZES FITFULLY IN HIS LIAR, FOR HUNTING HAS BEEN POOR

SUDDENLY HE HEARS THE RATTLING, CHATTERING APPROACH OF A PORCUPINE...

HERE IS A MEAL! IF HE CAN CATCH THE QUILL-PIG OFF GUARD, FLIP HIM ON HIS BACK AND AVOID THE DEADLY SPINES!

WHO IS AMUSING HIMSELF BY ROLLING DOWN A GENTLE SLOPE

HE STARTS TOWARD THE MOUTH OF HIS DEN, BUT SLIDES TO A HALT!

FOR THE "PORKY" HAS UNWITTINGLY ROLLED INTO THE ENTRANCE, FORMING AN IMPENETRABLE BLOCKADE OF BARBED SPINES!

AND WHILE THE RAVENOUS CAT RAGES SILENTLY INSIDE THE CAVE, MR. PORCUPINE SNORES PEACEFULLY THROUGH THE NIGHT!

WOOD LORE

TO MAKE DECORATIONS, SQUAWS ASSORTED PORCUPINE QUILLS BY LENGTH AND DYED THEM BRILLIANT HUES

AFTER SOAKING THE SPINES, THEY NIPPED OFF THE BARBS AND FLATTENED THE QUILLS READY FOR SEWING

JUMPING JACKS

THE JUMPING MOUSE'S ONLY DEFENSE AGAINST HIS NUMEROUS ENEMIES IS HIS AMAZING JUMPING ABILITY

ALTHOUGH THE SCREECH OWL FEELS HE'S AN EXPERT MOUSER, HE KNOWS THAT YOU CAN'T HUNT JUMPING MICE AS YOU WOULD OTHER RODENTS...

UNLESS YOU CAN CATCH ONE UNAWARE, YOU DON'T CATCH HIM!

TRYING TO INTERCEPT HIM WHEN HE TAKES ONE OF HIS PRODIGIOUS LEAPS GETS YOU NOWHERE...

FOR HIS NEXT HOP MAY BE IN THE OPPOSITE DIRECTION!

YOU JUST CAN'T HEAD THE JUMPER OFF...

BECAUSE THE MOUSE HIMSELF DOESN'T KNOW WHICH WAY HE'S GOING NEXT!

WOODLORE

THE HOME OF THE MOUSE WITH THE "BUILT-IN POGO STICK" IS MOST OF NORTH AMERICA AND THE FAMILY IS DIVIDED INTO TWENTY-ONE SPECIES AND SUBSPECIES...

LONG FROG-LIKE LEAPS OFTEN CARRY THE TINY JUMPER INTO DANGER, AS WELL AS AWAY FROM IT, FOR HE NEVER SEEMS TO LOOK WHERE HE'S GOING!

FUR SIGNAL

ANIMALS
HAVE MANY
INTERESTING
WAYS OF
FLASHING
DANGER
WARNINGS TO
THEIR KIND

THE ANTELOPE JACK RABBIT
OF THE SOUTHWESTERN DESERT
WEARS A "TRICK SUIT"...

...WHICH HAS A "BUILT-IN"
DEVICE FOR SENDING DANGER
SIGNALS TO HIS PALS

WHEN PURSUED, THE
SPEEDY JACK SHIFTS THE
WHITE SKIN ON THE
UNDERSIDES UPWARD...

...AND IN THE BRIGHT
SUNLIGHT THE SNOWY
FUR FLASHES BRILLIANTLY!

WHEN DANGER IS PAST
HE LOWERS HIS WHITE
"FLAPS", AND ONCE MORE
BLENDS INTO THE
GREY BROWN OF
THE DUSTY LANDSCAPE!

AS HE LEADS HIS LAGGING
PURSUER A MERRY CHASE,
ALL THE RABBITS IN THE
NEIGHBORHOOD TAKE WARNING
FROM HIS "BLINKER" MESSAGE

AND THUS THE WHITE
SIGNAL DEVICE EXTENDS
OVER THE SIDES,
GIVING THE RABBIT
THE APPEARANCE OF
BEING ALL WHITE!

A SPECIAL SET OF
MUSCLES ALONG THE
ANTELOPE JACK
RABBIT'S BACK CON-
TRACT, PULLING THE
LOOSE SKIN UPWARD

THE MOTTLED COAT OF THE SIDE AND
BACK IS COMPACTED INTO A NARROW
DARK BAND ALONG THE BACK

THE HELPFUL HURRICANE

THE MUSKRAT OFTEN FINDS REFUGE FROM TRAPPERS AND PREDATORS, BUT HIS WORST ENEMY IS THE ANT

FROM HIS HOUSETOP WHERE HE HAS CLIMBED TO ESCAPE A VICIOUS ANT HORDE, JOHNNY MUSKRAT WATCHES THE SKIES

RAGGED BLACK CLOUDS DRIVEN BY GALE WINDS WARN OF DANGER, AND JOHNNY HURRIES TO HIGHER GROUND

WHEN THE STORM ABATES, JOHNNY, THOUGH HALF-DROWNED AND HOMELESS, SURVEYS THE DAMAGE

SOON WILD STORM WAVES THUNDER ACROSS THE COASTAL MARSH, SWEEPING AWAY JOHNNY'S GRASS HUT AND FLATTENING EVERYTHING IN THEIR PATH

AND THE SALT WATER LEFT IN THE MARSH WILL HALT THE SPREAD OF SAWGRASS, WHICH HAS CHOKED OUT JOHNNY'S FOOD PLANTS

IN DESTROYING HIS OLD HOUSE THE HURRICANE ALSO WIPE OUT THE SCOURGE OF KILLER ANTS

SO THE DREADED HURRICANE WAS NOT ALL TERROR AND DESTRUCTION... IN FACT, IT IS A **BLESSING** TO THE MUSKRAT FAMILY

PREDATORY ANTS BUILD THEIR TUNNELS IN THE DECAYING VEGETATION OF MUSKRAT HOUSES OR IN NEARBY LOGS

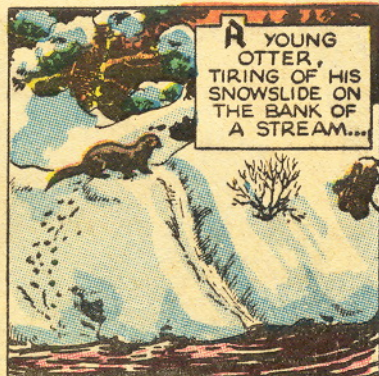
THE ONLY CHECK ON THE ANTS' RAPID MULTIPLICATION IS THE HURRICANE, WHICH QUICKLY ELIMINATES THEM FROM THE OPEN MARSHES

YOUNG MUSKRATS AND FLEDGLING BIRDS ARE FREQUENTLY OVERWHELMED BY THE SWARMING INSECTS

THE ELUSIVE OTTER



THE GRACE AND SPEED OF THE OTTER IN WATER ENABLES HIM TO CAPTURE FISH WITH EASE, BUT WINTER'S POOR FISHING SOMETIMES FORCES HIM TO TURN TO SMALL MAMMALS AND BIRDS



A YOUNG OTTER, TIRING OF HIS SNOWSLIDE ON THE BANK OF A STREAM...



PAUSES AT THE TOP FOR A "BREATH"



SUDDENLY A BOBCAT HURTLES THROUGH THE AIR AT HIM,



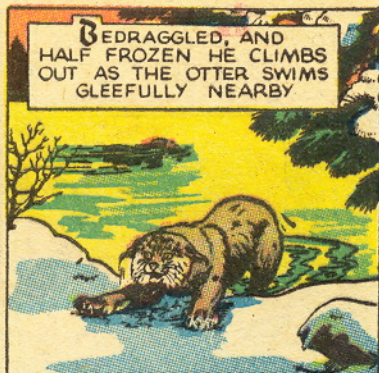
BUT THE OTTER THROWS HIMSELF FORWARD AND PLUNGES DOWN HIS SLIDE...



THE SNARLING CAT LANDS ON THE BRINK OF THE FROZEN INCLINE...



AND HIS FRANTIC EFFORTS TO "PUT ON BRAKES" SENDS HIM SCREECHING INTO THE ICY WATER.



BEDRAGGLED, AND HALF FROZEN HE CLIMBS OUT AS THE OTTER SWIMS GLEEFULLY NEARBY



A STEEP MUD OR SNOW BANK AFFORDS HOURS OF PLEASURE TO THESE PLAYFUL ANIMALS AS THEY ZIP DOWN IT IN RAPID SUCCESSION.

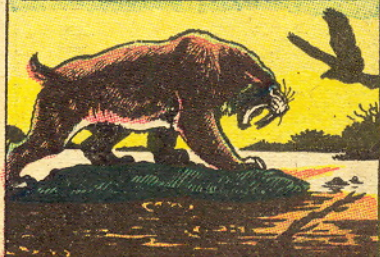
A FAVORITE PASTIME OF THE OTTER IS SLIDING DOWN SLIPPERY INCLINES INTO THE WATER...

POSSUM PECULIARITIES

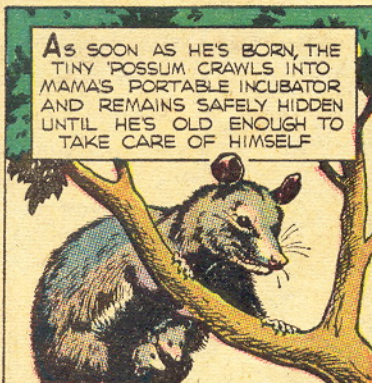


THOUGH AUSTRALIA HAS MANY KINDS OF MARSUPIALS, THE POSSUM IS THE ONLY POUCHED ANIMAL FOUND IN NORTH AMERICA

THROUGH THE AGES MOTHER NATURE HAS MADE CONSIDERABLE CHANGE IN MOST OF HER WILD CREATURES



BUT FOR SOME SEVENTY MILLION YEARS THE REMARKABLE TRAITS OF THE POSSUM HAVE REMAINED CONSTANT



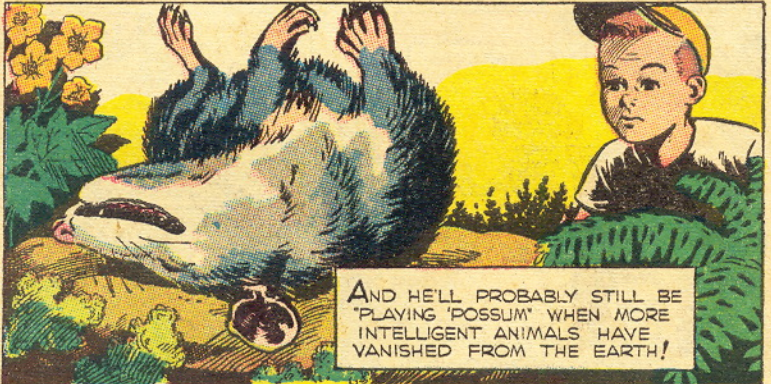
AS SOON AS HE'S BORN, THE TINY POSSUM CRAWLS INTO MAMA'S PORTABLE INCUBATOR AND REMAINS SAFELY HIDDEN UNTIL HE'S OLD ENOUGH TO TAKE CARE OF HIMSELF



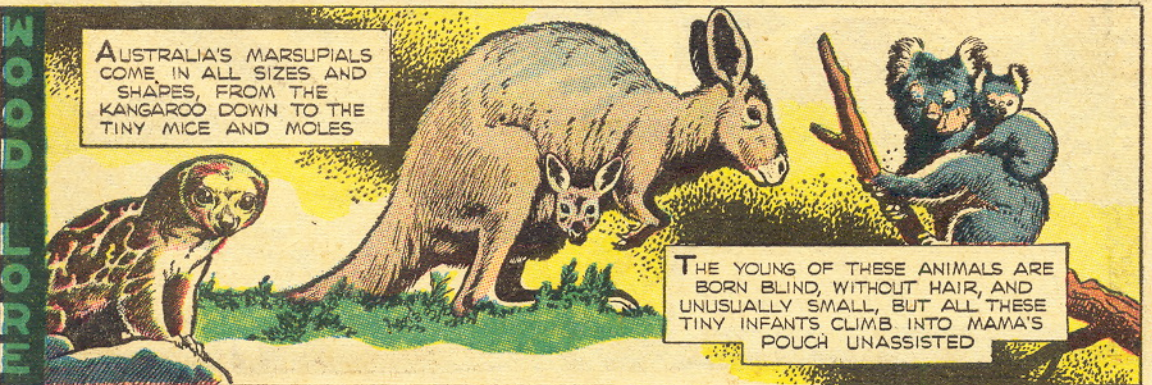
ALTHOUGH FEIGNING DEATH NO LONGER SAVES HIM FROM MAN, HE STILL USES IT TO FOOL OTHER ENEMIES



SO MR. POSSUM CONTINUES TO "MOSEY" ALONG, EATING EVERYTHING IN SIGHT, SELDOM HURRYING AND NEVER WORRYING



AND HE'LL PROBABLY STILL BE "PLAYING POSSUM" WHEN MORE INTELLIGENT ANIMALS HAVE VANISHED FROM THE EARTH!



AUSTRALIA'S MARSUPIALS COME IN ALL SIZES AND SHAPES, FROM THE KANGAROO DOWN TO THE TINY MICE AND MOLES

THE YOUNG OF THESE ANIMALS ARE BORN BLIND, WITHOUT HAIR, AND UNUSUALLY SMALL, BUT ALL THESE TINY INFANTS CLIMB INTO MAMA'S POUCH UNASSISTED

A CLOSE SHAVE

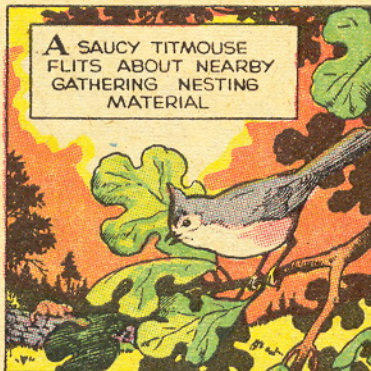
SMALL ANIMALS MUST BE EVER ON THE ALERT FOR DANGER AND SELDOM IS THERE AN OPPORTUNITY FOR A NOONDAY NAP



A GRIZZLY OLD WOODCHUCK CLIMBS UP ON A STONE WALL TO ENJOY THE SUN...



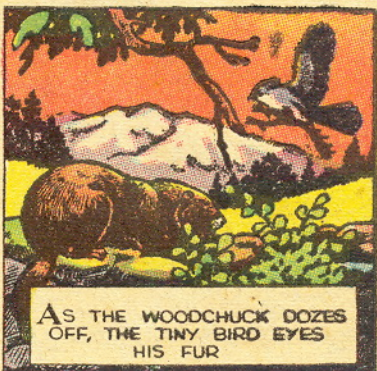
A SAUCY TITMOUSE FLITS ABOUT NEARBY GATHERING NESTING MATERIAL



SCANNING THE LANDSCAPE FOR HIS ENEMY, THE FOX, HE SETTLES DOWN FOR A SIESTA



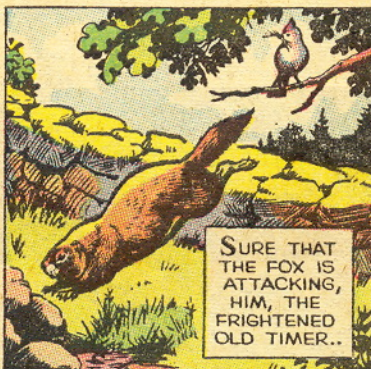
AS THE WOODCHUCK DOZES OFF, THE TINY BIRD EYES HIS FUR



DECIDING THAT IT WOULD MAKE GOOD NEST LINING, SHE GRABS A BEAK FULL AND YANKS!



SURE THAT THE FOX IS ATTACKING HIM, THE FRIGHTENED OLD TIMER..

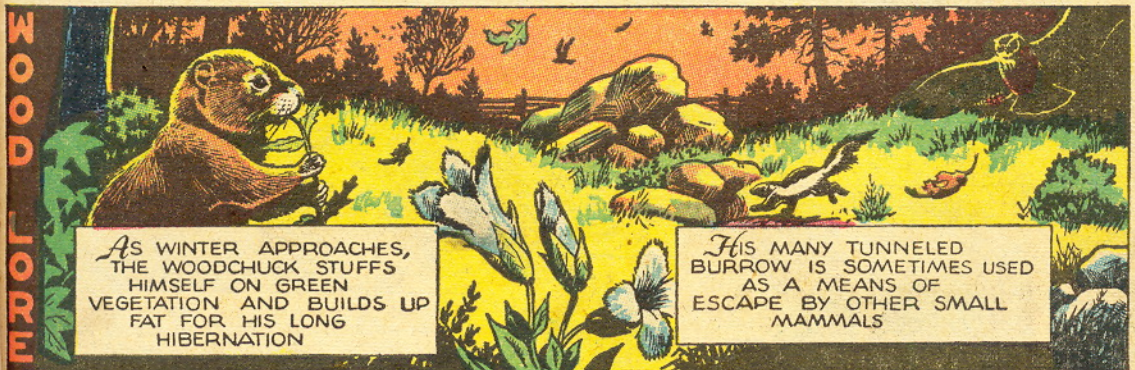


DIVES INTO HIS BURROW LIKE A STREAK AND WON'T SHOW HIS NOSE FOR AN HOUR!



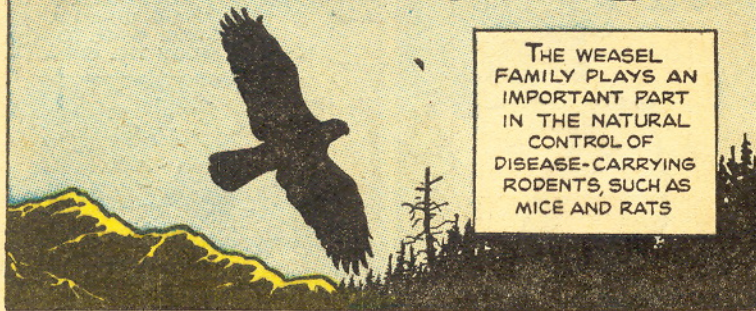
AS WINTER APPROACHES, THE WOODCHUCK STUFFS HIMSELF ON GREEN VEGETATION AND BUILDS UP FAT FOR HIS LONG HIBERNATION

HIS MANY TUNNELED BURROW IS SOMETIMES USED AS A MEANS OF ESCAPE BY OTHER SMALL MAMMALS



WOODCHUCK

UNINVITED DINNER GUEST



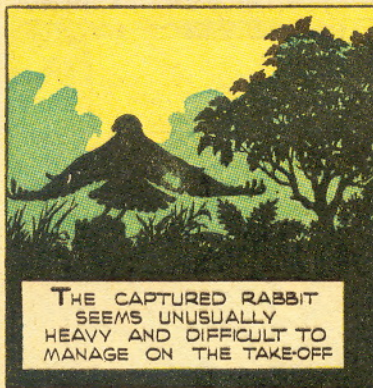
THE WEASEL FAMILY PLAYS AN IMPORTANT PART IN THE NATURAL CONTROL OF DISEASE-CARRYING RODENTS, SUCH AS MICE AND RATS



THE KEEN EYES OF A SHARP-SHINNED HAWK FOCUS ON A SUDDEN MOVEMENT IN THE GRASS FAR BELOW



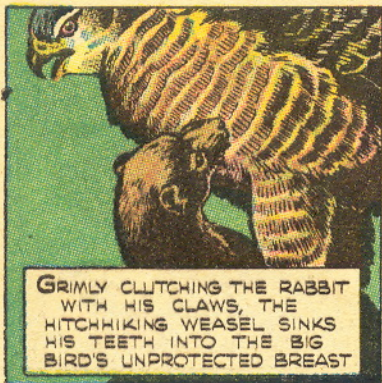
AND QUICKLY ON FOLDED WINGS HE RUSHES EARTHWARD AND STRIKES WITH OUTSTRETCHED TALONS.



THE CAPTURED RABBIT SEEMS UNUSUALLY HEAVY AND DIFFICULT TO MANAGE ON THE TAKE-OFF



JUST AS THE HAWK GETS HIS PRIZE AIRBORNE HE DISCOVERS THAT HE'S ALSO CARRYING A "FREE-LOADER"

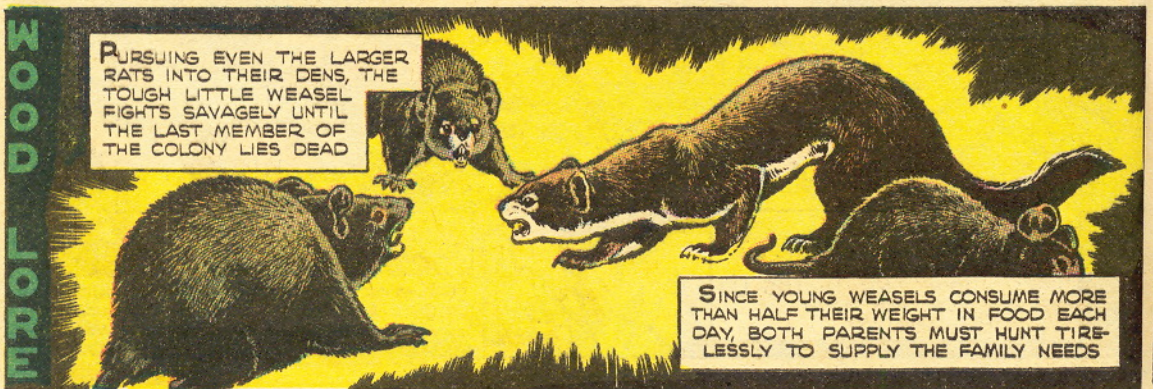


GRIMLY CLUTCHING THE RABBIT WITH HIS CLAWS, THE HITCHHIKING WEASEL SINKS HIS TEETH INTO THE BIG BIRD'S UNPROTECTED BREAST



THE STARTLED HAWK CRASH LANDS IN A FIELD

AND GLADLY GIVES UP HIS MEAL TO BE RID OF THE VICIOUS WEASEL!



PURSuing EVEN THE LARGER RATS INTO THEIR DENS, THE TOUGH LITTLE WEASEL FIGHTS SAVAGELY UNTIL THE LAST MEMBER OF THE COLONY LIES DEAD

SINCE YOUNG WEASELS CONSUME MORE THAN HALF THEIR WEIGHT IN FOOD EACH DAY, BOTH PARENTS MUST HUNT TIRELESSLY TO SUPPLY THE FAMILY NEEDS

CHIPPY, THE JOKER

NOISY AND MISCHIEVOUS THE RED SQUIRREL LOVES TO PLAY PRANKS ON HIS FOREST NEIGHBORS

ON MILD WINTER DAYS CHIPPY, THE CHICKAREE, ENTERTAINS HIMSELF BY SCARING THE DAYLIGHTS OUT OF BIRDS

WHEN A NEIGHBORING DOWNY WOODPECKER ALIGHTS IN A DEAD TREE NEARBY...

CHIPPY QUIETLY DESCENDS TO THE SNOW AND SNEAKS TOWARD HIS VICTIM

KEEPING ON THE OPPOSITE SIDE OF THE DEAD TREE, THE MISCHIEF-MAKER SCURRIES UPWARD!

THEN WITH A CHATTERING RUSH HE DARTS AROUND THE TRUNK...

BUT INSTEAD OF FINDING THE PINT-SIZED DOWNY, HE BUMPS SQUARELY INTO A MONSTER!

TERRIFIED, CHIPPY RACES FOR HOME, DODGING THE WICKEDLY JABBING BEAK OF A PILEATED WOODPECKER!

THE GREAT BLACK WOODPECKER REFUSES, LIKE HIS CLOSE RELATIVE, THE IVORY-BILL, TO LIVE IN COMPANY WITH CIVILIZATION...

HIS STARTLING CALLS AND STRIKING COLORS HAVE EARNED THE PILEATED WOODPECKER MANY NAMES, THE MOST IMPRESSIVE BEING "COCK-OF-THE-WOODS!"

TINY TERROR

ALTHOUGH SELDOM SEEN BY HUMAN EYES, THE TINY SHREW IS ONE OF THE MOST NUMEROUS ANIMALS IN OUR COUNTRY



WHEN NATURE GOES TO EXTREMES SHE SOMETIMES **SEEMS** TO OVERDO IT!

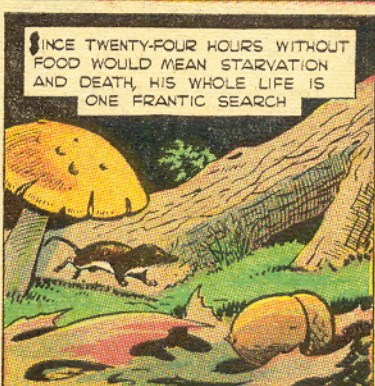
FOR THE SMALLEST MAMMAL ON EARTH IS ALSO ONE OF THE FIERCEST, MOST GLUTTONOUS, AND MOST RESTLESS CREATURES ALIVE



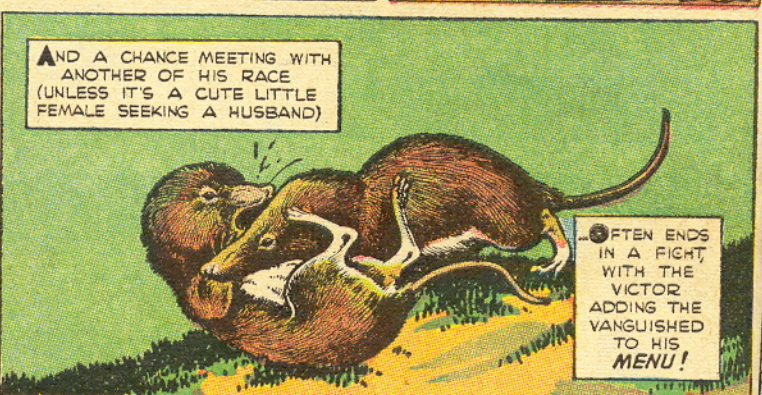
THIS AMAZING ANIMAL, WHOSE HIGH-SPEED ACTIVITIES GO ON IN EVERY NECK OF THE WOODS, IS THE TINY SHREW



SINCE TWENTY-FOUR HOURS WITHOUT FOOD WOULD MEAN STARVATION AND DEATH, HIS WHOLE LIFE IS ONE FRANTIC SEARCH

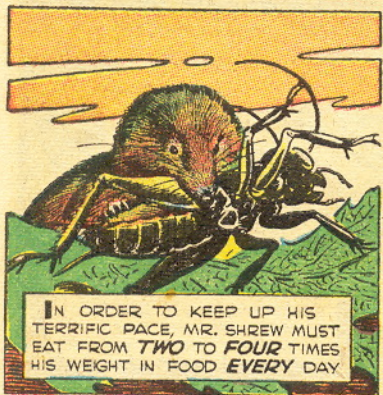


AND A CHANCE MEETING WITH ANOTHER OF HIS RACE (UNLESS IT'S A CUTE LITTLE FEMALE SEEKING A HUSBAND)

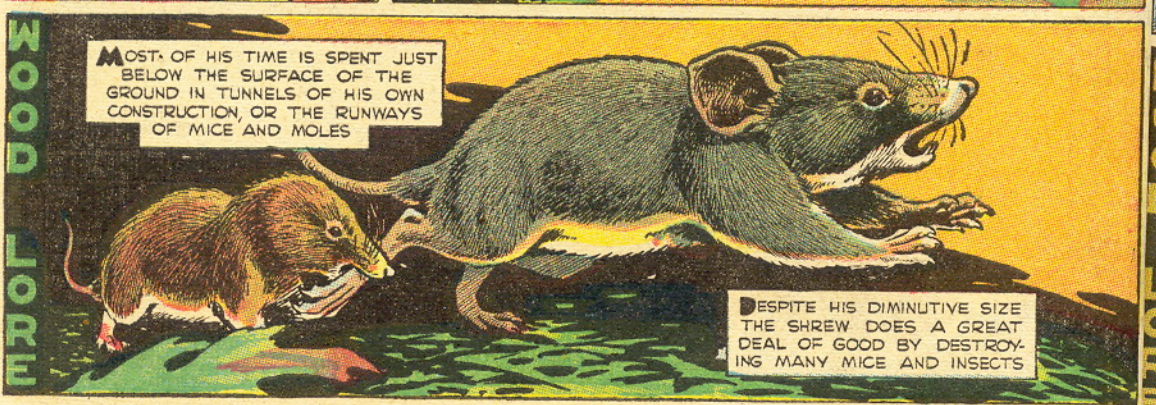


OFTEN ENDS IN A FIGHT, WITH THE VICTOR ADDING THE VANQUISHED TO HIS **MENU!**

IN ORDER TO KEEP UP HIS TERRIFIC PACE, MR. SHREW MUST EAT FROM **TWO TO FOUR** TIMES HIS WEIGHT IN FOOD **EVERY** DAY



MOST OF HIS TIME IS SPENT JUST BELOW THE SURFACE OF THE GROUND IN TUNNELS OF HIS OWN CONSTRUCTION, OR THE RUNWAYS OF MICE AND MOLES



DESPITE HIS DIMINUTIVE SIZE THE SHREW DOES A GREAT DEAL OF GOOD BY DESTROYING MANY MICE AND INSECTS

WOOD JOCKEY

WOOD JOCKEY

OLD MAN OF THE SEA

BELOW FLOATING BEDS OF KELP LIES A BOUNTIFUL SUPPLY OF SHELLFISH, URCHINS, AND CRABS...

WHERE THE FURRY FISHERMAN OF NORTHERN SEAS MAKES HIS DAILY CATCH

LIFE FOR THE SEA OTTER WOULD BE CAREFREE EXCEPT FOR THE MIGHTY KILLER WHALE

IN THE WATERS WHERE HE SPENDS ALL HIS TIME, NO OTHER ENEMIES BOTHER THIS "OLD MAN OF THE SEA"

BUT AS HE GOES ABOUT HIS FISHING ALONG THE ALEUTIAN SHORES, HE MUST BE CONSTANTLY ON GUARD

SO WHEN IT'S TIME FOR A NAP THE OTTER TAKES A WISE PRECAUTION...

WINDING A TOUGH PIECE OF KELP ABOUT HIS BODY HE ANCHORS HIMSELF SECURELY AMONG THE SCREENING MATS OF FLOATING VEGETATION

FOR WITHOUT HIS "MOORING LINE" THE TREACHEROUS CURRENTS COULD EASILY DRIFT HIM, WHILE HE SNOOZES, INTO THE WAITING JAWS OF SOME VICIOUS WHALE!

BRINGING HIS CATCH TO THE SURFACE, THE SALTY SEA OTTER FLOATS ON HIS BACK AND SPREADS HIS MEAL ON HIS CHEST

AS HE BREAKS UP THE FOOD, HE MUST GOBBLE IT DOWN QUICKLY, FOR A HOST OF GULLS IS FOREVER PILFERING FROM HIS "TABLE"

SPOILED BRAT

ALTHOUGH NOT AS WELL DEVELOPED AND BRIGHT AS OTHER MEMBERS OF THE NEW WORLD MONKEY TRIBE, THE TINY MARMOSETS ARE HANDSOMELY DRESSED AND MAKE ATTRACTIVE PETS

QUIETLY SEARCHING FOR TIDBITS AMONG THE DENSE FOLIAGE OF A JUNGLE TREE, A MARMOSET FAMILY CUMBS CAUTIOUSLY ABOUT

WHILE MAMA ENJOYS HER BUG-CATCHING, PAPA HAS TO BABY SIT WITH THEIR SPOILED CHILD!

"JUNIOR" IS USED TO GETTING WHAT HE WANTS, AND HE CLINGS TO PAPA LIKE A LEECH...

IF THE OLD MAN TRIES TO DISENGAGE THOSE GRASPING ARMS, THE YOUNGSTER, LIKE SOME HUMAN YOUNGSTERS, SETS UP A TERRIFIC SQUAWK...

WHEN AT LAST THE BAD-TEMPERED BRAT GETS HUNGRY, PAPA MARMOSET HOPES MAMA WILL TAKE OVER AND RELIEVE HER WEARY MATE...

AND SINCE *SILENCE* MAY BE THE DIFFERENCE BETWEEN LIFE AND DEATH AMONG SO MANY ENEMIES, POOR PAPA MUST PERMIT HIS SON TO HANG ON!

BUT SHE KNOWS WHEN SHE IS WELL OFF, AND, ONCE SHE HAS FED HER BABY, DUMPS JUNIOR BACK ON HER HENPECKED HUSBAND!

ONE OF THE FEATURES THAT RANKS THE MARMOSET LOW ON THE MONKEY SCALE IS HIS RETENTION OF CLAWS WHERE THE MONKEY HAS DEVELOPED NAILS

HIGH IN THE TREETOPS THE DIMINUTIVE ACROBAT SEARCHES FOR INSECTS, FRUIT, AND EGGS, AND AN OCCASIONAL FALL FROM THESE LOFTY HEIGHTS DOES HIM LITTLE INJURY BECAUSE HE'S LIGHT AS A FEATHER!

MARK TRAIL

by

ED
DODD

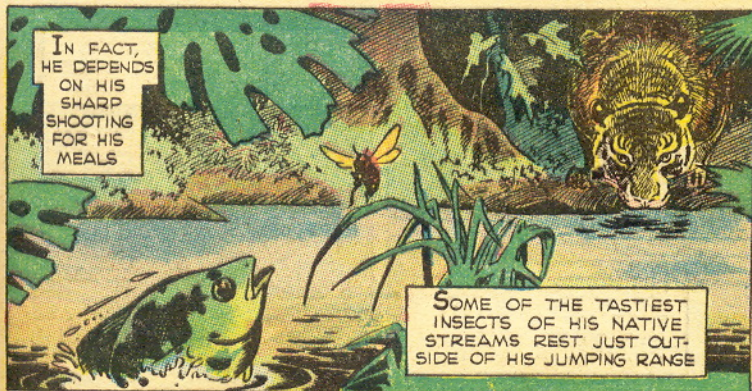


MARINE LIFE

THE PATIENT OBSERVER
CAN FIND ENDLESS
VARIETIES OF AQUATIC
CREATURES IN SHALLOW
WATERS OF STREAMS,
PONDS, AND TIDAL POOLS

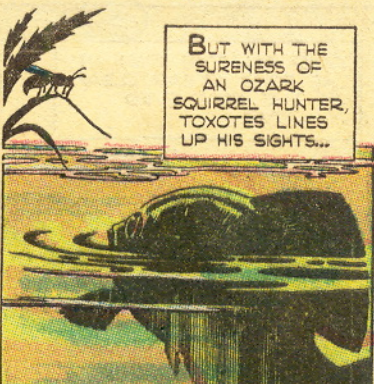


TOXOTES, THE ARCHER FISH
OF SIAM, SHOOTS SPITBALLS
WITH THE ACCURACY OF A
PRANKISH SCHOOLBOY

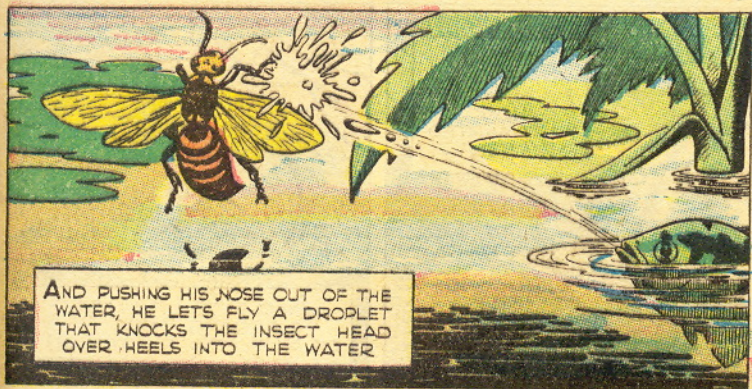


IN FACT,
HE DEPENDS
ON HIS
SHARP
SHOOTING
FOR HIS
MEALS

SOME OF THE TASTIEST
INSECTS OF HIS NATIVE
STREAMS REST JUST OUT-
SIDE OF HIS JUMPING RANGE



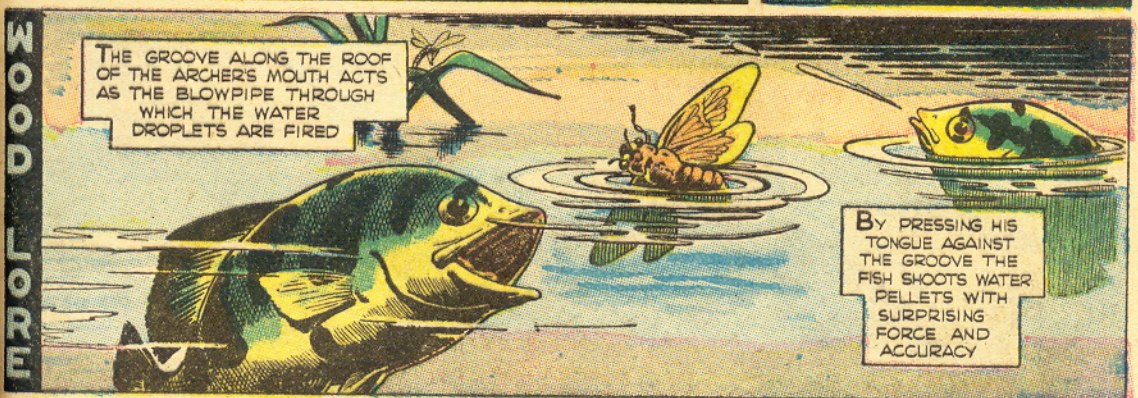
BUT WITH THE
SURENESS OF
AN OZARK
SQUIRREL HUNTER,
TOXOTES LINES
UP HIS SIGHTS...



AND PUSHING HIS NOSE OUT OF THE
WATER, HE LETS FLY A DROPLET
THAT KNOCKS THE INSECT HEAD
OVER HEELS INTO THE WATER



IF THE FIRST SHOT MISSES,
THE ARCHER CAN FIRE SEVERAL
MORE SO RAPIDLY THAT THE
SURPRISED INSECT HAS
LITTLE CHANCE TO DUCK!



THE GROOVE ALONG THE ROOF
OF THE ARCHER'S MOUTH ACTS
AS THE BLOWPIPE THROUGH
WHICH THE WATER
DROPLETS ARE FIRED

BY PRESSING HIS
TONGUE AGAINST
THE GROOVE THE
FISH SHOOTS WATER
PELLETS WITH
SURPRISING
FORCE AND
ACCURACY

GREEDY OLD BUCKETMOUTH

MOST GAME FISH
FEED ON SMALLER
FISH...IN THIS WAY
THE FISH POPULATION
IS KEPT IN BALANCE

OLD BUCKETMOUTH, THE
BASS, IS AS SMART
AS HE IS VICIOUS

AND ALL THE FISH IN
THE POND STEAR CLEAR
OF THE COLD-EYED
MONSTER.

HIS FAVORITE METHOD
OF ATTACK IS TO
SNAP UP A SMALL
FISH THAT IS BUSY
CHASING A MEAL

ONE DAY A BREAM
DARTS UPWARD TO GRAB
A BRIGHT, SHINY BUG...

AND
THE OLD
CANNIBAL
STRIKES
AS THE
BREAM
SWALLOWS
THE BAIT

BUT THIS
TIME OLD
BUCKETMOUTH
HAS
OUTSMARTED
HIMSELF...

...AND ENDS UP IN THE
LANDING NET
OF AN ELATED FISHERMAN!

WHEN YOUR LUNKER
GIVES UP, GRASP HIM
BY THE LOWER JAW
WITH YOUR THUMB
INSIDE HIS OPEN
MOUTH AND YOUR
FOREFINGER UNDERNEATH.

PRESSURE WITH THUMB AND
FINGER PARALYZES THE FISH,
AND HE CAN BE SAFELY
LIFTED FROM THE WATER

THE HITCHHIKER

ALTHOUGH THE REMORA CAN OUTSWIM THE SHARK, HE PREFERS TO SAVE HIS ENERGY, AND BY MEANS OF A SUCKING DISK, CLINGS TO MARINE MONSTERS FOR LOCOMOTION

THE HITCHHIKER OF THE SEAS, THE REMORA, CATCHES FREE RIDES ON BIG SHARKS...

WHO CAN DO NOTHING ABOUT IT, SINCE THE SUCKER FISH KEEPS OUT OF RANGE OF THE BIG BOYS' TEETH.

WHEN A MEAL IS PROCURED BY A SHARK, THE REMORA HELPS HIMSELF TO SCRAPS...

BUT THERE COMES A TIME WHEN OTHER HITCHHIKERS DECIDE TO MUSCLE IN ON HIS RACKET...

SO, WITHOUT EVEN A GRATEFUL LOOK, THE SPONGERS DROP OFF THE STARVING SHARK AND FIND ANOTHER UNWILLING HOST!

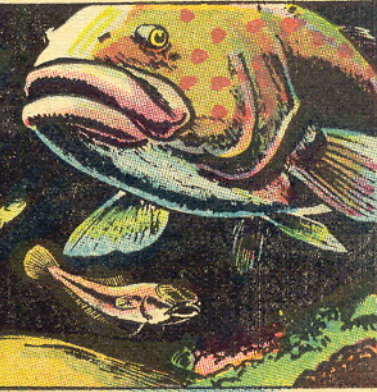
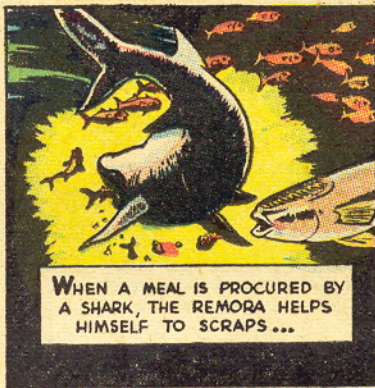
AND THE POOR SHARK BECOMES SO OVERBURDENED THAT HE CAN'T CATCH HIS PREY!

SWIFTLY THE REMORA OVERTAKES THE VICTIM, ATTACHES HIMSELF, AND HANGS ON UNTIL THE FISHERMAN HOISTS HIS PRIZE FROM THE WATER

AFTER TYING A LEATHER THONG ABOUT THE REMORA'S TAIL, THEY RELEASE HIM IN THE WATER NEAR THE PREY

ISLAND NATIVES OF THE TROPICS USE THE SUCKING FISH FOR CATCHING TURTLES, SHARKS, AND LARGE FISH

WOODLORE

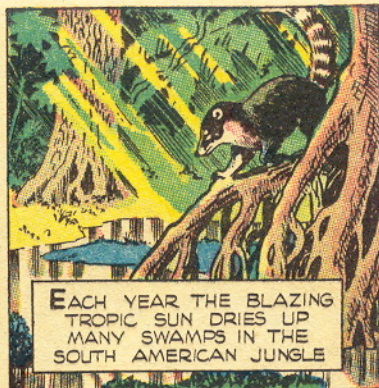


SLEEPING SIREN

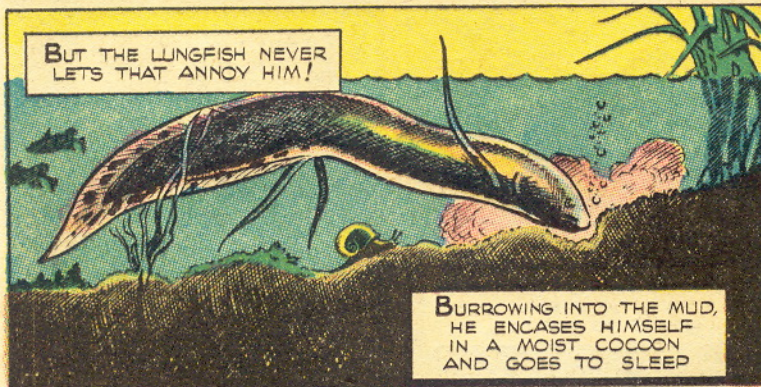
THE REMARKABLE LUNGFISH OF SOUTH AMERICA LIVES LIKE ANY OTHER FISH IN WATER EXCEPT THAT HE COMES TO THE SURFACE TO BREATHE



EACH YEAR THE BLAZING TROPIC SUN DRIES UP MANY SWAMPS IN THE SOUTH AMERICAN JUNGLE

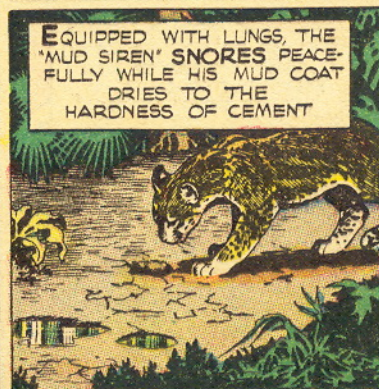


BUT THE LUNGFISH NEVER LETS THAT ANNOY HIM!

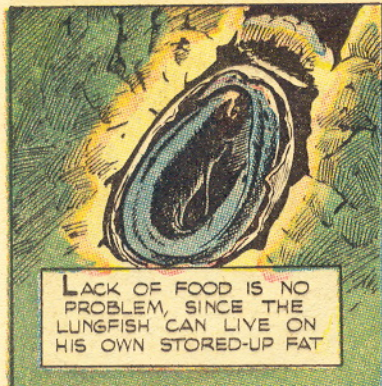


BURROWING INTO THE MUD, HE ENCASES HIMSELF IN A MOIST COCOON AND GOES TO SLEEP

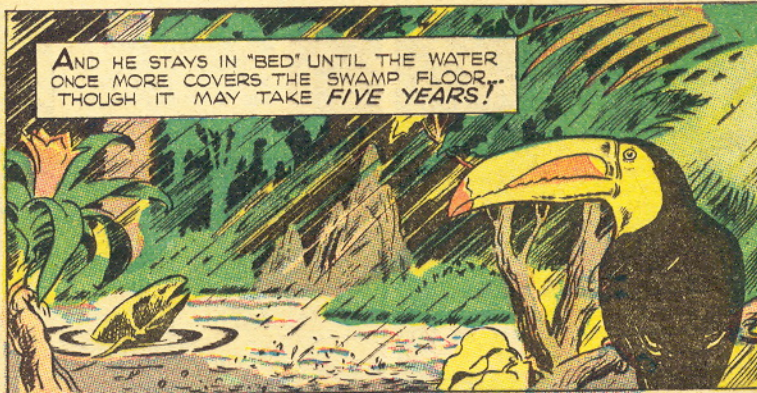
EQUIPPED WITH LUNGS, THE 'MUD SIREN' SNORES PEACEFULLY WHILE HIS MUD COAT DRIES TO THE HARDNESS OF CEMENT



LACK OF FOOD IS NO PROBLEM, SINCE THE LUNGFISH CAN LIVE ON HIS OWN STORED-UP FAT

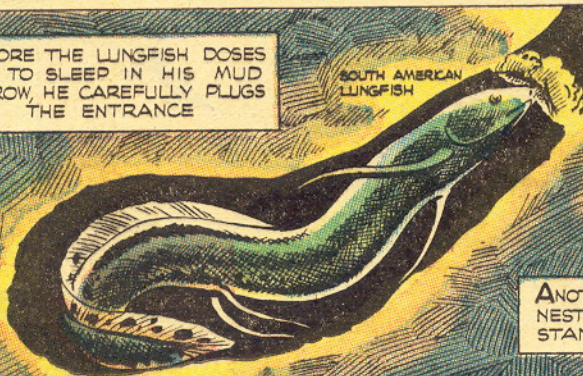


AND HE STAYS IN 'BED' UNTIL THE WATER ONCE MORE COVERS THE SWAMP FLOOR... THOUGH IT MAY TAKE FIVE YEARS!



BEFORE THE LUNGFISH DOSES OFF TO SLEEP IN HIS MUD BURROW, HE CAREFULLY PLUGS THE ENTRANCE

SOUTH AMERICAN LUNGFISH

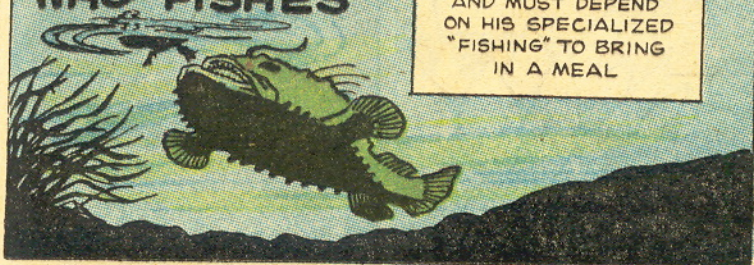


AUSTRALIAN LUNGFISH

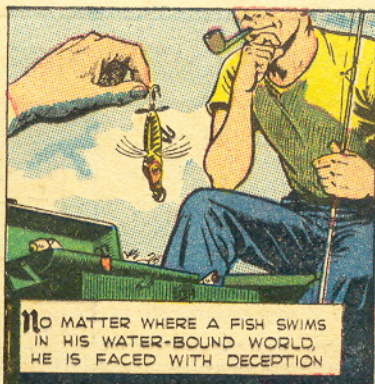


ANOTHER BURROW SERVES AS A NESTING CHAMBER WHERE THE MALE STANDS GUARD OVER THE EGGS

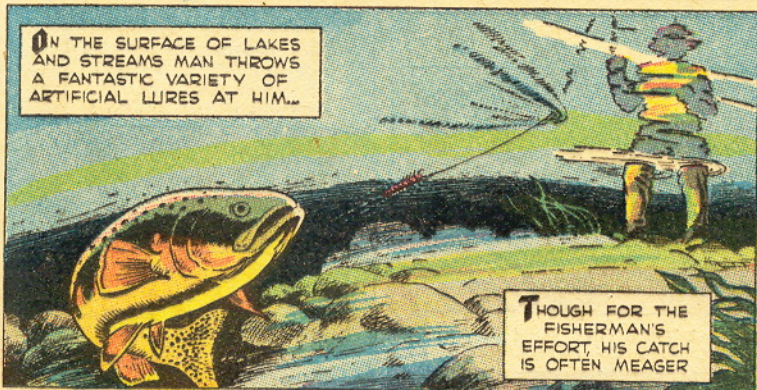
THE FISH WHO FISHES



THE ANGLER FISH IS A POOR SWIMMER AND MUST DEPEND ON HIS SPECIALIZED "FISHING" TO BRING IN A MEAL



NO MATTER WHERE A FISH SWIMS IN HIS WATER-BOUND WORLD, HE IS FACED WITH DECEPTION

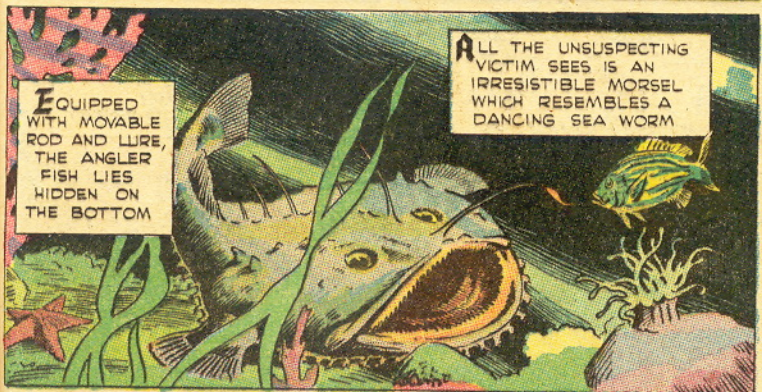


ON THE SURFACE OF LAKES AND STREAMS MAN THROWS A FANTASTIC VARIETY OF ARTIFICIAL LURES AT HIM...

THOUGH FOR THE FISHERMAN'S EFFORT, HIS CATCH IS OFTEN MEAGER

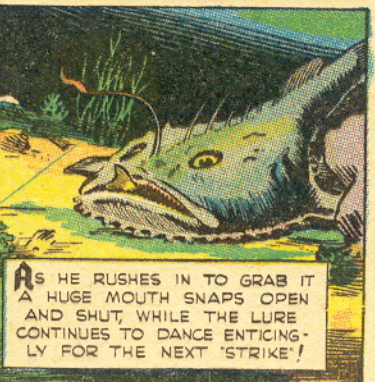


BUT WAITING IN THE SEA'S COOL DEPTHS IS AN ANGLER THAT SELDOM MISSES

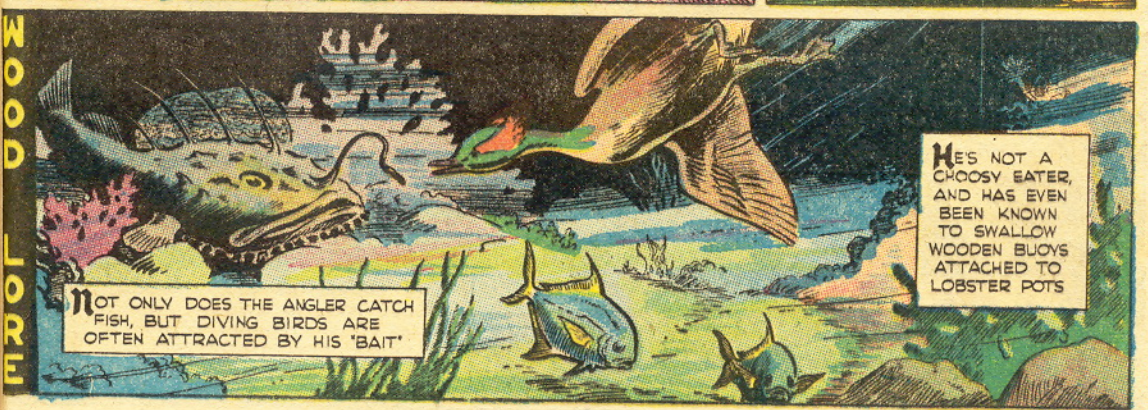


ALL THE UNSUSPECTING VICTIM SEES IS AN IRRESISTIBLE MORSEL WHICH RESEMBLES A DANCING SEA WORM

EQUIPPED WITH MOVABLE ROD AND LURE, THE ANGLER FISH LIES HIDDEN ON THE BOTTOM



AS HE RUSHES IN TO GRAB IT A HUGE MOUTH SNAPS OPEN AND SHUT, WHILE THE LURE CONTINUES TO DANCE ENTICINGLY FOR THE NEXT "STRIKE"!



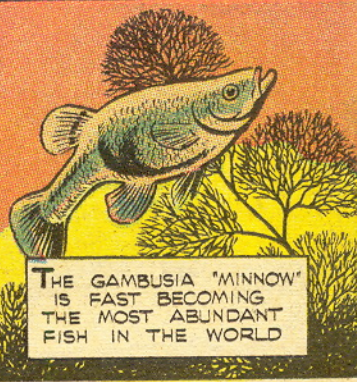
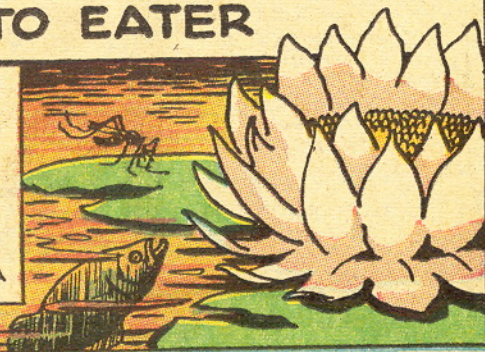
HE'S NOT A CHOOSY EATER, AND HAS EVEN BEEN KNOWN TO SWALLOW WOODEN BUOYS ATTACHED TO LOBSTER POTS

NOT ONLY DOES THE ANGLER CATCH FISH, BUT DIVING BIRDS ARE OFTEN ATTRACTED BY HIS "BAIT"

WOOD LOTRIE

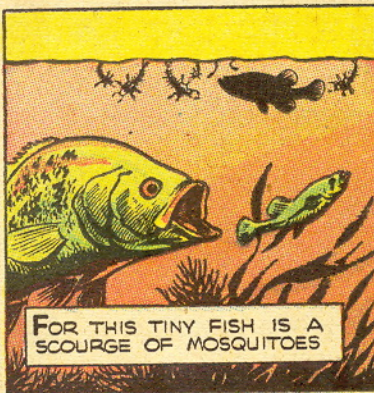
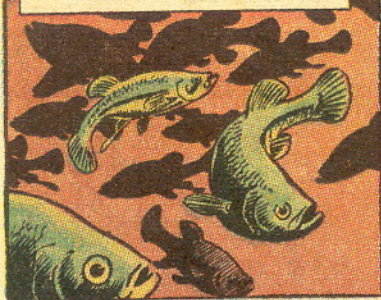
MOSQUITO EATER

ORIGINALLY
A NATIVE OF
MEXICO AND THE
UNITED STATES,
THE GAMBUSIA
HAS BEEN
INTRODUCED INTO
EVERY CONTINENT
EXCEPT AUSTRALIA



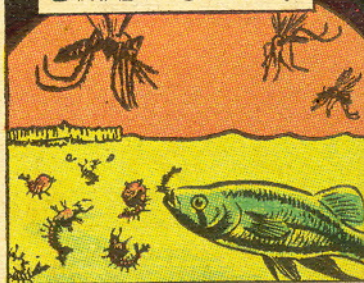
THE GAMBUSIA "MINNOW"
IS FAST BECOMING
THE MOST ABUNDANT
FISH IN THE WORLD

AND THE MORE PLentiful HE
BECOMES, THE BETTER OFF
THE HUMAN RACE WILL BE...

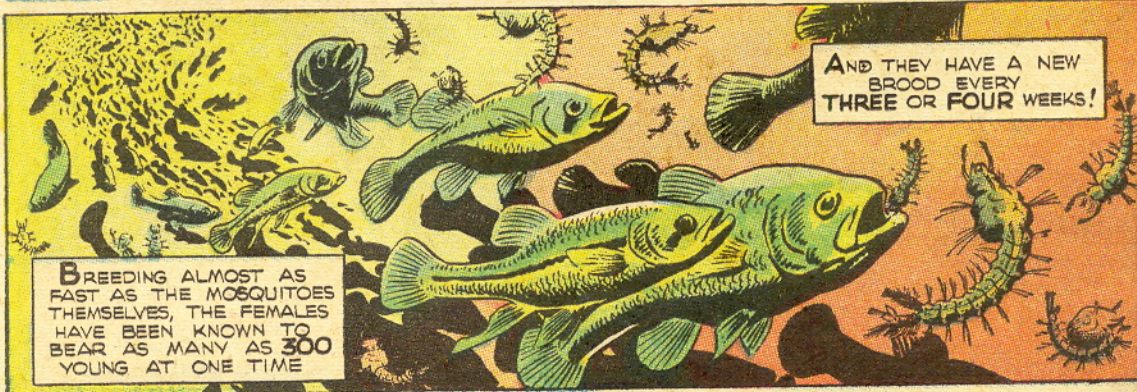


FOR THIS TINY FISH IS A
SCOURGE OF MOSQUITOES

THE MOSQUITO FISH IS
SO GLUTTONOUS THAT
HE MAY DEVOUR 150
LARVAE IN ONE DAY!

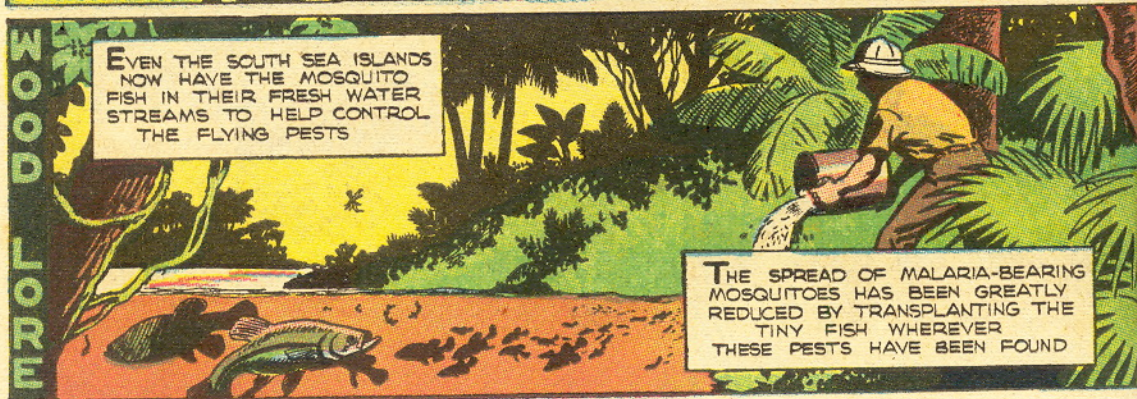


AND THEY HAVE A NEW
BROOD EVERY
THREE OR FOUR WEEKS!



BREEDING ALMOST AS
FAST AS THE MOSQUITOES
THEMSELVES, THE FEMALES
HAVE BEEN KNOWN TO
BEAR AS MANY AS 300
YOUNG AT ONE TIME

EVEN THE SOUTH SEA ISLANDS
NOW HAVE THE MOSQUITO
FISH IN THEIR FRESH WATER
STREAMS TO HELP CONTROL
THE FLYING PESTS

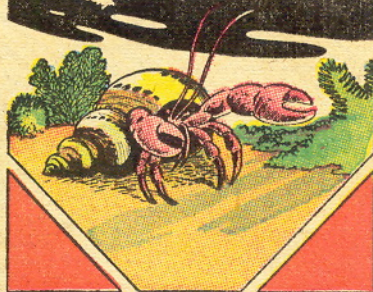


THE SPREAD OF MALARIA-BEARING
MOSQUITOES HAS BEEN GREATLY
REDUCED BY TRANSPLANTING THE
TINY FISH WHEREVER
THESE PESTS HAVE BEEN FOUND

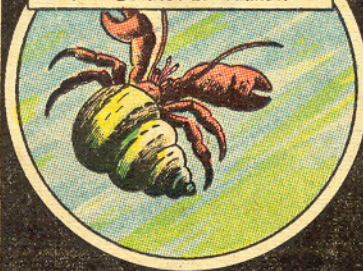
HOUSE-HUNTING HERMIT

SINCE NATURE DOESN'T PROVIDE THE HERMIT CRAB WITH A COMPLETE SUIT OF ARMOR, HE IS FOREVER SEEKING SUITABLE SHELLS FOR PROTECTION

THE LIFE OF A HERMIT CRAB WOULD BE ONE BIG PICNIC...



USING AN EMPTY SNAIL SHELL FOR PROTECTION, THE HERMIT CRAB LIVES SECURELY IN HIS BORROWED ARMOR



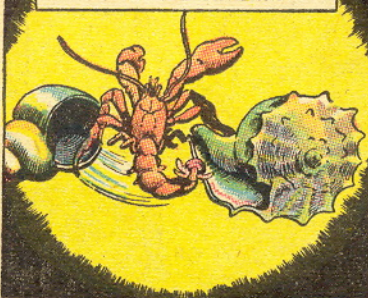
BUT THERE COMES A TIME WHEN HE GETS "TOO BIG FOR HIS BREECHES"!



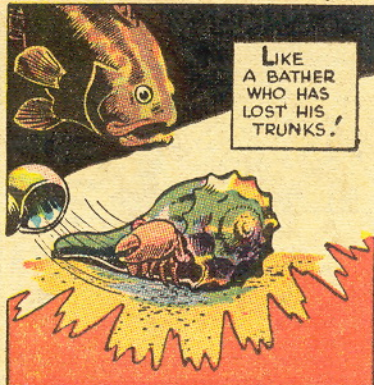
IF IT WEREN'T FOR THE RED GROUPEY, WHO CONSTANTLY WAITS FOR A CHANCE TO SNAP HIM UP!



WHISKS HIS UNPROTECTED BACKSIDE FROM ONE SHELL INTO THE OTHER...



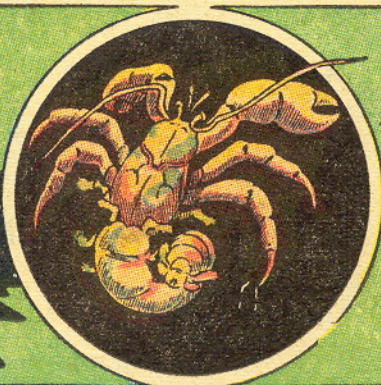
LIKE A BATHER WHO HAS LOST HIS TRUNKS.



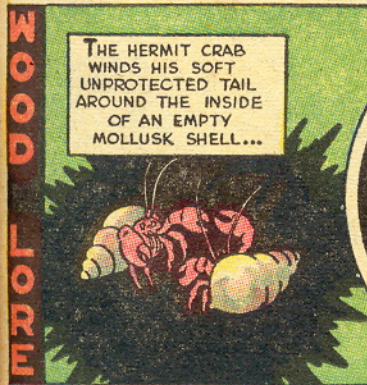
SO HE FINDS A LARGER SHELL, AND KEEPING AN EYE ON THE FISH...



THE HERMIT CRAB WINDS HIS SOFT UNPROTECTED TAIL AROUND THE INSIDE OF AN EMPTY MOLLUSK SHELL...



AND BLOCKS THE OPENING WITH ONE OF HIS LARGE, TOUGH PINNERS WHEN DANGER THREATENS



WOODLORE

DE SERTED DADDY

WHILE A FEW
MALE ANIMALS
HELP OUT IN THE
CARE AND FEED-
ING OF THEIR
OFFSPRING...

MOST FATHERS
STRUT ABOUT WHILE MAMA
WORRIES ABOUT THE BIRTH
OF HER YOUNG...

BUT NOT
THE MALE
SEAHORSE,
FOR HE
TAKES
IT ON
HIMSELF
TO DO THE
BROODING

INTO HIS SPECIAL "APRON
POCKET" THE EGGS ARE
PLACED AND THEN THE FLIGHTY
FEMALE DESERTS HIM

FOR A MONTH AND A HALF
THE LITTLE FISH SWIMS ABOUT
WITH HIS BURDEN

THEN HE HANGS ON
WHILE SEVERAL HUNDRED
TINY COLTS POP OUT
OF HIS
POCKET
AND SWIM
AWAY

AND WHEN
THE EGGS ARE
READY TO
HATCH, THE
EXPECTANT
FATHER ANCHORS
HIMSELF BY
HIS TAIL

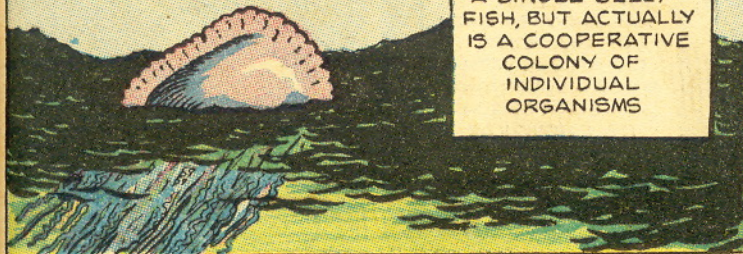
FROM THEN ON, THE YOUNG
SEAHORSES ARE ON THEIR
OWN FOR PAPA HAS DONE
HIS SHARE

WHEN THE YOUNG SEAHORSES ARE
BEING BORN, THE FATHER ROCKS
QUICKLY BACKWARD AND FORWARD,
APPARENTLY TO ASSIST THE YOUNG
IN LEAVING THE POUCH

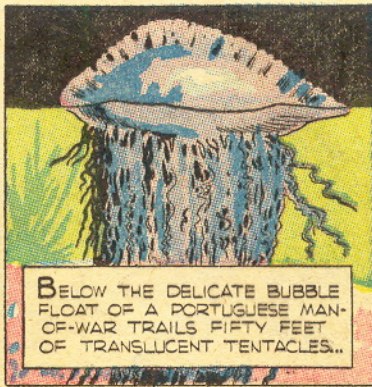
WOOD
LORE

WOOD
LORE

TREACHEROUS BEAUTY



THE BEAUTIFUL PORTUGUESE MAN-OF-WAR LOOKS LIKE A SINGLE JELLY-FISH, BUT ACTUALLY IS A COOPERATIVE COLONY OF INDIVIDUAL ORGANISMS



BELOW THE DELICATE BUBBLE FLOAT OF A PORTUGUESE MAN-OF-WAR TRAILS FIFTY FEET OF TRANSLUCENT TENTACLES...

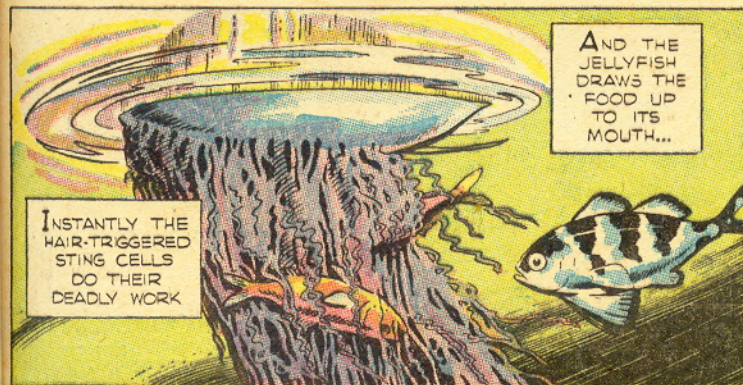


WHOSE DEADLY STING CELLS SPELL DOOM TO ALL FISH...
SAVE ONE!

SWIMMING FREELY AMONG THE MURDEROUS TENTACLES, THE SMALL SHEPPARD FISH ACTS AS A DECOY!

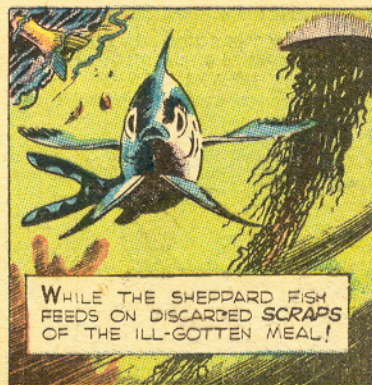


OTHER SMALL FRY, SEEKING SAFETY FROM PREDATORS, DART AMONG THE INNOCENT-LOOKING STRANDS

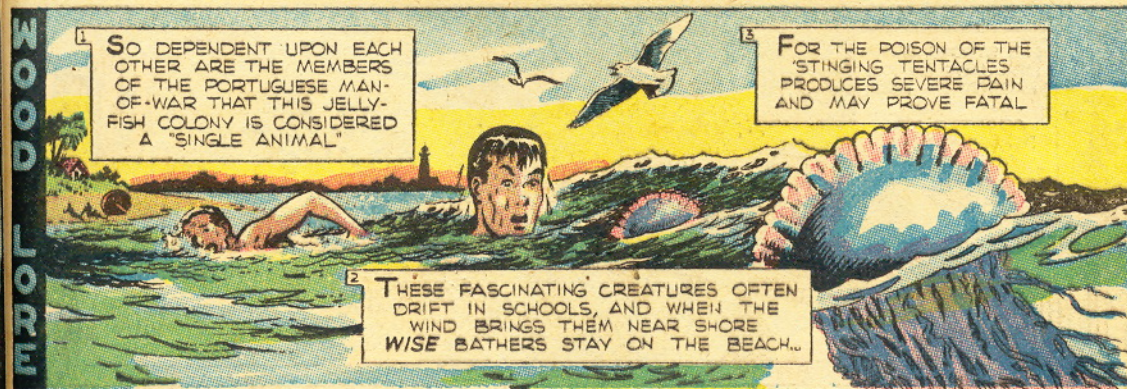


AND THE JELLYFISH DRAWS THE FOOD UP TO ITS MOUTH...

INSTANTLY THE HAIR-TRIGGERED STING CELLS DO THEIR DEADLY WORK



WHILE THE SHEPPARD FISH FEEDS ON DISCARDED **SCRAPS** OF THE ILL-GOTTEN MEAL!

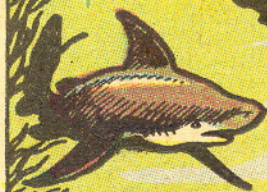


1 SO DEPENDENT UPON EACH OTHER ARE THE MEMBERS OF THE PORTUGUESE MAN-OF-WAR THAT THIS JELLY-FISH COLONY IS CONSIDERED A "SINGLE ANIMAL"

13 FOR THE POISON OF THE "STINGING" TENTACLES PRODUCES SEVERE PAIN AND MAY PROVE FATAL

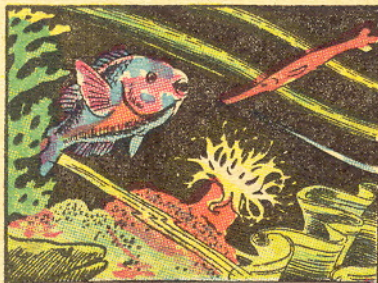
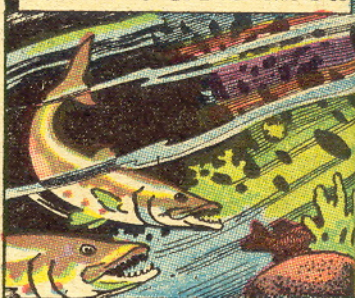
2 THESE FASCINATING CREATURES OFTEN DRIFT IN SCHOOLS, AND WHEN THE WIND BRINGS THEM NEAR SHORE WISE BATHERS STAY ON THE BEACH...

ACCOMMODATING COMPANIONS



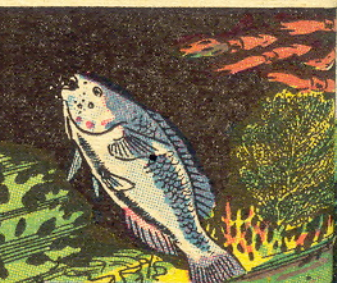
MOTHER NATURE HAS ENDOWED EACH OF HER WILD CREATURES WITH SPECIAL EQUIPMENT FOR SURVIVING IN ITS PARTICULAR HABITAT

LIFE IN THE BLUE SHADOWS OF A CORAL REEF IS USUALLY A VICIOUS "EAT-OR-BE-EATEN" EXISTENCE



AND YET AMONG THE REEF'S STRANGE INHABITANTS AN OCCASIONAL RELATIONSHIP BORDERING ON FRIENDLINESS DEVELOPS

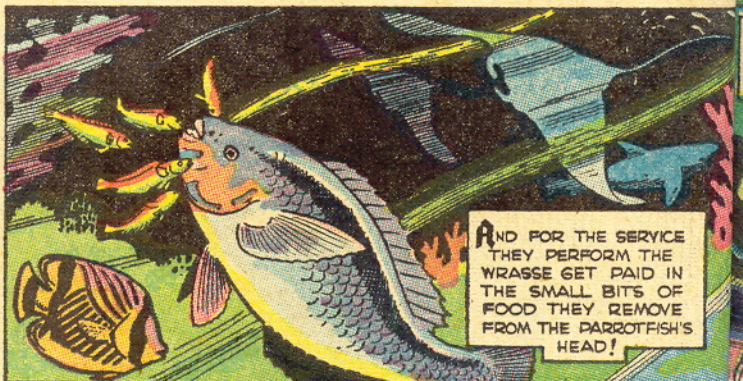
THE GIANT PARROTFISH WHO BROWSES AMONG THE CORAL HAS VERY ACCOMMODATING COMPANIONS



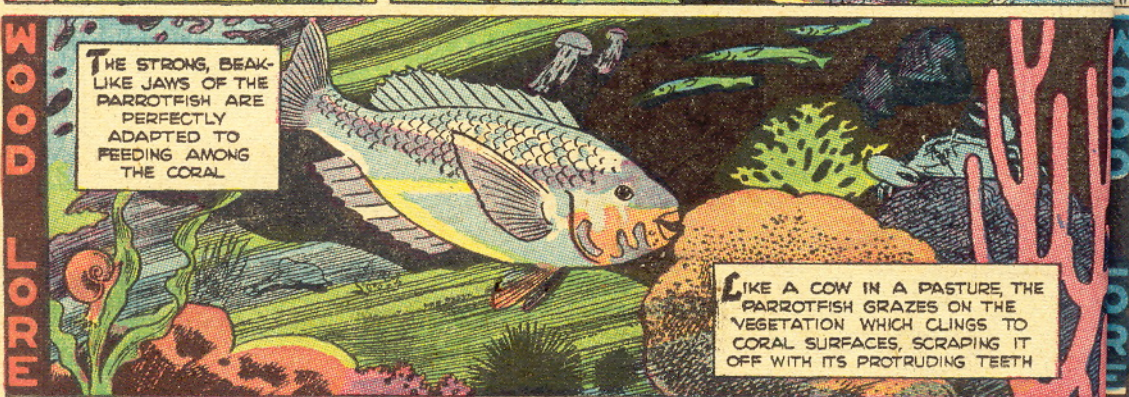
WHEN THE GAUDY CORAL-CHEWER HAS EATEN HIS FILL, HE LEISURELY FLOATS HEAD-UP IN MIDWATER



QUICKLY THE SCHOOL OF WRASSE ACCOMPANYING HIM RUSH IN TO TIDY UP THE BIG FISH



AND FOR THE SERVICE THEY PERFORM THE WRASSE GET PAID IN THE SMALL BITS OF FOOD THEY REMOVE FROM THE PARROTFISH'S HEAD!



THE STRONG, BEAK-LIKE JAWS OF THE PARROTFISH ARE PERFECTLY ADAPTED TO FEEDING AMONG THE CORAL

LIKE A COW IN A PASTURE, THE PARROTFISH GRAZES ON THE VEGETATION WHICH CLINGS TO CORAL SURFACES, SCRAPING IT OFF WITH ITS PROTRUDING TEETH

WOOD LORE

THE M W

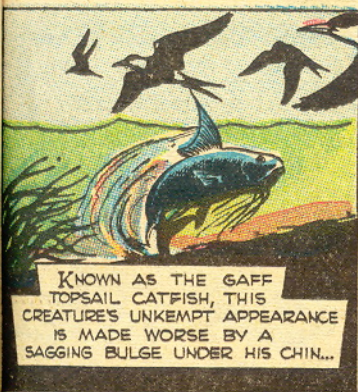
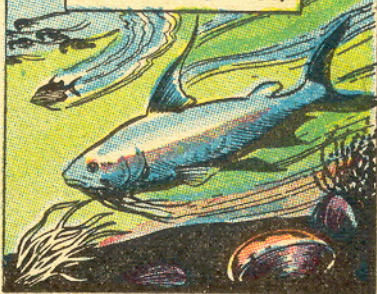
CR SA

OLD INCUBATOR MOUTH



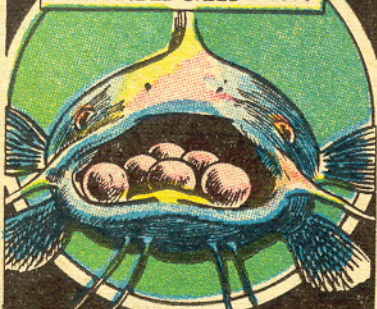
SEVERAL MEMBERS OF THE CATFISH FAMILY INSURE THE SAFETY OF THEIR UNHATCHED EGGS BY CARRYING THE EGGS AROUND WITH THEM

IN THE MURKY SHALLOWS OF THE ATLANTIC COASTAL MUD-FLATS SWIMS A WEARY AND HALF-STARVED FISH!



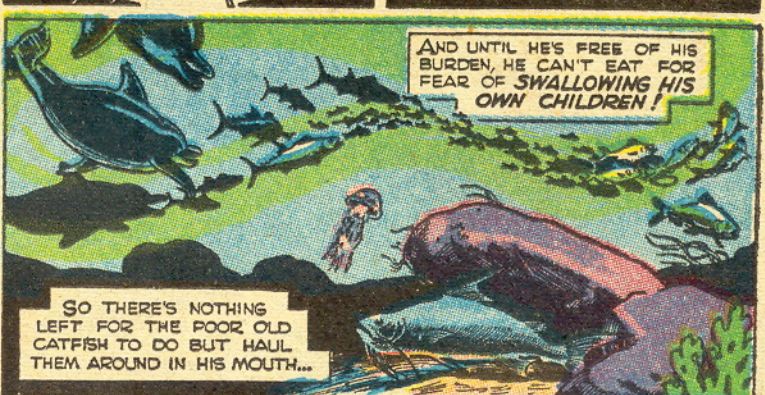
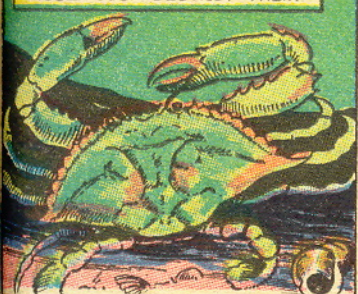
KNOWN AS THE GAFF TOPSAIL CATFISH, THIS CREATURE'S UNKEMPT APPEARANCE IS MADE WORSE BY A SAGGING BULGE UNDER HIS CHIN...

THE CAUSE OF ALL THE SEA-CAT'S TROUBLE IS A MOUTHFUL OF MARBLE-SIZED EGGS!



SINCE THESE EGGS MUST BE CONSTANTLY EXPOSED TO A FRESH SUPPLY OF OXYGEN-LADEN SALT WATER...

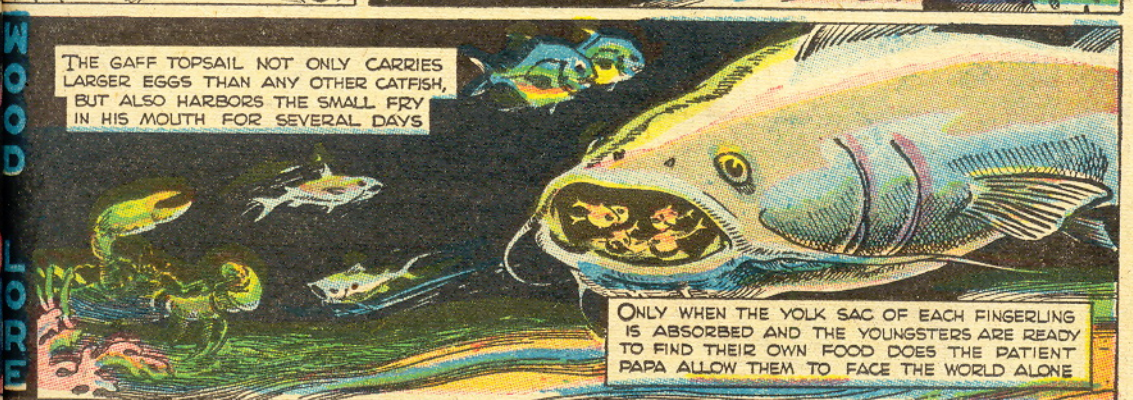
THEY CANNOT BE DEPOSITED ON THE SEA FLOOR, FOR SMOTHERING MUD AND FORAGING CRABS WOULD SOON DESTROY THEM



AND UNTIL HE'S FREE OF HIS BURDEN, HE CAN'T EAT FOR FEAR OF SWALLOWING HIS OWN CHILDREN!

SO THERE'S NOTHING LEFT FOR THE POOR OLD CATFISH TO DO BUT HAUL THEM AROUND IN HIS MOUTH...

THE GAFF TOPSAIL NOT ONLY CARRIES LARGER EGGS THAN ANY OTHER CATFISH, BUT ALSO HARBORS THE SMALL FRY IN HIS MOUTH FOR SEVERAL DAYS

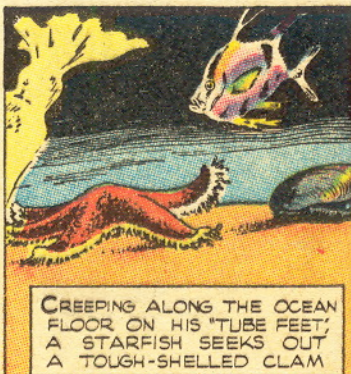


ONLY WHEN THE YOLK SAC OF EACH FINGERLING IS ABSORBED AND THE YOUNGSTERS ARE READY TO FIND THEIR OWN FOOD DOES THE PATIENT PAPA ALLOW THEM TO FACE THE WORLD ALONE

WOOD
FROD

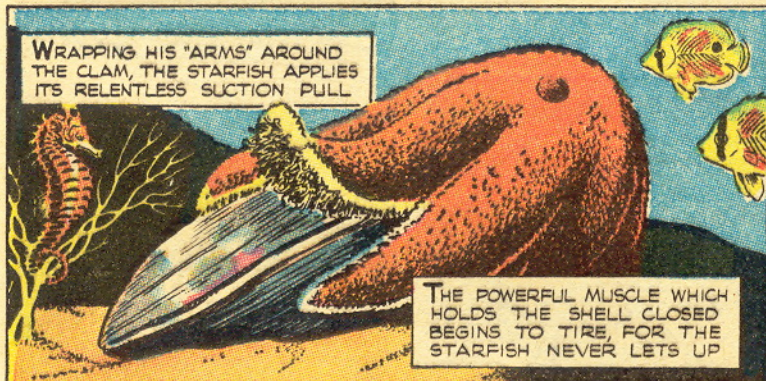
TUG-OF-WAR

THE STARFISH'S TUBE FEET OPERATE BY WATER PRESSURE EXTENDING OUTWARD AS WATER IS PUMPED INTO THEM, AND STICKING TO A SURFACE BY SUCTION AS WATER IS REMOVED



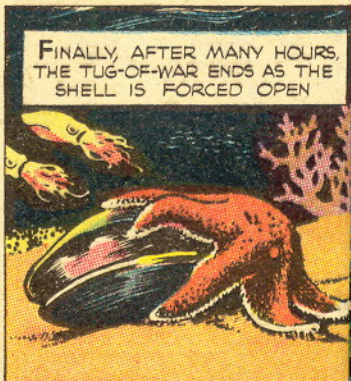
CREEPING ALONG THE OCEAN FLOOR ON HIS "TUBE FEET," A STARFISH SEEKS OUT A TOUGH-SHELLED CLAM

WRAPPING HIS "ARMS" AROUND THE CLAM, THE STARFISH APPLIES ITS RELENTLESS SUCTION PULL

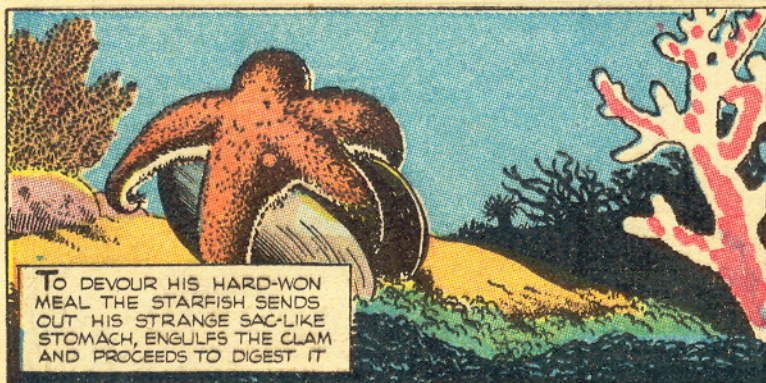


THE POWERFUL MUSCLE WHICH HOLDS THE SHELL CLOSED BEGINS TO TIRE, FOR THE STARFISH NEVER LETS UP

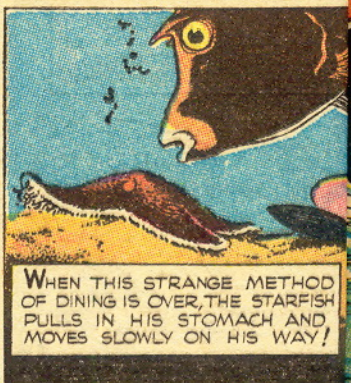
FINALLY, AFTER MANY HOURS, THE TUG-OF-WAR ENDS AS THE SHELL IS FORCED OPEN



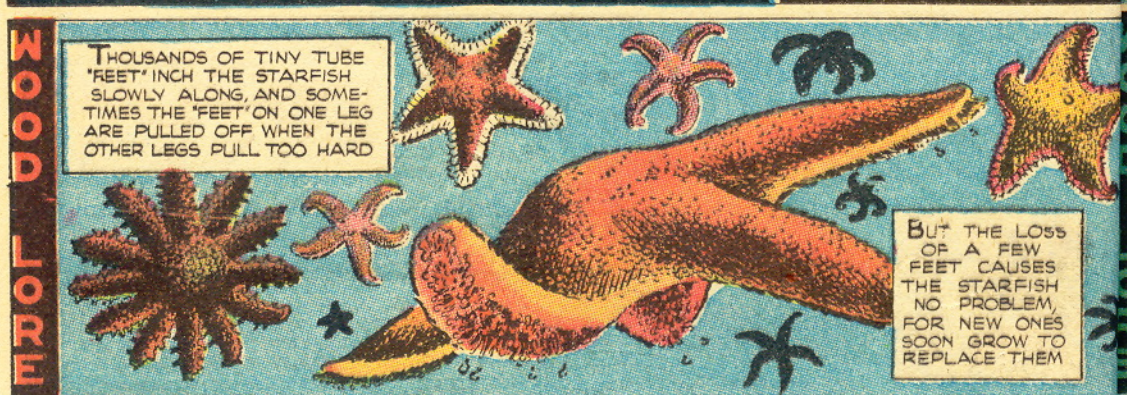
TO DEVOUR HIS HARD-WON MEAL THE STARFISH SENDS OUT HIS STRANGE SAC-LIKE STOMACH, ENGLUFS THE CLAM AND PROCEEDS TO DIGEST IT



WHEN THIS STRANGE METHOD OF DINING IS OVER, THE STARFISH PULLS IN HIS STOMACH AND MOVES SLOWLY ON HIS WAY!



THOUSANDS OF TINY TUBE "FEET" INCH THE STARFISH SLOWLY ALONG, AND SOMETIMES THE "FEET" ON ONE LEG ARE PULLED OFF WHEN THE OTHER LEGS PULL TOO HARD



BUT THE LOSS OF A FEW FEET CAUSES THE STARFISH NO PROBLEM, FOR NEW ONES SOON GROW TO REPLACE THEM

MARK TRAIL

by  

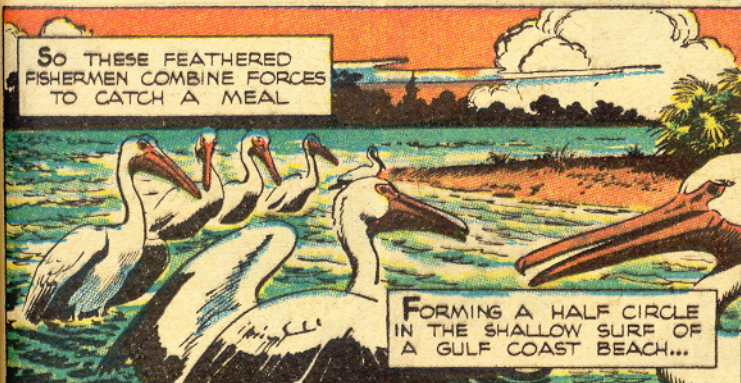
BIRDS

THE COLORFUL AND VARIED MEMBERS OF THE BIRD FAMILY ARE PERHAPS OUR MOST EASILY OBSERVED WILD CREATURES... ABOUT 1200 SPECIES AND SUB-SPECIES ARE FOUND IN NORTH AMERICA



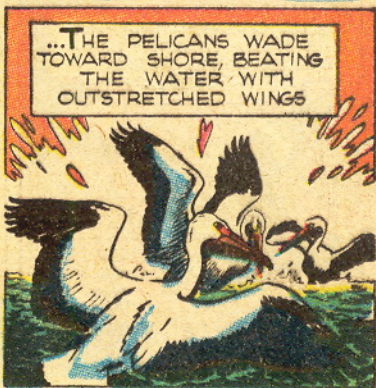
GREAT WHITE PELICANS HAVE LEARNED THAT IT IS TO EVERYONE'S ADVANTAGE TO WORK TOGETHER

SO THESE FEATHERED FISHERMEN COMBINE FORCES TO CATCH A MEAL

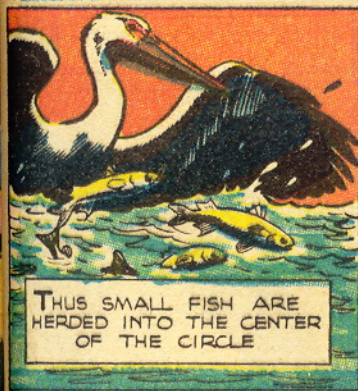


FORMING A HALF CIRCLE IN THE SHALLOW SURF OF A GULF COAST BEACH...

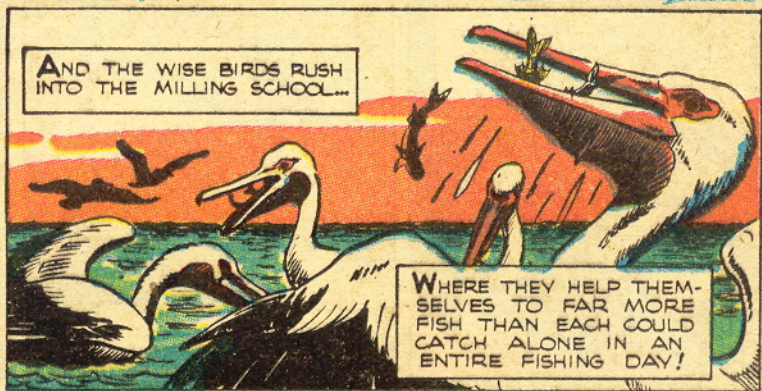
...THE PELICANS WADE TOWARD SHORE, BEATING THE WATER WITH OUTSTRETCHED WINGS



AND THE WISE BIRDS RUSH INTO THE MILLING SCHOOL...

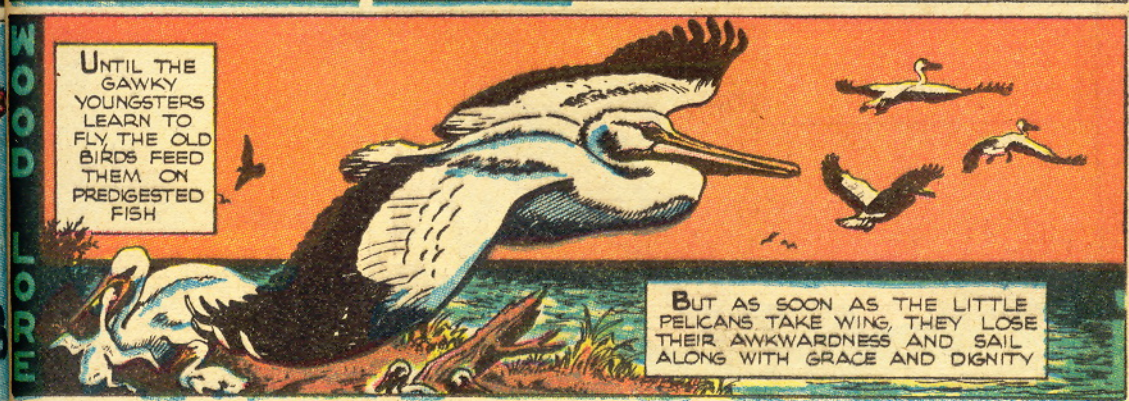


THUS SMALL FISH ARE HERDED INTO THE CENTER OF THE CIRCLE



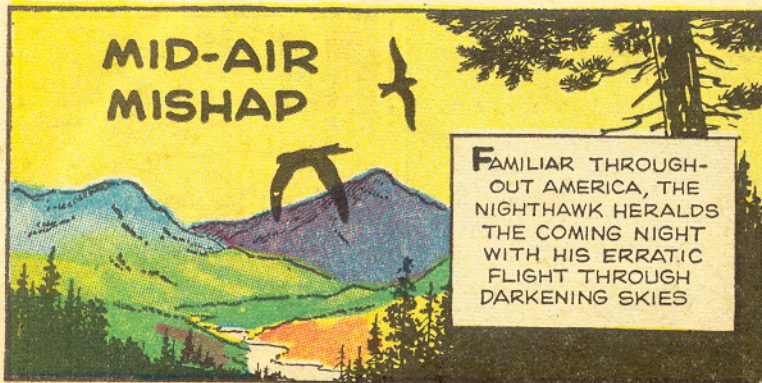
WHERE THEY HELP THEMSELVES TO FAR MORE FISH THAN EACH COULD CATCH ALONE IN AN ENTIRE FISHING DAY!

UNTIL THE GAWKY YOUNGSTERS LEARN TO FLY THE OLD BIRDS FEED THEM ON PREGESTED FISH



BUT AS SOON AS THE LITTLE PELICANS TAKE WING, THEY LOSE THEIR AWKWARDNESS AND SAIL ALONG WITH GRACE AND DIGNITY

MID-AIR MISHAP

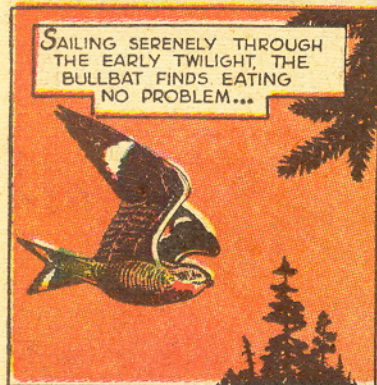


FAMILIAR THROUGH-
OUT AMERICA, THE
NIGHTHAWK HERALDS
THE COMING NIGHT
WITH HIS ERRATIC
FLIGHT THROUGH
DARKENING SKIES

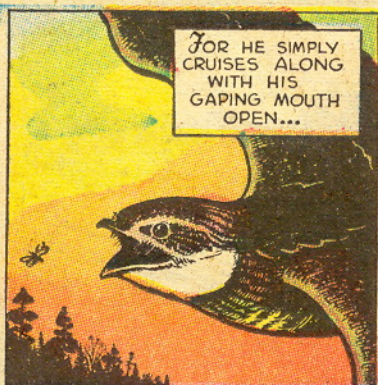
AS THE SUN SINKS BELOW
THE HORIZON, A NIGHTHAWK
LEAVES HIS PERCH FOR HIS
EVENING FLIGHT



SAILING SERENELY THROUGH
THE EARLY TWILIGHT, THE
BULLBAT FINDS EATING
NO PROBLEM...



FOR HE SIMPLY
CRUISES ALONG
WITH HIS
GAPING MOUTH
OPEN...



AND THE INSECTS IN HIS PATH
GO RIGHT DOWN THE
OLD GULLET!



A FLYCATCHER, MAKING ONE
LAST DASH AFTER A BUG,
SUDDENLY FINDS HIMSELF
LOOKING DOWN THE
NIGHTHAWK'S THROAT!



YANKING HIS HEAD FREE, HE
DIVES INTO THE TREETOPS...



WHILE OLD BUCKET-MOUTH
SPITS OUT FEATHERS FOR
AN HOUR!



THE NAME "BULLBAT," BY WHICH
THE NIGHTHAWK IS KNOWN TO
MANY, IS DERIVED FROM HIS
PECULIAR ANTICS



FROM A GREAT HEIGHT HE
DIVES ON HALF-CLOSED
WINGS, AND AS HE PULLS OUT,
THE RUSHING OF WIND THROUGH
HIS FEATHERS MAKES A LOW,
BOOMING SOUND!

MISTAKEN IDENTITY



TELESCOPIC VISION
IS THE EAGLE'S
GREATEST ASSET IN
HIS DAILY HUNT
FOR FOOD



DRIVEN BY FIERCE HUNGER,
BALDY SUDDENLY SPIES
A MOVEMENT BENEATH
THE WATER'S SURFACE



KEEPING AN EYE ON
THIS PROSPECTIVE MEAL,
THE EAGLE FOLDS HIS
WINGS, HURTTLES DOWNWARD...



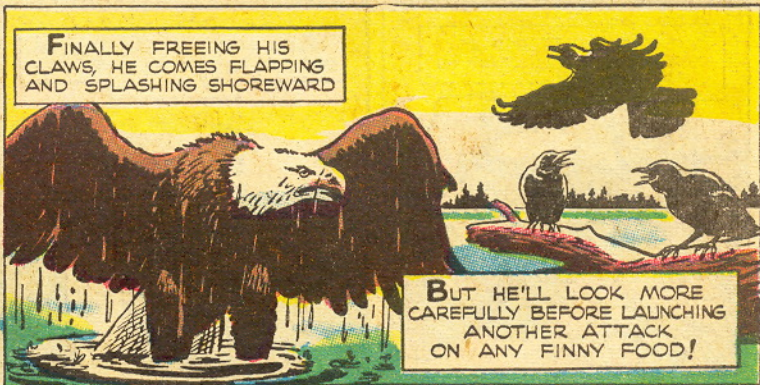
...AND ABRUPTLY SINKS HIS
TALONS LIKE FISHHOOKS
INTO THE VICTIM'S FLESH!



IMMEDIATELY, AS HE IS DRAGGED
UNDER, HE REALIZES HIS
MISTAKE, FOR HIS "CATCH"
IS NO FISH...BUT A
HUGE MANATEE!



HUNGER PROMPTLY FORGOTTEN,
BALDY'S FOREMOST THOUGHT
IS TO SAVE HIMSELF FROM
DROWNING!



FINALLY FREEING HIS
CLAWS, HE COMES FLAPPING
AND SPLASHING SHOREWARD

BUT HE'LL LOOK MORE
CAREFULLY BEFORE LAUNCHING
ANOTHER ATTACK
ON ANY FINNY FOOD!



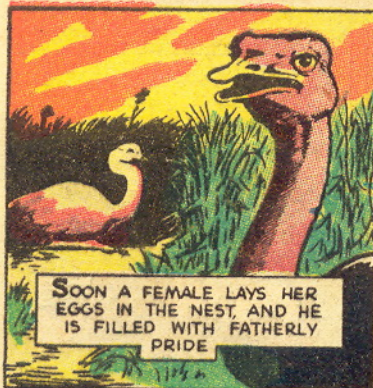
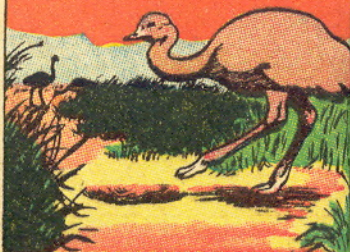
EAGLES AND OSPREYS SOMETIMES
UNDERESTIMATE THE SIZE OF FISH
AND ARE DRAGGED BELOW THE
SURFACE AND DROWNED BEFORE THEY
CAN UNHOOK THEIR CLAWS

PROUD PAPA



ECHOING ACROSS
GRASSY PLAINS,
THE BOOMING
VOICE OF THE RHEA
CALLS HIS FLOCK
TOGETHER

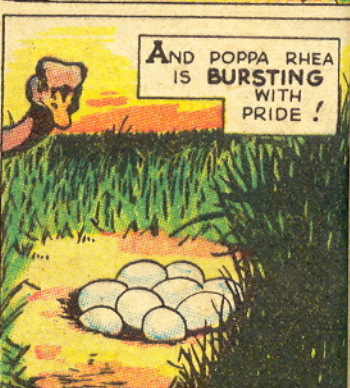
ON THE SOUTH AMERICAN
PAMPAS, A RHEA BUSIES
HIMSELF WITH NEST MAKING...



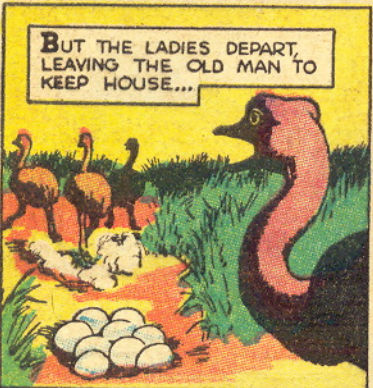
SOON A FEMALE LAYS HER
EGGS IN THE NEST, AND HE
IS FILLED WITH FATHERLY
PRIDE



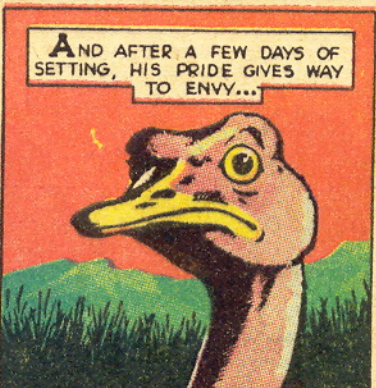
SUDDENLY A SECOND HEN
APPEARS AND ADDS MORE EGGS
... THEN ANOTHER AND
ANOTHER UNTIL THE
NEST IS BURSTING
WITH EGGS!



AND POPPA RHEA
IS **BURSTING**
WITH
PRIDE!



BUT THE LADIES DEPART,
LEAVING THE OLD MAN TO
KEEP HOUSE...



AND AFTER A FEW DAYS OF
SETTING, HIS PRIDE GIVES WAY
TO ENVY...



AS HE WATCHES THE CARE-
FREE WANDERINGS OF HIS
BACHELOR PALS!



THE MALE RHEA INCUBATES
THE EGGS AND GUARDS THE
YOUNG AGAINST ANY FOE,
NO MATTER HOW LARGE,
OR FEROCIOUS...

IN THE RAINY SEASON HE
REMAINS ON THE NEST SEVERAL
DAYS AT A TIME TO KEEP
THE EGGS WARM

WOOD
LORE

WOOD
LORE

FURIOUS FLYCATCHER

TRUE TO HIS CLAN, THE
SCISSOR-TAILED FLYCATCHER
TOLERATES NO INTRUDERS
IN HIS DOMAIN, AND
FEARLESSLY ATTACKS THE
LARGEST BIRDS



DROPPING
SUDDENLY UPON
AN UNWARY
MOUSE, A MARSH
HAWK MAKES
A KILL!



BUT BEFORE HE
CAN TAKE HIS
FIRST BITE, A
FEATHERED
FURY SWOOPS
TOWARD HIM!



WITH OUTRAGED SCREAMS, A
SCISSOR-TAILED FLYCATCHER
HARRIES HIM AS HE ATTEMPTS
TO FIND A SANCTUARY!



THE IRATE BIRD WILL
GIVE HIM NO PEACE...



SO THE
MARSH HAWK
SAILS OVER
HIS NEARBY
MATE AND
DROPS HIS
PRIZE!



WITH A DEFT
CATCH SHE MAKES
OFF TO A
QUIET
SPOT...



AND KEEPS DINNER WAITING
UNTIL HER PARTNER SHAKES
OFF THE WORRISOME FLYCATCHER



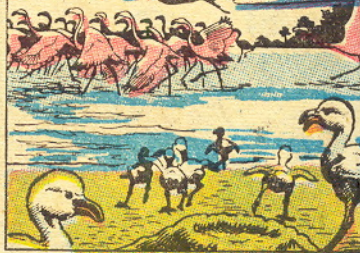
THE SCISSOR-TAILED
FLYCATCHER IS QUITE AN
AERIAL ACROBATIC AND
PUNCTUATES HIS MANEUVERS
WITH EAR-PIERCING SHRIEKS!

THIS WINGED PUGILIST
DESTROYS GRASSHOPPERS,
BEETLES, COTTON BOLL
WEEVILS, AND MANY OTHER
HARMFUL INSECTS!

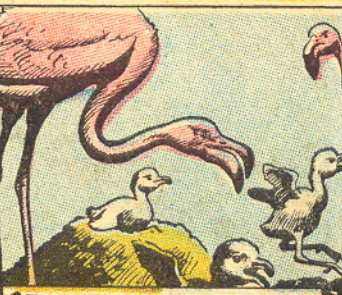
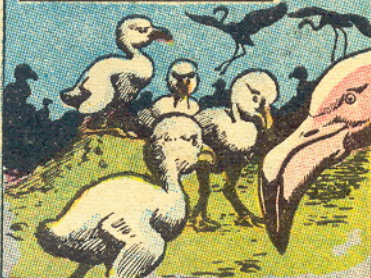
SCRAMBLED CHICKS

IN AN EFFORT TO
AVOID MANKIND, THE
STATELY FLAMINGO
HAS MOVED ITS
HAUNTS TO REMOTE
AREAS ALONG
ATLANTIC SHORES

LEAVING THEIR CHICKS TO
SCRAMBLE IN TERRIFIED
CONFUSION AMONG THE
MUD-CONE NESTS...

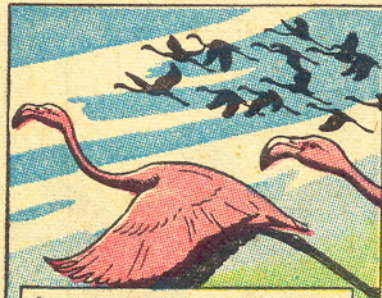


WHEN THE OLD BIRDS RETURN,
THEY OFTEN FIND THREE OR
MORE FLUFFY CHICKS WHERE
THEY LEFT ONLY ONE!

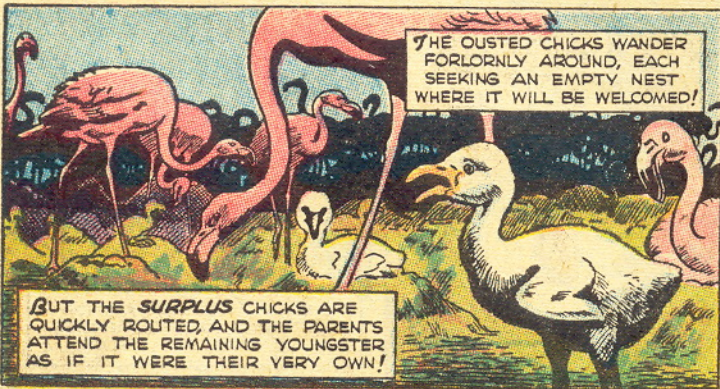


IT SEEMS TO MAKE LITTLE
DIFFERENCE TO THE NEST-
OWNERS WHICH **ONE** OF THE
NESTLINGS REMAINS...

THE ADULTS OF A FLAMINGO
COLONY STAMPEDE INTO
PANICKY FLIGHT AT THE FIRST
SIGN OF POSSIBLE PERIL...

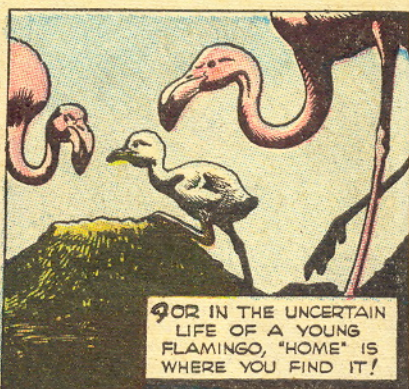


THE OUSTED CHICKS WANDER
FORLORNLRY AROUND, EACH
SEEKING AN EMPTY NEST
WHERE IT WILL BE WELCOMED!



BUT THE **SURPLUS** CHICKS ARE
QUICKLY ROUTED, AND THE PARENTS
ATTEND THE REMAINING YOUNGSTER
AS IF IT WERE THEIR VERY OWN!

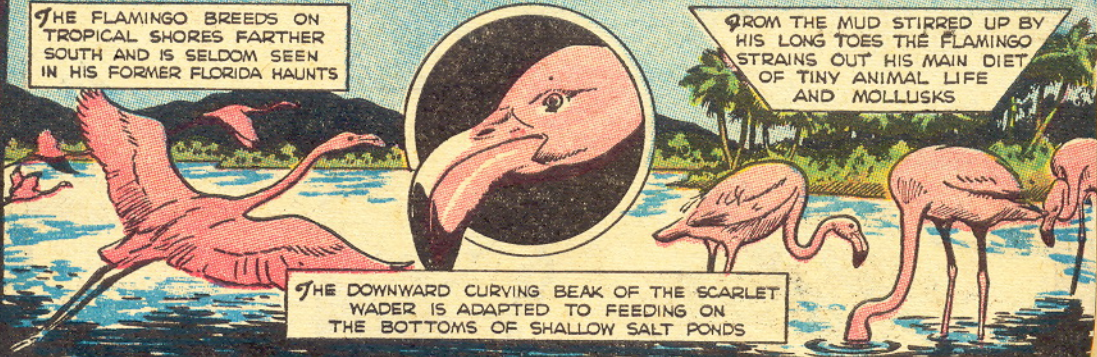
FOR IN THE UNCERTAIN
LIFE OF A YOUNG
FLAMINGO, "HOME" IS
WHERE YOU FIND IT!



THE FLAMINGO BREEDS ON
TROPICAL SHORES FARTHER
SOUTH AND IS SELDOM SEEN
IN HIS FORMER FLORIDA HAUNTS

WOOD LORE

FROM THE MUD STIRRED UP BY
HIS LONG TOES THE FLAMINGO
STRAINS OUT HIS MAIN DIET
OF TINY ANIMAL LIFE
AND MOLLUSKS



THE DOWNWARD CURVING BEAK OF THE SCARLET
WADER IS ADAPTED TO FEEDING ON
THE BOTTOMS OF SHALLOW SALT PONDS

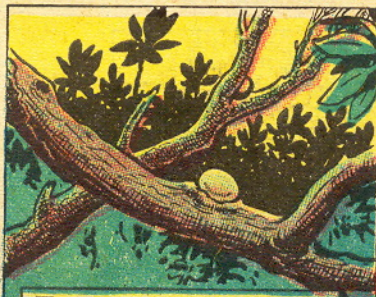
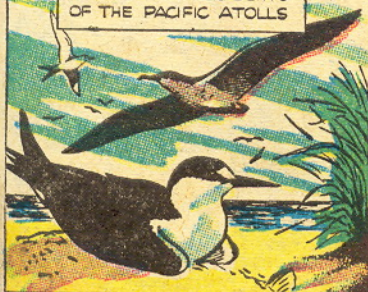
"LITTLE GLUEFOOT"

THE FAIRY TERN
LEADS A RATHER
UNIQUE HOME
LIFE



PERHAPS THE ODDEST FORM
OF HOUSEKEEPING IN THE
FEATHERED WORLD IS
CARRIED ON BY THE FAIRY TERN

WHO FOR SOME STRANGE REASON
BUILDS NO NEST ON THE GROUND
LIKE OTHER RESIDENTS
OF THE PACIFIC ATOLLS



INSTEAD THE TERN'S SINGLE
DAINTY EGG IS CAREFULLY
BALANCED IN A TREE FORK OR
SLIGHT DEPRESSION ON A BRANCH



DESPITE HOWLING GALES THE
EGG STAYS PUT, WHILE THE
PARENTS SPREAD THEIR
BREAST FEATHERS OVER
IT TO KEEP IT WARM

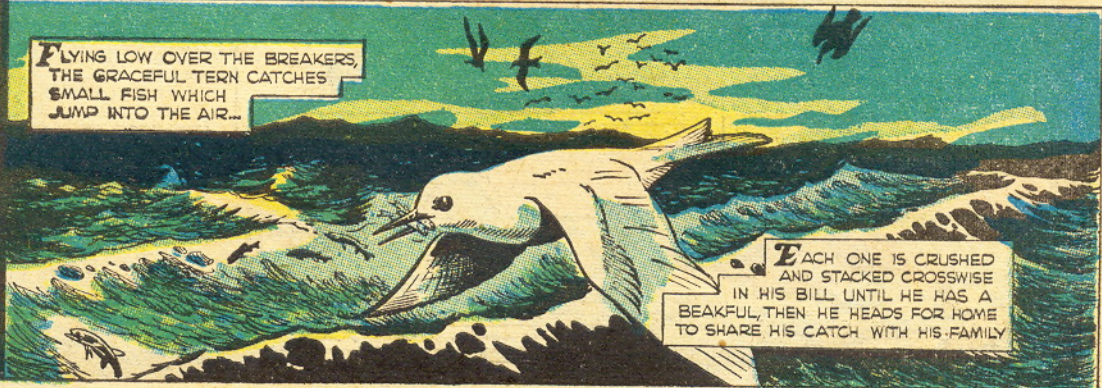


WHEN THE DOWNY CHICK IS BORN
IT LATCHES ON TO ITS PERCH
SO TIGHTLY THAT EVEN THE
STIFFEST WIND CAN'T BUDGE IT



SERVICEMEN WHO WITNESSED THIS STRANGE
FAMILY LIFE SWEAR UP AND DOWN (TO
THE GULLIBLE) THAT THE CHICK HATCHES
FEET FIRST AND GETS A GOOD GRIP
BEFORE POPPING OUT OF ITS SHELL!

FLYING LOW OVER THE BREAKERS,
THE GRACEFUL TERN CATCHES
SMALL FISH WHICH
JUMP INTO THE AIR...



EACH ONE IS CRUSHED
AND STACKED CROSSWISE
IN HIS BILL UNTIL HE HAS A
BEAKFUL, THEN HE HEADS FOR HOME
TO SHARE HIS CATCH WITH HIS FAMILY

LITTLE BUTTERBALL

NESTING SEASON IS THE ONLY TIME THE SHEARWATER INTERRUPTS ITS VAGABOND WANDERINGS OVER THE OPEN SEA



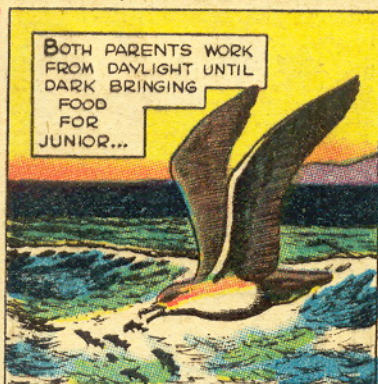
EVERY MOTHER APPRECIATES A CHILD WITH A HEALTHY APPETITE



BUT A BABY SHEARWATER CARRIES THE EATING HABIT TO THE EXTREME!



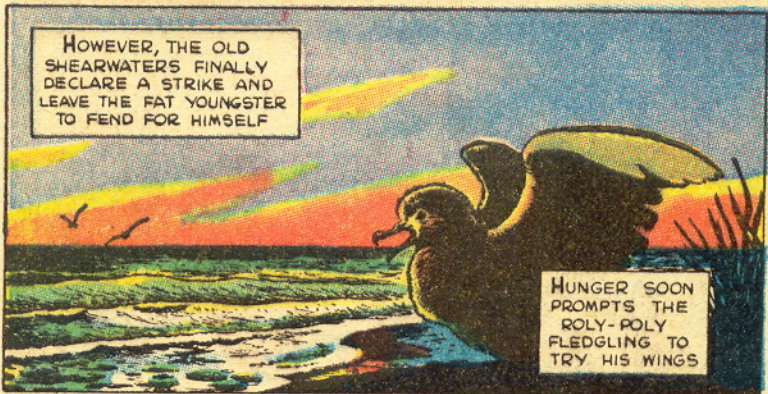
BOTH PARENTS WORK FROM DAYLIGHT UNTIL DARK BRINGING FOOD FOR JUNIOR...



WHO GROWS INTO A "BUTTERBALL" BIGGER THAN HIS MOM OR POP!



HOWEVER, THE OLD SHEARWATERS FINALLY DECLARE A STRIKE AND LEAVE THE FAT YOUNGSTER TO FEND FOR HIMSELF

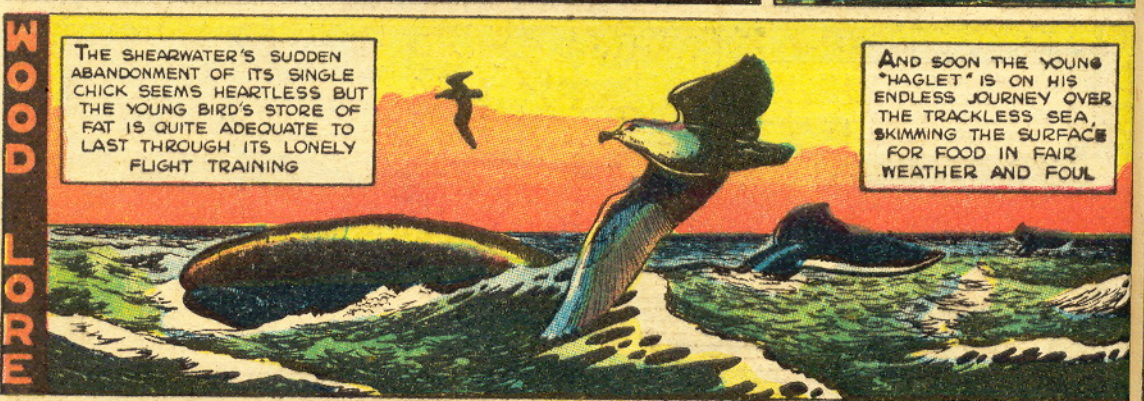


HUNGER SOON PROMPTS THE ROLY-POLY FLEDGLING TO TRY HIS WINGS

SO BY THE TIME HE CAN FLY, HIS FAT IS USED UP, AND HE LOOKS MORE LIKE A BIRD!



THE SHEARWATER'S SUDDEN ABANDONMENT OF ITS SINGLE CHICK SEEMS HEARTLESS BUT THE YOUNG BIRD'S STORE OF FAT IS QUITE ADEQUATE TO LAST THROUGH ITS LONELY FLIGHT TRAINING

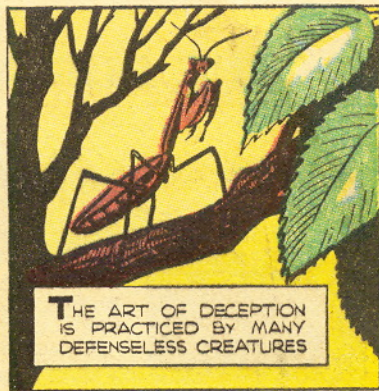


AND SOON THE YOUNG "HAGLET" IS ON HIS ENDLESS JOURNEY OVER THE TRACKLESS SEA, SKIMMING THE SURFACE FOR FOOD IN FAIR WEATHER AND FOUL

A MASTER OF DISGUISE



THE AMERICAN BITTERN IS PERFECTLY FITTED FOR HIS SOLITARY LIFE IN THE QUAKING BOGS OF MARSH AND SWAMP



THE ART OF DECEPTION IS PRACTICED BY MANY DEFENSELESS CREATURES



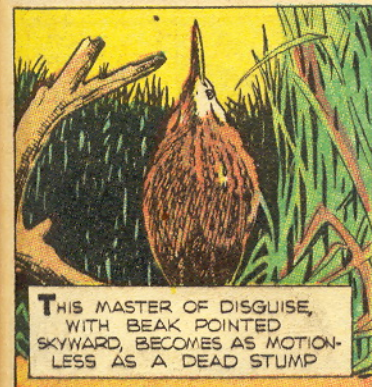
AND ONE OF THE CLEVEREST OF THESE IS THE AMERICAN BITTERN, WHICH HAS DEVELOPED AN ALMOST PERFECT CAMOUFLAGE



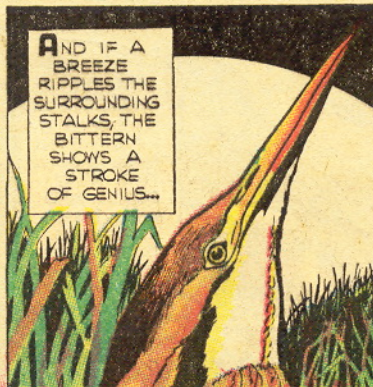
AMONG THE TANGLED PLANTS OF A BLACK WATER BOG THE STRIPED WADER LIVES A HERMIT'S LIFE



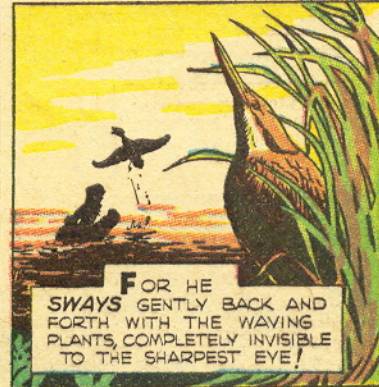
WHEN THE COLD EYES OF A KILLER SEARCH THE CATTAILS FOR GAME...



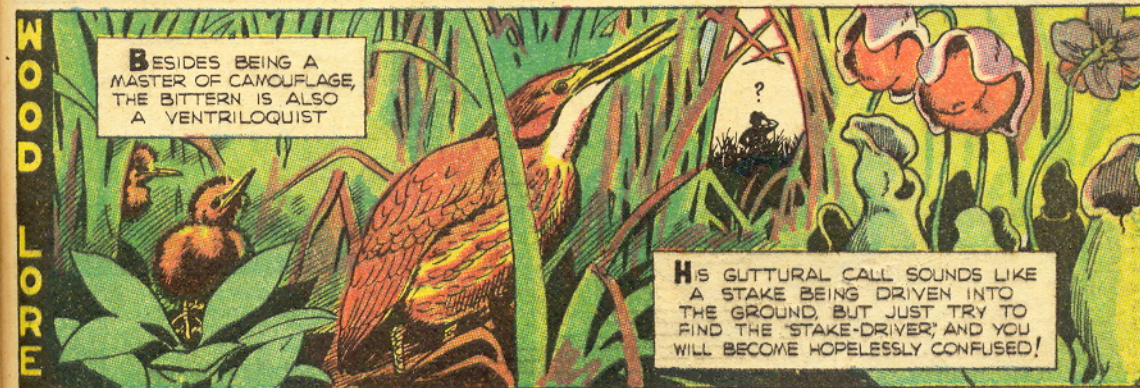
THIS MASTER OF DISGUISE, WITH BEAK POINTED SKYWARD, BECOMES AS MOTIONLESS AS A DEAD STUMP



AND IF A BREEZE RIPPLES THE SURROUNDING STALKS, THE BITTERN SHOWS A STROKE OF GENIUS...



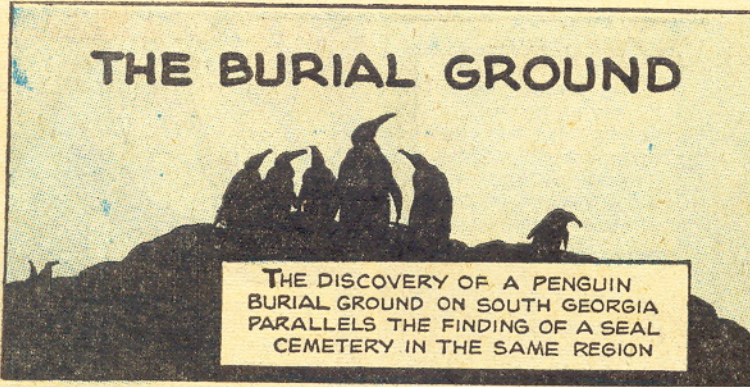
FOR HE SWAYS GENTLY BACK AND FORTH WITH THE WAVING PLANTS, COMPLETELY INVISIBLE TO THE SHARPEST EYE!




BESIDES BEING A MASTER OF CAMOUFLAGE, THE BITTERN IS ALSO A VENTRILOQUIST

HIS GUTTURAL CALL SOUNDS LIKE A STAKE BEING DRIVEN INTO THE GROUND, BUT JUST TRY TO FIND THE 'STAKE-DRIVER' AND YOU WILL BECOME HOPELESSLY CONFUSED!

THE BURIAL GROUND



THE DISCOVERY OF A PENGUIN BURIAL GROUND ON SOUTH GEORGIA PARALLELS THE FINDING OF A SEAL CEMETERY IN THE SAME REGION




FOR MANY YEARS MAN HAS DREAMED OF FINDING AN ELEPHANT GRAVEYARD AND A TREASURE IN IVORY...

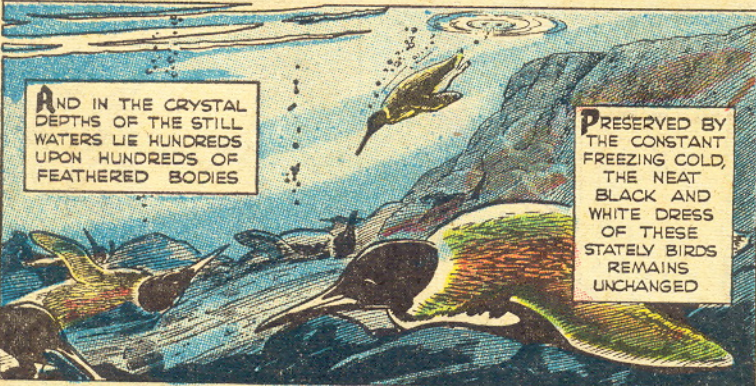


PERHAPS THE IDEA OF SUCH A PLACE IS NOT TOO FANTASTIC AFTER ALL...

FOR ON AN ISLAND IN THE ANTARCTIC A PENGUIN BURIAL GROUND HAS BEEN FOUND




A CLEAR SNOW-FED LAKE HIDDEN BEHIND A HILL IS THE FINAL RESTING PLACE FOR THE AGING BIRDS




AND IN THE CRYSTAL DEPTHS OF THE STILL WATERS LIE HUNDREDS UPON HUNDREDS OF FEATHERED BODIES

PRESERVED BY THE CONSTANT FREEZING COLD, THE NEAT BLACK AND WHITE DRESS OF THESE STately BIRDS REMAINS UNCHANGED



SAFE AT LAST FROM HOWLING BLIZZARDS AND LURKING ENEMIES, THE DEAD SLEEP UNDISTURBED



EXPLORERS FOUND A CONCENTRATION OF FROZEN SEAL BODIES LYING ON A BARE PATCH OF GROUND NEAR A GREAT ICE BARRIER

SOME OF THE BODIES SEEMED TO HAVE BEEN THERE FOR CENTURIES, AND THE DISCOVERERS FEEL CERTAIN THAT THE SEALS CAME TO THIS PARTICULAR SPOT TO DIE

THE MELODIOUS MOCKER

THE UNRIVALED
KING OF SONG IN
THE FEATHERED
WORLD IS THE
MOCKINGBIRD

A YOUNG
MOCKINGBIRD
HAS SPRUNG
FEVER AND
IS BUBBLING
OVER WITH
SONG

WHILE A FEMALE
"MOCKER," THE
CAUSE OF HIS
INFLATED EGO,
WATCHES
FROM A POST

AS HE SAILS
PAST A TOOL
SHED HE WHEELS
TO ATTACK ...

A RIVAL HE
SEES IN THE
WINDOW PANE

FOR AN
HOUR HE
BATTLES A
FOE HE
CAN'T SUBDUED...
HIS OWN REFLECTION!

WHILE THE
OBJECT OF HIS
AFFECTIONS
DEPARTS WITH
ANOTHER
BOY-FRIEND

THE "MOCKER" OR "MIMIC
THRUSH" SERENADES NIGHT
AND DAY, IMITATING SOUNDS
HE HEARS AND ADDING TO
THEM HIS UNPARALLELED
MELODIES

ALTHOUGH FRIENDLY TOWARD
MAN, HE ATTACKS ANY LIVING
CREATURE WHO VENTURES
NEAR HIS NEST

WHITE-WINGED DEATH

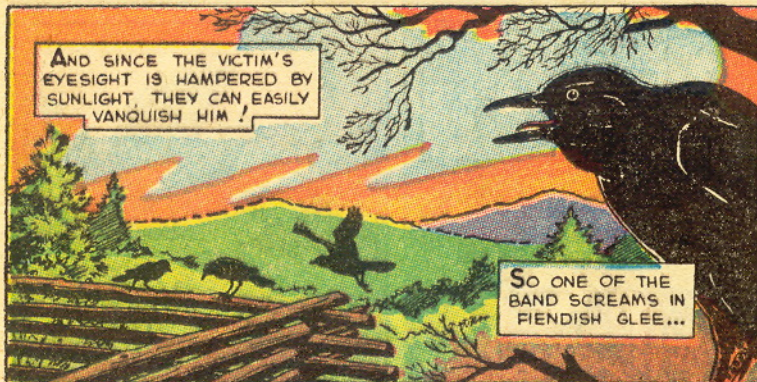
FROM THE FROZEN TUNDRAS OF THE FAR NORTH, A GHOSTLY STRANGER OCCASIONALLY DRIFTS SOUTHWARD OVER THE CANADIAN BORDER



THE PESKY FLOCK OF CROWS AT
LOST FOREST LIKES NOTHING
BETTER THAN "GANGING UP"
ON AN OWL!



AND SINCE THE VICTIM'S
EYESIGHT IS HAMPERED BY
SUNLIGHT, THEY CAN EASILY
VANQUISH HIM!

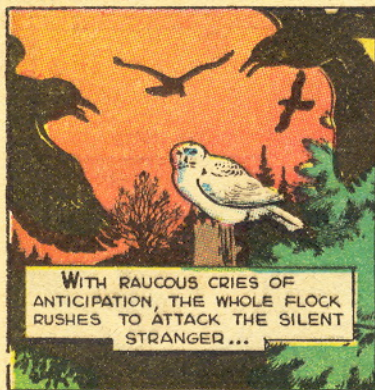


SO ONE OF THE
BAND SCREAMS IN
FIENDISH GLEE...

UPON THE
DISCOVERY OF A
STRANGE WHITE
OWL SITTING
MOTIONLESS
ON A DEAD
TREE...



WITH RAUCOUS CRIES OF
ANTICIPATION, THE WHOLE FLOCK
RUSHES TO ATTACK THE SILENT
STRANGER...



BUT BEFORE THE FIRST
CROW CAN STRIKE, HE IS
CLUTCHED IN A DEADLY GRIP...

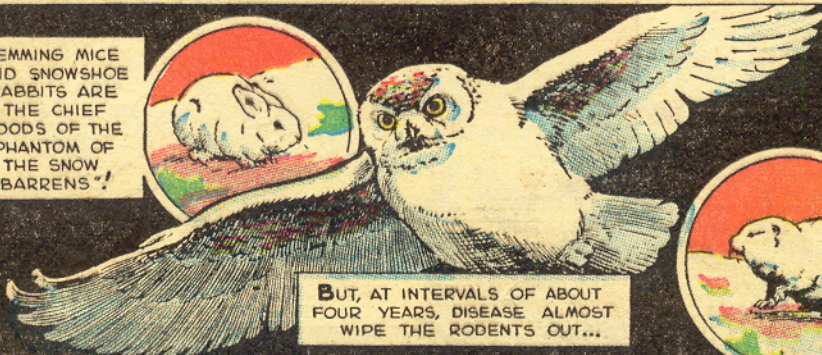


FOR THE
SNOWY OWL,
FROM THE
LAND OF THE
MIDNIGHT
SUN, SEES
QUITE
WELL BY
DAYLIGHT!



LEMING MICE
AND SNOWSHOE
RABBITS ARE
THE CHIEF
FOODS OF THE
"PHANTOM OF
THE SNOW
BARRENS!"

WOOD
FROG



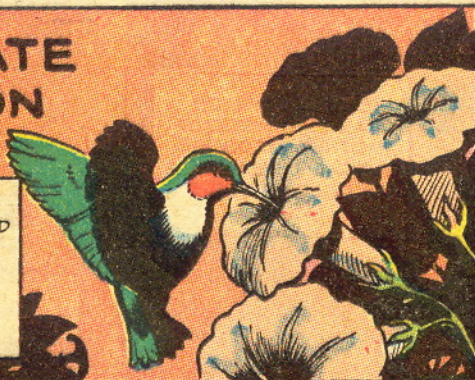
BUT, AT INTERVALS OF ABOUT
FOUR YEARS, DISEASE ALMOST
WIPE THE RODENTS OUT...

AND THE
SNOWY OWL
IS FORCED
TO MIGRATE
INTO OUR
NORTHERN
STATES
WHERE GAME
IS MORE
PLENTIFUL!

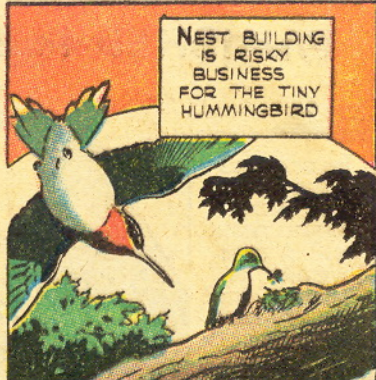


A DELICATE OPERATION

BECAUSE OF ITS SIZE, THE HUMMINGBIRD IS CONFRONTED WITH DANGER DIFFERENT FROM THOSE FACED BY ITS LARGER FEATHERED KIN



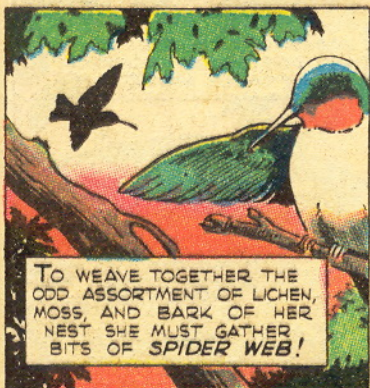
NEST BUILDING IS RISKY BUSINESS FOR THE TINY HUMMINGBIRD



AND MRS. RUBYTHROAT HOVERS CAUTIOUSLY BEFORE THE TREACHEROUS ORB OF A GARDEN SPIDER



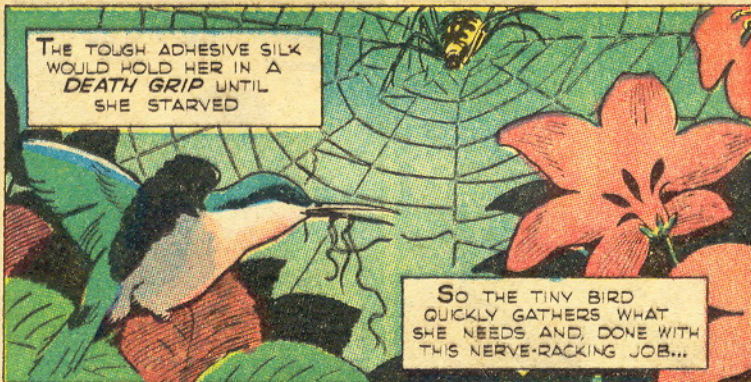
TO WEAVE TOGETHER THE ODD ASSORTMENT OF LICHEN, MOSS, AND BARK OF HER NEST SHE MUST GATHER BITS OF SPIDER WEB!



FOR, SHOULD HER RAPIDLY WHIRRING PINIONS STRIKE THE COARSE STRANDS AND BECOME ENSNARED...

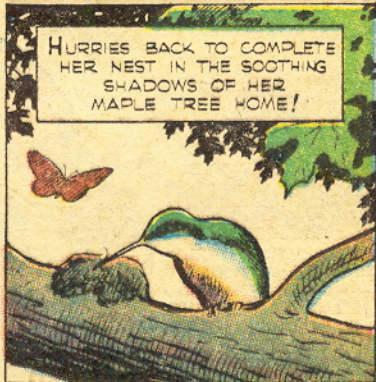


THE TOUGH ADHESIVE SILK WOULD HOLD HER IN A DEATH GRIP UNTIL SHE STARVED

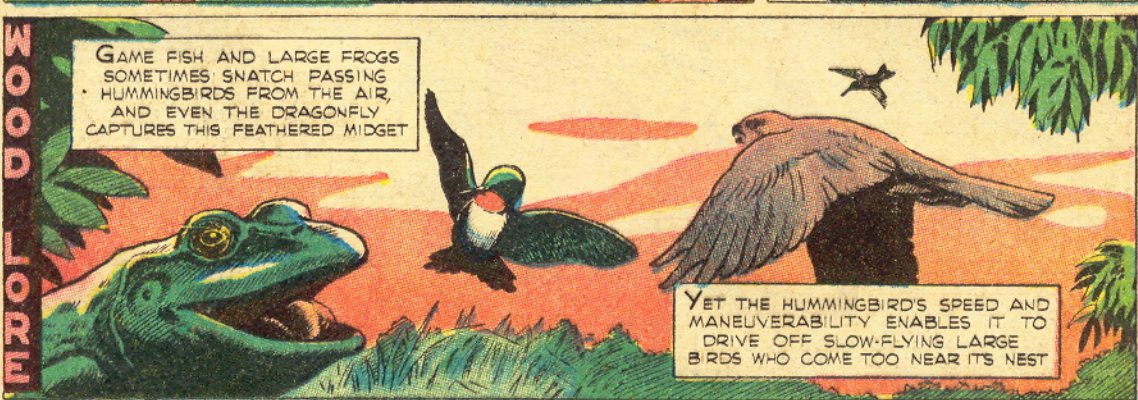


SO THE TINY BIRD QUICKLY GATHERS WHAT SHE NEEDS AND, DONE WITH THIS NERVE-RACKING JOB...

HURRIES BACK TO COMPLETE HER NEST IN THE SOOTHING SHADOWS OF HER MAPLE TREE HOME!



GAME FISH AND LARGE FROGS SOMETIMES SNATCH PASSING HUMMINGBIRDS FROM THE AIR, AND EVEN THE DRAGONFLY CAPTURES THIS FEATHERED MIDGET



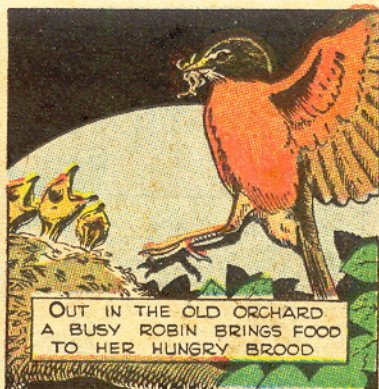
YET THE HUMMINGBIRD'S SPEED AND MANEUVERABILITY ENABLES IT TO DRIVE OFF SLOW-FLYING LARGE BIRDS WHO COME TOO NEAR ITS NEST

FAMISHED FLEDGLINGS

FLEDGLING BIRDS OFTEN CONSUME MORE THAN THEIR OWN WEIGHT IN FOOD EVERY TWENTY-FOUR HOURS



BUT A COMMON CHARACTERISTIC OF MOTHER BIRDS IS THEIR SELF-SACRIFICE IN REARING THEIR YOUNG



OUT IN THE OLD ORCHARD A BUSY ROBIN BRINGS FOOD TO HER HUNGRY BROOD

WITH A FAMILY AS LARGE AS HER'S, SHE GOES AT EXPRESS-TRAIN SPEED IN HER STRUGGLE TO KEEP THOSE LITTLE CROPS FULL!



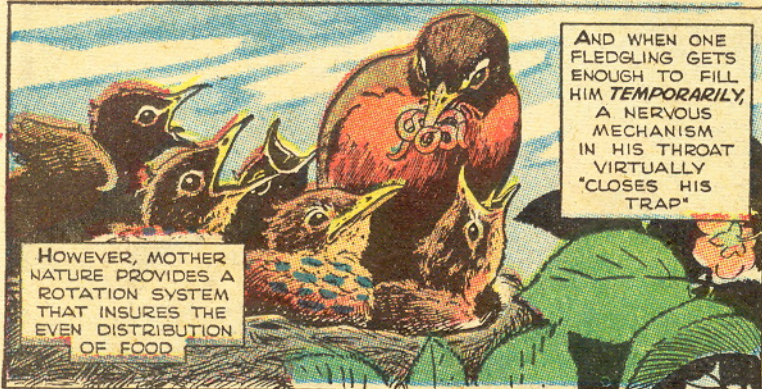
REMEMBERING WHICH OF THE EVER-OPEN BEAKS SHE LAST FILLED WOULD ORDINARILY BE AN IMPOSSIBLE TASK...

FOR THE FIVE BEGGING BABIES LOOK EXACTLY ALIKE, AND ARE SADLY LACKING IN TABLE MANNERS!

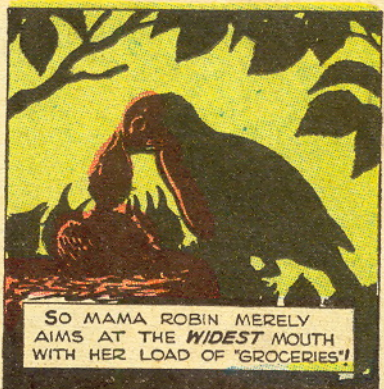


AND WHEN ONE FLEDGLING GETS ENOUGH TO FILL HIM TEMPORARILY, A NERVOUS MECHANISM IN HIS THROAT VIRTUALLY "CLOSES HIS TRAP"

HOWEVER, MOTHER NATURE PROVIDES A ROTATION SYSTEM THAT INSURES THE EVEN DISTRIBUTION OF FOOD

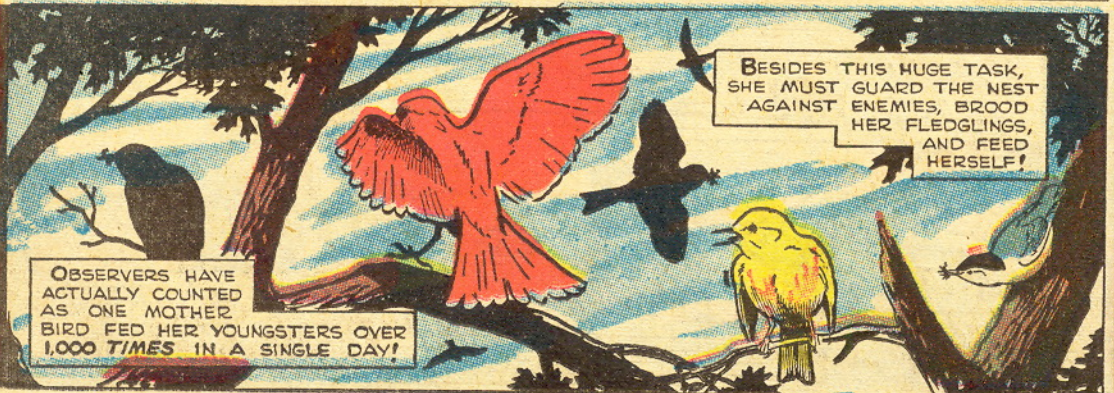


SO MAMA ROBIN MERELY AIMS AT THE WIDEST MOUTH WITH HER LOAD OF "GROCERIES"!



BESIDES THIS HUGE TASK, SHE MUST GUARD THE NEST AGAINST ENEMIES, BROOD HER FLEDGLINGS, AND FEED HERSELF!

OBSERVERS HAVE ACTUALLY COUNTED AS ONE MOTHER BIRD FED HER YOUNGSTERS OVER 1,000 TIMES IN A SINGLE DAY!



WOOD JOE

WOOD JOE

SWAMP DANDY

THE GREAT BLUE HERON AND RELATED SPECIES PRODUCE A DOWN WHICH BREAKS UP INTO A POWDERY FORM WHEN USED TO CLEAN FEATHERS

MANY OF THESE STATELY BIRDS SEEM TO TAKE PRIDE IN THEIR APPEARANCE

SLIM JIM, THE STATELY BLUE HERON, TAKES GREAT PRIDE IN HIS APPEARANCE

AFTER THE MUDDY BUSINESS OF WADING IN SWAMP WATER TO CAPTURE FISH, HE PROCEEDS TO BATHE HIMSELF

WITH HIS LONG BEAK, SLIM JIM PULLS FINE DOWN FROM HIS BODY

...AND RUBS IT OVER HIS COAT WITH GREAT CARE

THIS "DRY SHAMPOO" REMOVES ALL DIRT, LEAVING SLIM JIM AS NEAT AS A PIN!

WHEN THE DOWN IS DRY, THE LONG-LEGGED DANDY COMBS IT OUT OF HIS FEATHERS

ON THE MIDDLE TOE OF THE HERON'S FOOT IS A COMB-LIKE DEVICE WHICH AIDS IN CLEANING AND DRESSING HIS FEATHERS

BARN OWLS, NIGHTHAWKS, WHIPPOORWILLS AND SOME OTHER BIRDS ALSO POSSESS THIS HANDY COMB

THE CHEAT

MOST BIRDS ARE DEVOTED PARENTS LAVISHING CARE AND AFFECTION ON THEIR EGGS, AND THE FORTH-COMING FLEDGLINGS

BUT THERE IS AN IRRESPONSIBLE MOOCHER IN THE BIRD WORLD WHICH PLAGUES BUSY NEST BUILDERS

BUBBLING WITH SONG AND ENERGY, A PAIR OF BLACKBURNIAN WARBLERS START THEIR NEST...

FROM THE DENSE FOLIAGE OF A NEARBY TREE, A COWBIRD WATCHES WITH BEADY EYES...

THE WARBLERS COMPLETE THE NEST AND DEPART FOR A QUICK SNACK OF INSECTS!

AND THE COWBIRD SNEAKS TO THE NEW NEST

WHEN THE WARBLERS RETURN, THEY FIND A BIG SPECKLED EGG FILLING THEIR SMALL NEST

NOT TO BE IMPOSED UPON, THE FEMALE QUICKLY BUILDS A NEW NEST ON TOP OF THE OLD ONE...

AND SITS ON IT TO KEEP THE COWBIRD FROM REPEATING HER TRICK!

THE FEMALE NEVER BUILDS A NEST, BUT SNEAKS HER EGGS INTO THOSE OF SMALLER BIRDS, LEAVING THEM WITH THE RESPONSIBILITY OF RAISING HER YOUNG, WHILE SHE ENJOYS THE COMPANY OF HER RED-WING COUSINS

PARTIAL TO CATTLE AND BUFFALO, THE COWBIRD FLIES ABOUT THE GREAT ANIMALS, CATCHING INSECTS...

WOOD
LORE

WOOD
LORE

DRUMMER OF THE WOODLAND

THROUGH THE AUTUMN WOODS ROLLS A RHYTHMIC BEAT THAT ECHOES FOR A MILE IN ALL DIRECTIONS

THE RUFFED GROUSE IS THE DRUMMER OF THE WOODLAND

FROM HIS FAVORITE PERCH ON A LOG OR STUMP HE ROLLS OUT HIS THUNDEROUS MUSIC

BUT HE MUST KEEP A SHARP LOOKOUT BETWEEN CHORUSES, FOR HIS DRUMMING MAY ATTRACT HIS ENEMIES!

HOWEVER, HE OFTEN KEEPS UP THIS NOISY DISPLAY UNTIL WELL AFTER DARKNESS HAS FALLEN...

SINCE THE OWL'S EARS ARE TUNED FOR HIGH FREQUENCY SOUNDS ONLY, HE DOESN'T EVEN HEAR THE GROUSE

IN SPITE OF THE FACT THAT ONE OF HIS MOST DREADED ENEMIES, THE GREAT HORNED OWL, IS CALLING NEARBY

AND HIS DAYLIGHT SLEEP ISN'T INTERRUPTED, EVEN THOUGH THE GROUSE'S DRUMMING LOG IS DIRECTLY UNDER HIS BOUDOIR!

WOOD LORE

ALTHOUGH IT WAS ONCE BELIEVED THAT THE GROUSE BEAT HIS WINGS AGAINST HIS "DRUMMING LOG", SLOW MOTION PHOTOGRAPHY HAS PROVEN THAT THE WINGS ALONE MAKE THE SOUND AS THEY RAPIDLY FAN THE AIR

MARK TRAIL

by

ED DODD
1953

REPTILES

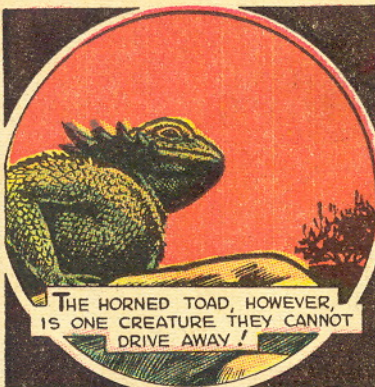
REPTILES ARE COLD-BLOODED ANIMALS WITH SCALY SKINS, AND THE FAMILY INCLUDES THE LIZARDS, CROCODILES, SNAKES AND TURTLES



ON THE SUN-BAKED PLAINS OF THE SOUTHWEST, THE VICIOUS HARVESTER ANTS BUILD THEIR MOUND CITIES....

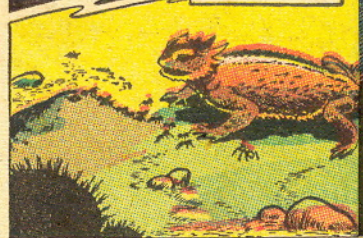


SMALL MAMMALS GIVE THEM A WIDE BERTH, FOR THEIR POISONOUS BITE IS DEADLY!

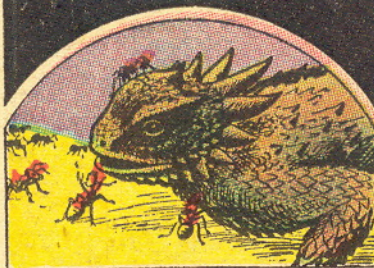


THE HORNED TOAD, HOWEVER, IS ONE CREATURE THEY CANNOT DRIVE AWAY!

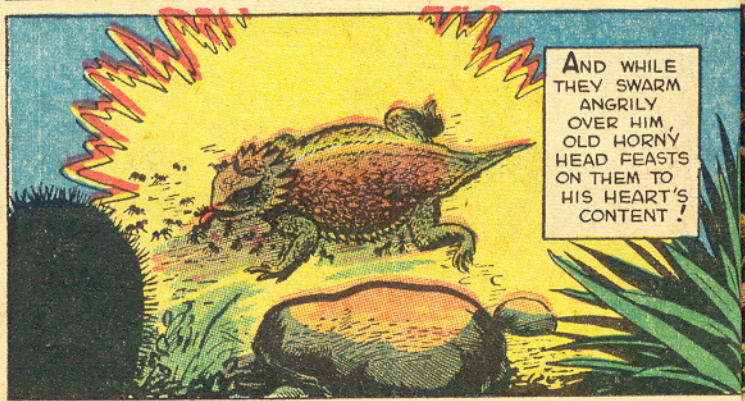
WHEN THIS "ARMORED" LIZARD DISCOVERS THE ANTHILL, THE WARRIORS OF THE COLONY RUSH TO ATTACK HIM!



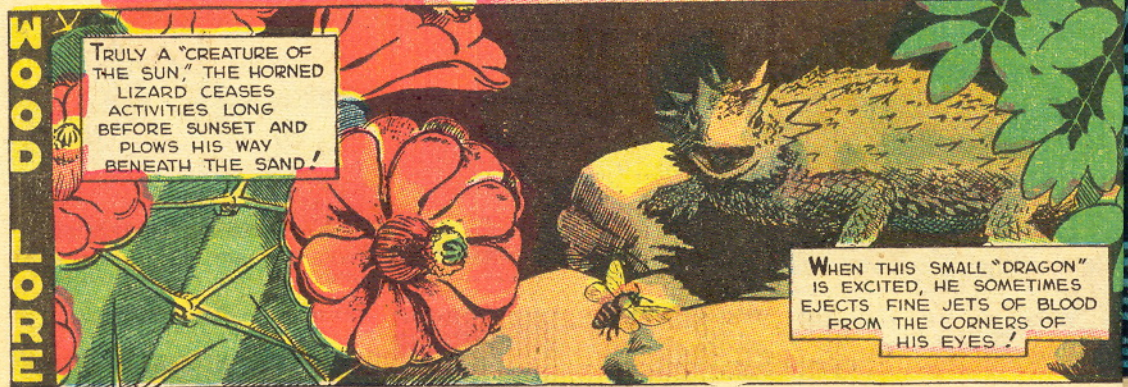
BUT HIS TOUGH SCALED HIDE IS IMPREGNABLE TO THEIR POISON JAWS



AND WHILE THEY SWARM ANGRILY OVER HIM, OLD HORNY HEAD FEASTS ON THEM TO HIS HEART'S CONTENT!



TRULY A "CREATURE OF THE SUN," THE HORNED LIZARD CEASES ACTIVITIES LONG BEFORE SUNSET AND PLOWS HIS WAY BENEATH THE SAND!



WHEN THIS SMALL "DRAGON" IS EXCITED, HE SOMETIMES EJECTS FINE JETS OF BLOOD FROM THE CORNERS OF HIS EYES!

WOOD LORIE

DRAGON OF THE "BUSH"

AUSTRALIA IS TRULY A "LAND" OF DRAGONS" WITH ITS SIX-FOOT LIZARDS OF UGLY DISPOSITION



TRAVELING ALONE IN THE AUSTRALIAN "BUSH," A DINGO PUP CHANCES UPON A BASKING WALLABY

AS HE EDGES NEAR ENOUGH TO POUNCE UPON IT...

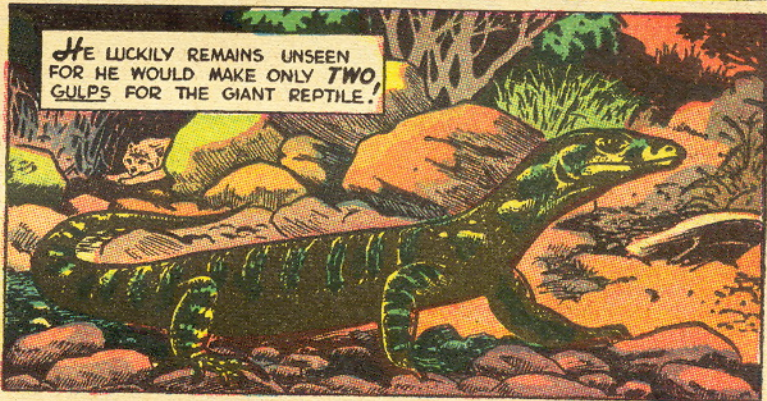


A HUGE DRAGONLIKE GOANNA FLASHES FROM THE UNDERBRUSH!

SEIZING THE SMALL MAMMAL, HE SWALLOWS IT WITH ONE GULP...



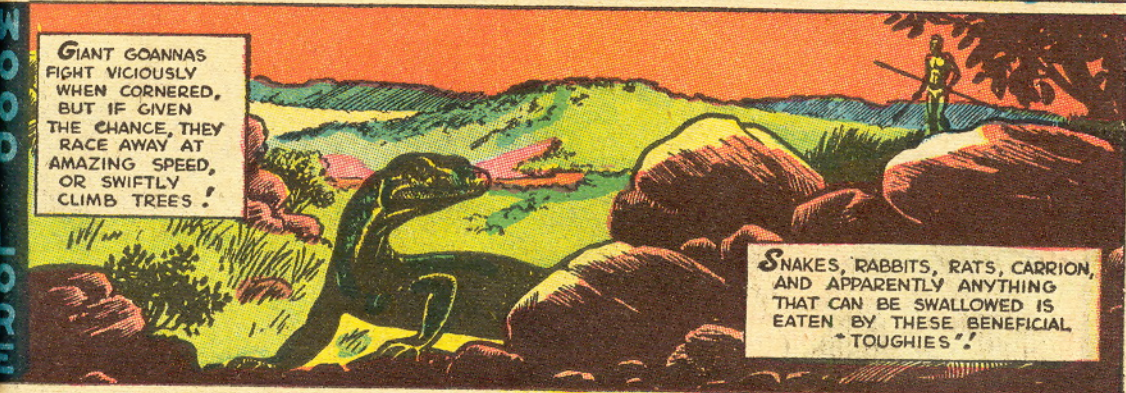
HE LUCKILY REMAINS UNSEEN FOR HE WOULD MAKE ONLY TWO GULPS FOR THE GIANT REPTILE!



AND FROZEN WITH FEAR THE DINGO "PLAYS POSSUM"!



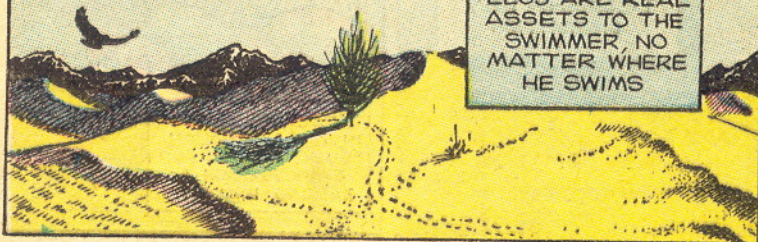
GIANT GOANNAS FIGHT VICIOUSLY WHEN CORNERED, BUT IF GIVEN THE CHANCE, THEY RACE AWAY AT AMAZING SPEED, OR SWIFTLY CLIMB TREES!



SNAKES, RABBITS, RATS, CARRION, AND APPARENTLY ANYTHING THAT CAN BE SWALLOWED IS EATEN BY THESE BENEFICIAL "TOUGHIES"!

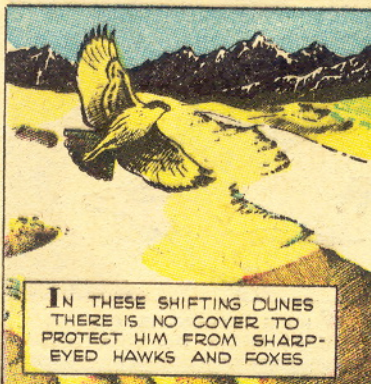
THE SAND SWIMMER

FRINGED FEET AND POWERFUL LEGS ARE REAL ASSETS TO THE SWIMMER, NO MATTER WHERE HE SWIMS

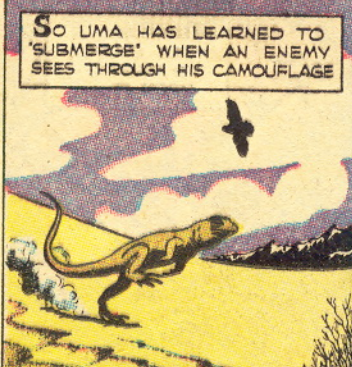


SWIMMING USUALLY BRINGS TO MIND A COOL, SPARKLING POOL OR FOAMING SURF...

BUT UMA, THE SAND LIZARD, DOES HIS SWIMMING IN THE BLISTERING SANDS OF THE DESERT



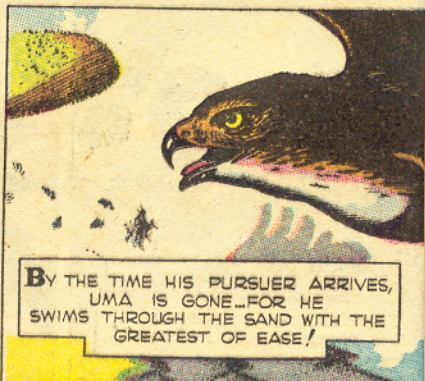
IN THESE SHIFTING DUNES THERE IS NO COVER TO PROTECT HIM FROM SHARP-EYED HAWKS AND FOXES



SO UMA HAS LEARNED TO 'SUBMERGE' WHEN AN ENEMY SEES THROUGH HIS CAMOUFLAGE

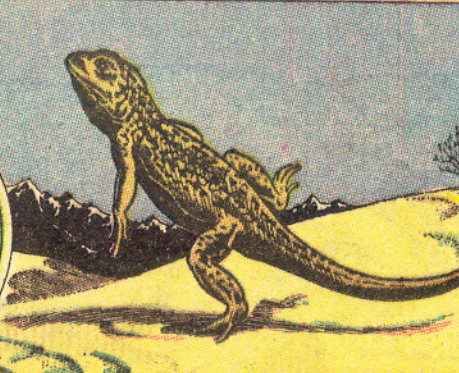


BEFORE HE CAN BE CAUGHT, HE SKIMS SWIFTLY AWAY ON FRINGED 'SAND SHOES' AND DIVES HEADLONG INTO THE SAND



BY THE TIME HIS PURSUER ARRIVES, UMA IS GONE...FOR HE SWIMS THROUGH THE SAND WITH THE GREATEST OF EASE!

LONG, FLAT SCALES ALONG HIS TOES AID HIM IN HIS SWIFT DASHES OVER THE YIELDING DUNES



VALVES IN HIS NOSTRILS PERMIT HIM TO BREATHE BENEATH THE SURFACE WHILE HIDING FROM HIS ENEMIES

WOOD LORE

WOOD LORE

A TIGHT SQUEEZE



IN THE SCORCHING HEAT OF THE SOUTHWESTERN DESERT, FEW CREATURES ARE FOUND EXCEPT SUN-LOVING REPTILES



THE LIZARD CLAN HAS ITS FANCY DAN'S, WHO GO AROUND SPORTING BLUE VESTS, WHITE COLLARS, AND STRIPED SUITS...

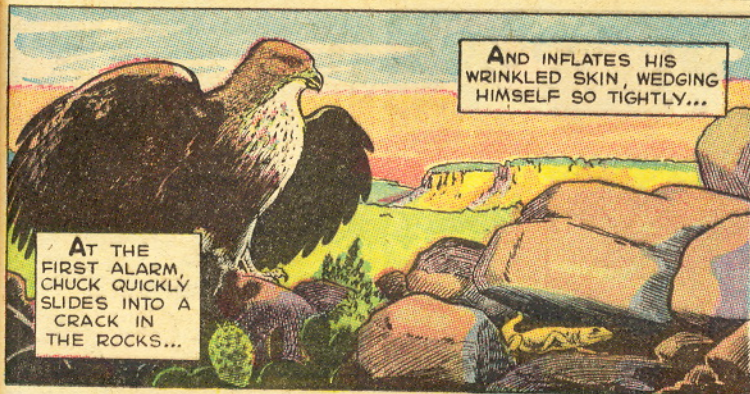
BUT ONE MEMBER OF THIS FAMILY LOOKS AS THOUGH HE'S WEARING A HAND-ME-DOWN SUIT THREE SIZES TOO BIG!



OLD MOTHER NATURE WASN'T BEING UNKIND TO THE CHUCKWALLA WHEN SHE GAVE HIM A DRAPE SHAPE...



FOR THIS TOUGH, SLACK HIDE COMES IN HANDY WHEN TROUBLE'S BREWING...



AND INFLATES HIS WRINKLED SKIN, WEDGING HIMSELF SO TIGHTLY...

AT THE FIRST ALARM, CHUCK SLIDES INTO A CRACK IN THE ROCKS...



THAT EVEN THE STRONGEST ATTACKER CAN'T PRY HIM OUT!



HOWEVER, WHEN AN ENEMY DISCOVERS HIM AND CUTS OFF HIS RETREAT, THIS STOUT REPTILE BRINGS HIS TAIL INTO PLAY AND LASHES IT ABOUT WITH THE FURY OF A MINIATURE DRAGON

BECAUSE OF HIS LOVE FOR DESOLATE REGIONS, THE CHUCKWALLA FEEDS ON PLANTS AND BASKS IN THE SUN IN A QUIET UNDISTURBED WORLD

WOOD LORE

FENCE-RAIL FURIES

THE AMERICAN CHAMELEON, OR ANOLE, CHANGES COLORS FROM DARK BROWN TO EMERALD GREEN, AND WHEN HE'S SPOILING FOR A FIGHT HE ALSO FLASHES A RED WARNING SIGNAL

A PUGNACIOUS CHAMELEON, READY TO DEFEND HIS BASKING PLACE AGAINST INTRUDERS, STALKS ALONG THE TOP RAIL OF A PASTURE FENCE.

NEAR A CORNER HE COMES FACE TO FACE WITH ANOTHER MEMBER OF HIS TRIBE.

REARING ON TIPTOE, HE EXPANDS HIS SCARLET THROAT AND CHALLENGES THE STRANGER...

WHO RUSHES HIM SO SUDDENLY THAT HE IS CAUGHT OFF BALANCE.

TWISTING AND SNAPPING LIKE MINIATURE DRAGONS, THEY WAGE A BLOODLESS BATTLE...

UNTIL THE STRANGER GRABS THE DEFENDER'S TAIL AND GIVES A YANK.

ALTHOUGH UNHURT, THE HUMILIATED CHAMELEON LEAVES THE VICTOR IN POSSESSION OF THE FENCE RAIL, WHILE HE GOES OFF TO SPROUT A NEW TAIL.

INTERESTING PETS MAY BE MADE OF THESE HARMLESS "FENCE" LIZARDS, AND MANY ARE SOLD AT PET SHOPS AND SIDE SHOWS

THE RED THROAT POUCH IS DILATED DURING COURTSHIP AND COMBAT BUT REMAINS HIDDEN IN LOOSE FOLDS OF SKIN AT OTHER TIMES

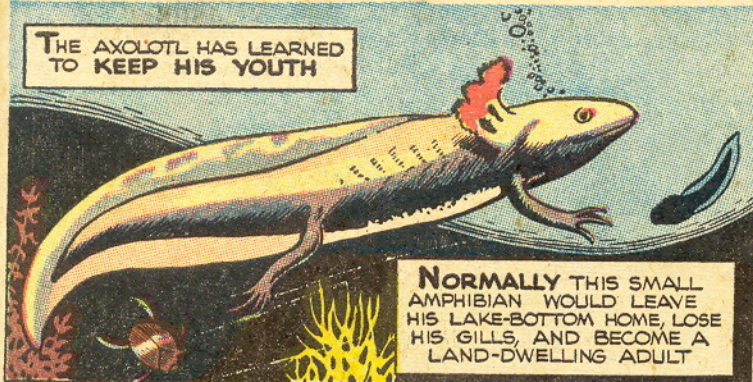
ETERNAL YOUTH



THE SPANISH EXPLORER, PONCE DE LEON, NEVER FOUND HIS "FOUNTAIN OF YOUTH," BUT ONE SMALL WATER DWELLER SEEMS TO POSSESS THE SECRET OF KEEPING YOUTHFUL

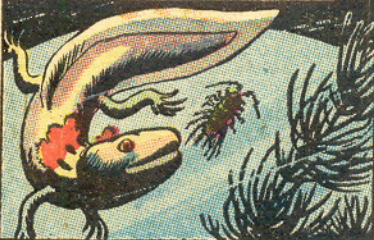
DOWN MEXICO WAY LIVES A SALAMANDER THAT ACCOMPLISHES A FEAT LONG DREAMED OF BY MAN

THE AXOLOTL HAS LEARNED TO KEEP HIS YOUTH



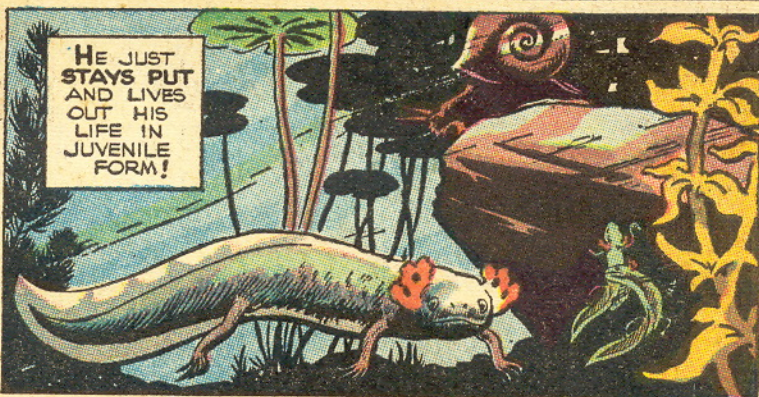
NORMALLY THIS SMALL AMPHIBIAN WOULD LEAVE HIS LAKE-BOTTOM HOME, LOSE HIS GILLS, AND BECOME A LAND-DWELLING ADULT

BUT SOMETIMES THE AXOLOTL IS BORN IN A LAKE WHERE WATER CONDITIONS ARE PERFECT AND FOOD ABUNDANT

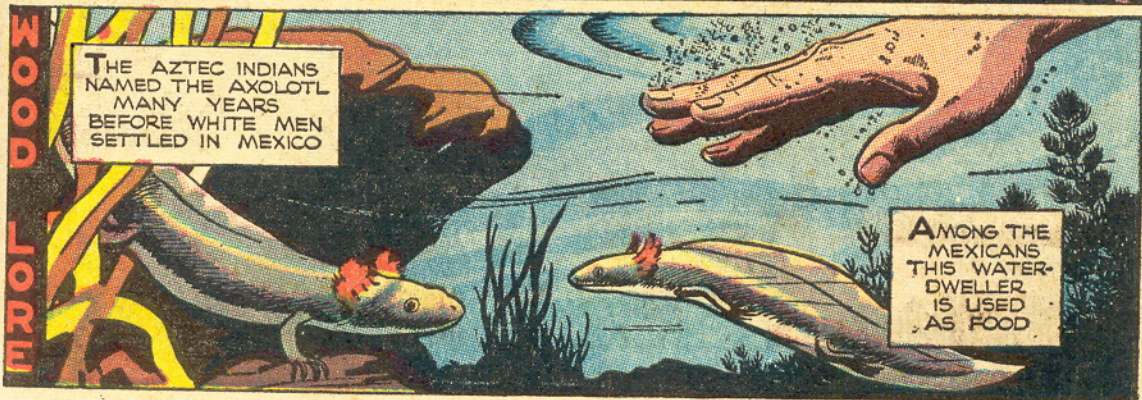


SO, INSTEAD OF GIVING UP THIS WATERY PARADISE AND FACING THE DANGERS OF THE WORLD ABOVE...

HE JUST STAYS PUT AND LIVES OUT HIS LIFE IN JUVENILE FORM!



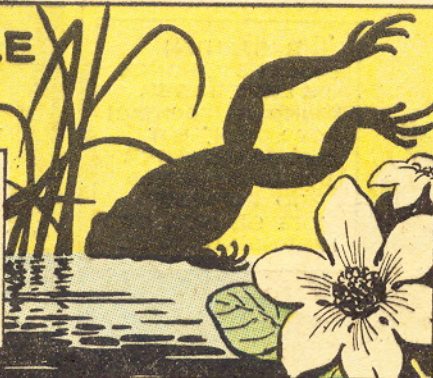
THE AZTEC INDIANS NAMED THE AXOLOTL MANY YEARS BEFORE WHITE MEN SETTLED IN MEXICO



AMONG THE MEXICANS THIS WATER-DWELLER IS USED AS FOOD

THE PUDDLE MISFIT

NORTH AMERICAN
FROGS VARY IN SIZE
FROM THE HALF-INCH
SPRING PEPPER TO
THE GIANT BULLFROG,
BUT NONE EVER
WON ANY BEAUTY
PRIZES



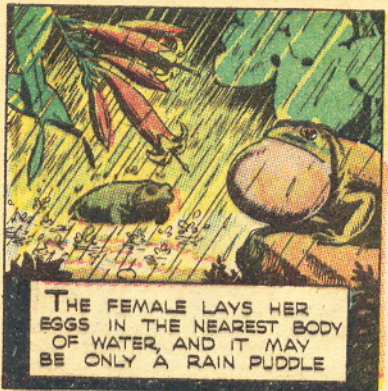
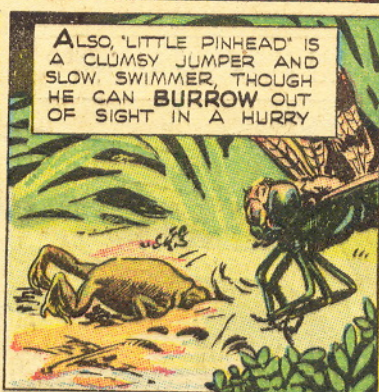
MOST MEMBERS OF
THE FROG FAMILY ARE
COMICAL CHARACTERS

BUT THE MIDGET
NARROW-MOUTHED
FROG IS A
REAL CLOWN!

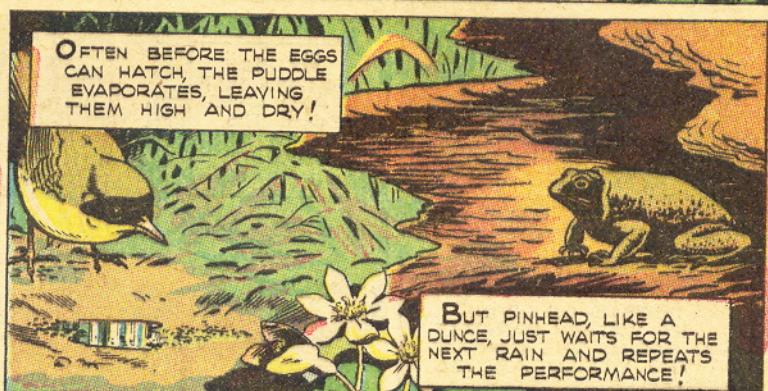


HIS ROUND, SQUAT BODY
IS SEPARATED FROM HIS
POINTED HEAD BY
A THICK ROLL OF SKIN

ALSO, 'LITTLE PINHEAD' IS
A CLUMSY JUMPER AND
SLOW SWIMMER, THOUGH
HE CAN **BURROW** OUT
OF SIGHT IN A HURRY



THE FEMALE LAYS HER
EGGS IN THE NEAREST BODY
OF WATER, AND IT MAY
BE ONLY A RAIN PUDDLE



OFTEN BEFORE THE EGGS
CAN HATCH, THE PUDDLE
EVAPORATES, LEAVING
THEM HIGH AND DRY!

BUT PINHEAD, LIKE A
DUNCE, JUST WAITS FOR THE
NEXT RAIN AND REPEATS
THE PERFORMANCE!

1 SEVERAL HUNDRED EGGS ARE
DEPOSITED BY THE FEMALE
NARROW-MOUTH IN A LARGE
MASS WHICH FLOATS ON THE
WATER'S SURFACE



3 BUT WHEN THEY CHANGE
INTO ADULTS THEY SHRINK
DOWN TO PROPER
'PINHEAD' PROPORTIONS

2 IN THREE DAYS THE TAD-
POLES EMERGE AND RAPIDLY
OUTGROW THEIR PARENTS



MARK TRAIL

by

ED
DODD

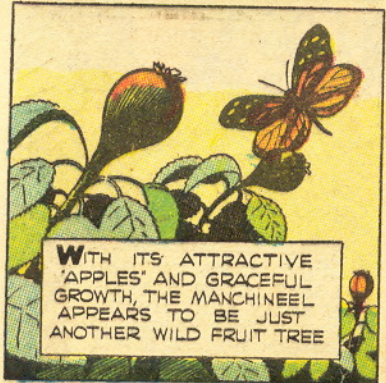


PLANTS

ALL LIVING THINGS ARE DIVIDED INTO TWO KINDS OF ORGANISMS, PLANT AND ANIMAL ... ANIMAL LIFE IS DEPENDENT ON OXYGEN AND FOOD PRODUCED BY PLANTS



IN THE WILDS OF THE SOUTHERN TROPICS GROWS A TREE AS SINISTER AS A RATTLESNAKE



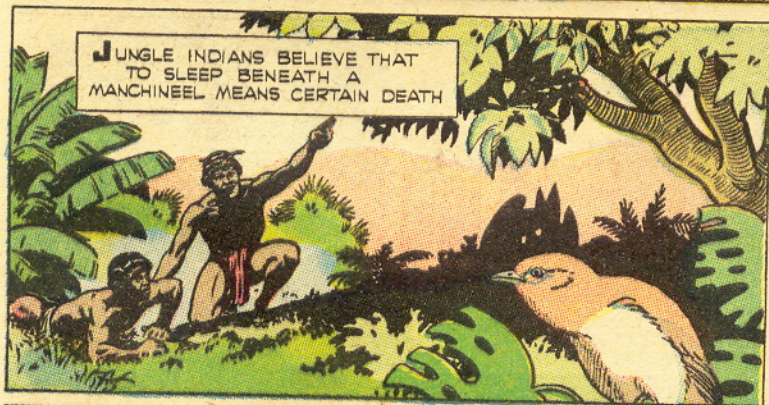
WITH ITS ATTRACTIVE 'APPLES' AND GRACEFUL GROWTH, THE MANCHINEEL APPEARS TO BE JUST ANOTHER WILD FRUIT TREE



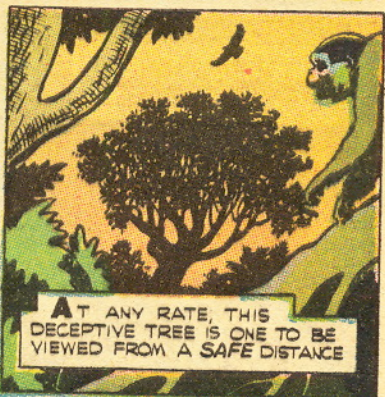
BUT THE MILKY JUICE OF ITS INVITING FRUIT IS A DEADLY POISON...WHILE THE TREE'S SAP, IF SPATTERED INTO AN AXEMAN'S EYE, CAUSES BLINDNESS



EVEN RAINWATER DRIPPING ON A PASSING TRAVELER FROM THE BRANCHES RAISES PAINFUL BLISTERS



JUNGLE INDIANS BELIEVE THAT TO SLEEP BENEATH A MANCHINEEL MEANS CERTAIN DEATH



AT ANY RATE, THIS DECEPTIVE TREE IS ONE TO BE VIEWED FROM A SAFE DISTANCE

WOOD
LORE

SUDDEN DEATH CAME TO MANY WHITE MEN WHO DRANK WATER POISONED BY THE NATIVES WITH BRUISED MANCHINEEL TWIGS



AND FREQUENTLY THE CANNY INDIANS PLACED LUSCIOUS-LOOKING, BUT DEADLY MANCHINEEL 'APPLES' WHERE INVADERS WERE SURE TO FIND THEM!

OXYGEN FACTORIES

BLANKETING THE LAND
IN A MANTLE OF
GREEN, PLANT LEAVES
MAKE ANIMAL LIFE ON
EARTH POSSIBLE

IF THERE WERE NO LEAVES, ALL
ANIMALS MIGHT EVENTUALLY
DISAPPEAR FROM THE
FACE OF THE EARTH

FOR THESE GREEN DYNAMOS
SILENTLY EXHALE THE
VERY "BREATH OF LIFE"

WHILE MAN AND BEAST
BURN UP THE
VITAL ELEMENTS IN
THE EARTH'S ATMOSPHERE

**...TINY PORES ON THE
LEAF'S LOWER SURFACE
STEADILY EMIT OXYGEN
AND WATER VAPOR TO
REFRESH THE "STALE" AIR**

AND THE MAN WHOSE
HOME STANDS BENEATH
A TOWERING TREE...

**...IS LIVING IN THE AIR-
CONDITIONED SHADE OF A
NATURAL "OXYGEN TENT"!**

1 WATER
EVAPORATES
AT THE
LEAF PORES
CREATING
A VACUUM
WITH A
POTENT
SUCTION-LIKE
PULL

CROSS
SECTION
OF A
LEAF

3 THE EXCESS
WATER ESCAPES
AS VAPOR
FROM THE
LEAF, AND THE
AIR, AROUND
THE TREE IS
COOLED BY
EVAPORATION

2 THIS FORCE IS TRANSMITTED DOWN THE STEM
AND TRUNK TO THE ROOTS, CAUSING WATER TO BE
DRAWN UP THE HAIR-LIKE COLUMNS OF THE SAPWOOD

THE EXPLOSIVE VIOLET

THE COMPETITION AMONG PLANTS FOR FOOD AND MOISTURE HAS BROUGHT ABOUT STRANGE METHODS OF COLONIZATION

AND EVEN THE MOST FRAGILE PLANTS MAY CONCEAL UNEXPECTED POWER

ALTHOUGH IT LOSES MANY BLOSSOMS TO FLOWER PICKERS, THE SHY VIOLET ALWAYS KEEPS ONE BLOOM IN RESERVE

HIDDEN UNDER LOOSE LEAF LITTER, THE FLOWER RIPENS INTO SEED

WHEN THE FRUIT MATURES THE HARDENING STEM LIFTS IT OUT OF ITS HIDING PLACE

ONCE IN THE OPEN AIR, THE FRUIT DIVIDES INTO THREE SEGMENTS, AND EACH OF THESE SPLITS DOWN THE CENTER

SUDDENLY THE INCREASING PRESSURE FIRES THE LOAD INTO THE AIR...

AS THE SIDES OF THE POD DRY AND CONTRACT, THEY EXERT A STEADY SQUEEZE ON THE EXPOSED SEEDS

AND THE SEEDS, READY TO SPROUT INTO NEW PLANTS, SCATTER IN ALL DIRECTIONS!

THE VIOLET DOES NOT HOLD A PATENT ON ITS SEED-SHOOTING MECHANISM, FOR JEWEL-WEED, WITCH HAZEL, AND WILD GERANIUM ALSO SCATTER THEIR SEEDS BY EXPLOSIVE FORCE

MIGHTY MUSHROOM

AS THEY FIGHT TO HOLD THEIR OWN IN THE WORLD, GROWING PLANTS MUST OVERCOME MANY OBSTACLES

GROWING TREES SOMETIMES SPLIT GRANITE BOULDERS AS THEY FORCE THEIR ROOTS DOWN INTO THE GROUND

THOUGH THE TUCKAHOE SPROUTS FROM A TINY SPORE, IT RAPIDLY GROWS TO A HUGE MASS

BUT THE REAL "SAMSON" OF THE PLANT WORLD IS A LOWLY FUNGUS WHICH GROWS BENEATH THE SOIL

SEEMINGLY THERE IS NO STOPPING THIS POWERFUL FUNGUS AS IT PUSHES TOWARD THE SURFACE

SHOULD SLABS OF ROCK OR MAN-MADE PAYMENT BAR THE WAY...

IT FINALLY GIVES WAY AND CRACKS AS THE MIGHTY TUCKAHOE COMPLETES ITS GROWTH!

THE PLANT EXERTS STEADY PRESSURE AND THE OBSTACLE IS FORCED UPWARD

THE WHITE, FLOUR-LIKE CONTENTS OF THIS FUNGUS MAY BE EATEN RAW, ROASTED IN THE HUSK, OR GROUND INTO POWDER FOR BAKING BREAD...

EVEN TODAY PEOPLE SEEK OUT THE EDIBLE TUCKAHOE, WHICH IS ALSO KNOWN AS "INDIAN LOAF" AND "INDIAN BREAD"

ISLAND BUILDERS

FOR CENTURIES, THE TENACIOUS MANGROVE OF THE EVERGLADES HAS WAGED A STEADY BATTLE TO HOLD BACK THE SEA'S ENCROACHING TIDES

LIKE A GOOD PARENT WHO SENDS HER CHILDREN OUT INTO THE WORLD EQUIPPED TO FACE ITS CARES AND PROBLEMS...

THE MATURE MANGROVE DROPS ITS SEEDS UPON THE WATERS COMPLETE WITH A SHOOT, EMBRYONIC ROOT SYSTEM, AND A STREAMLINED SHELL THAT CAUSES IT TO DRIFT IN AN UPRIGHT POSITION

SOON THE INFANT PLANT IS CAUGHT IN AN EDDY WHERE CURRENTS HAVE FORMED A SUBMERGED MOUND OF DEAD CORAL, SHELL FRAGMENTS, AND SAND

WHEN THE HEAVY TIP OF THE SEED REACHES SHALLOW WATER AND TOUCHES BOTTOM, IT SENDS DOWN A ROOT FOR ANCHORAGE...

AND RAPIDLY TAKES A FIRM HOLD AS THE SHOOT THRUSTS ABOVE THE SURFACE

AS THE YOUNG MANGROVE SPREADS AND SENDS OUT ADDITIONAL ROOTS, OYSTERS AND SHELLFISH COLLECT ON THESE WOODY 'LEGS'

WITH EACH INCOMING TIDE MORE SAND AND SHELL ARE TRAPPED BY THIS NATURAL BREAKWATER, AND THE YOUNG PLANT BECOMES THE KEYSTONE OF A NEW MANGROVE ISLAND

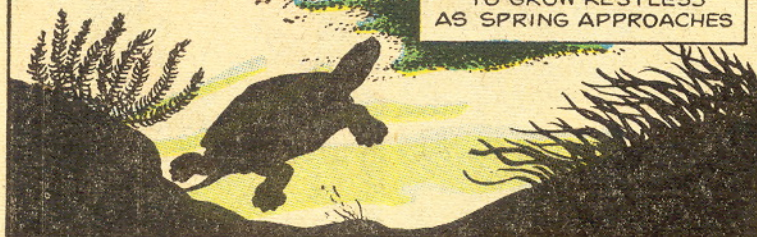
IN EVERGLADES NATIONAL PARK SOME OF THE WEST COAST MANGROVES REACH A HEIGHT OF NINETY FEET AND A GIRTH OF SIX OR SEVEN FEET

BESIDES FORMING A STRONGHOLD AGAINST STORM TIDES, THEIR INTERLACING ROOTS ARE PROTECTION FOR MYRIADS OF FISH, OYSTERS, SNAILS, AND OTHER MARINE LIFE...

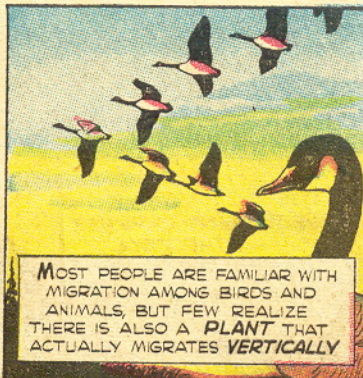
AND THE TANGLED BOUGHS HARBOR GREAT HORDS OF EGRETS, PELICANS, IBIS, HERONS, SPOONBILLS, AND A HOST OF MIGRATING BIRDS

DIVING DUCKWEED

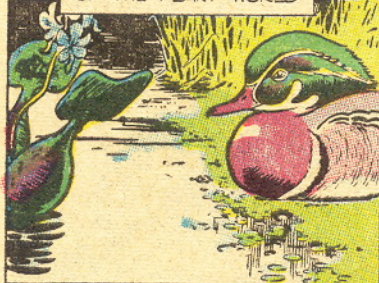
IN THE WINTERING GROUNDS, THE CREATURES THAT MIGRATE BEGIN TO GROW RESTLESS AS SPRING APPROACHES



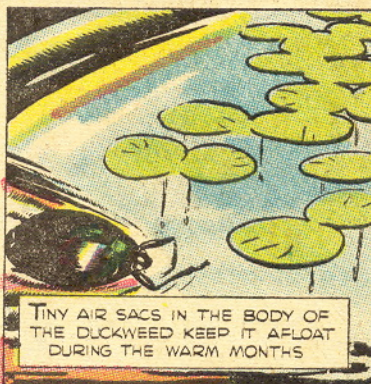
MOST PEOPLE ARE FAMILIAR WITH MIGRATION AMONG BIRDS AND ANIMALS, BUT FEW REALIZE THERE IS ALSO A PLANT THAT ACTUALLY MIGRATES VERTICALLY



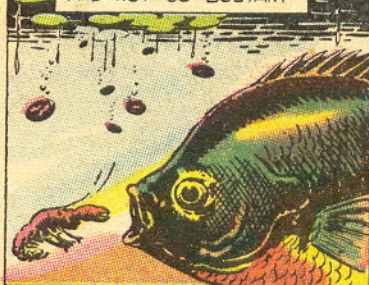
THE DUCKWEED WHICH BLANKETS THE SURFACE OF LOWLAND WATERS, IS THE 'SUBMARINE' OF THE PLANT WORLD



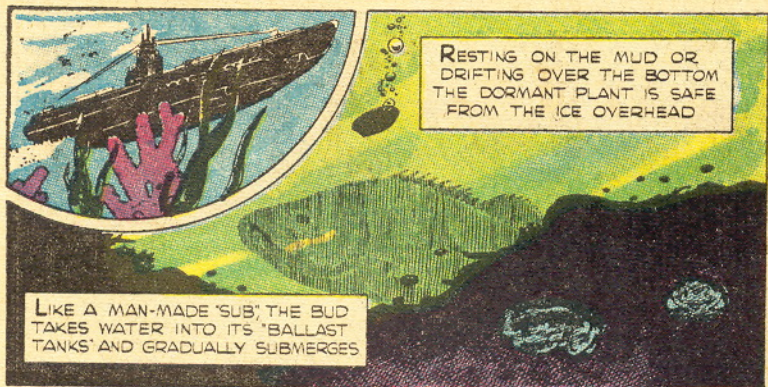
TINY AIR SACS IN THE BODY OF THE DUCKWEED KEEP IT AFLOAT DURING THE WARM MONTHS



BUT THE 'WINTER BUDS', WHICH FORM EACH FALL, ARE HEAVY WITH STORED-UP FOOD AND NOT SO BULVANT

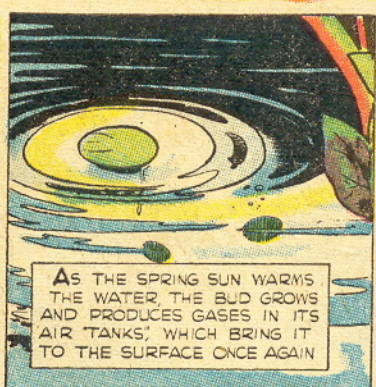


RESTING ON THE MUD OR DRIFTING OVER THE BOTTOM THE DORMANT PLANT IS SAFE FROM THE ICE OVERHEAD

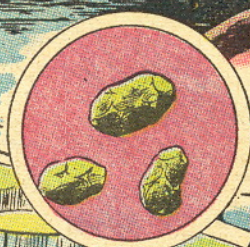


LIKE A MAN-MADE 'SUB', THE BUD TAKES WATER INTO ITS 'BALLAST TANKS' AND GRADUALLY SUBMERGES

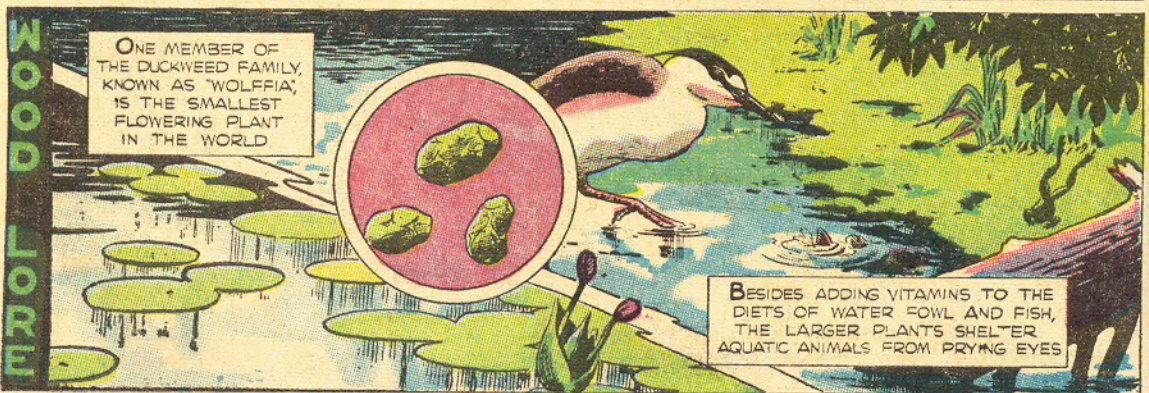
AS THE SPRING SUN WARMS THE WATER THE BUD GROWS AND PRODUCES GASES IN ITS AIR 'TANKS', WHICH BRING IT TO THE SURFACE ONCE AGAIN



ONE MEMBER OF THE DUCKWEED FAMILY, KNOWN AS 'WOLFFIA', IS THE SMALLEST FLOWERING PLANT IN THE WORLD



BESIDES ADDING VITAMINS TO THE DIETS OF WATER FOWL AND FISH, THE LARGER PLANTS SHELTER AQUATIC ANIMALS FROM PRYING EYES



TREES KNEES

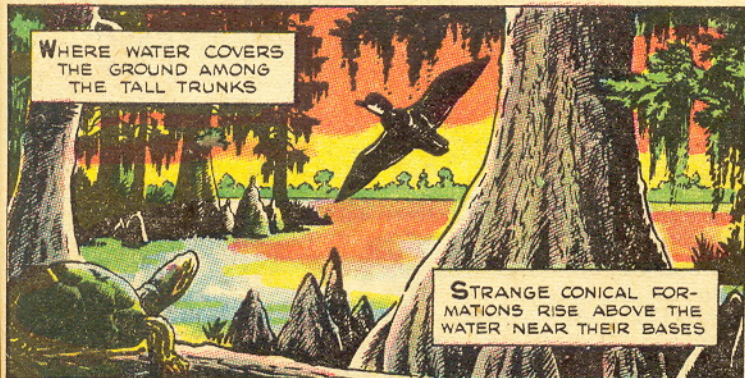
OVERHANGING THE
DIM ISLES OF THE
REMOTE BOGS THE
MOSS-HUNG BOUGHS OF
THE ANCIENT CYPRESS
SHADE THE POOL
BELOW



THE BALD CYPRESS OF THE
EASTERN SWAMP LANDS IS
A HOLDOVER FROM
PREHISTORIC TIMES

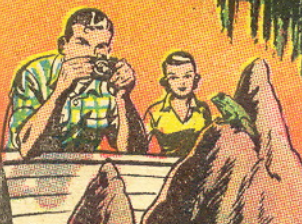
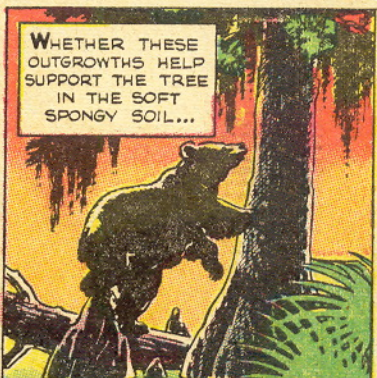


WHERE WATER COVERS
THE GROUND AMONG
THE TALL TRUNKS

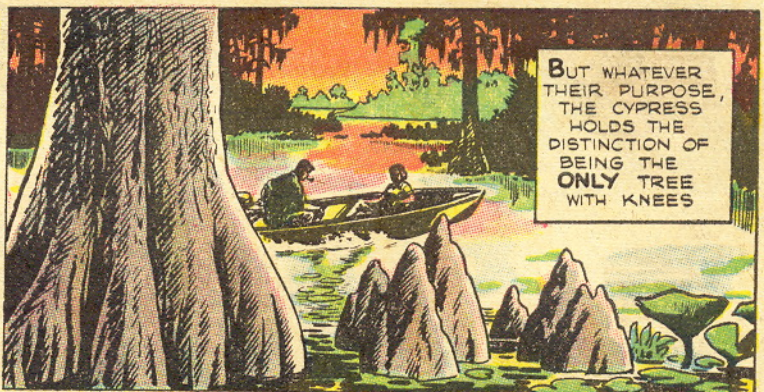


STRANGE CONICAL FOR-
MATIONS RISE ABOVE THE
WATER NEAR THEIR BASES

WHETHER THESE
OUTGROWTHS HELP
SUPPORT THE TREE
IN THE SOFT
SPONGY SOIL...

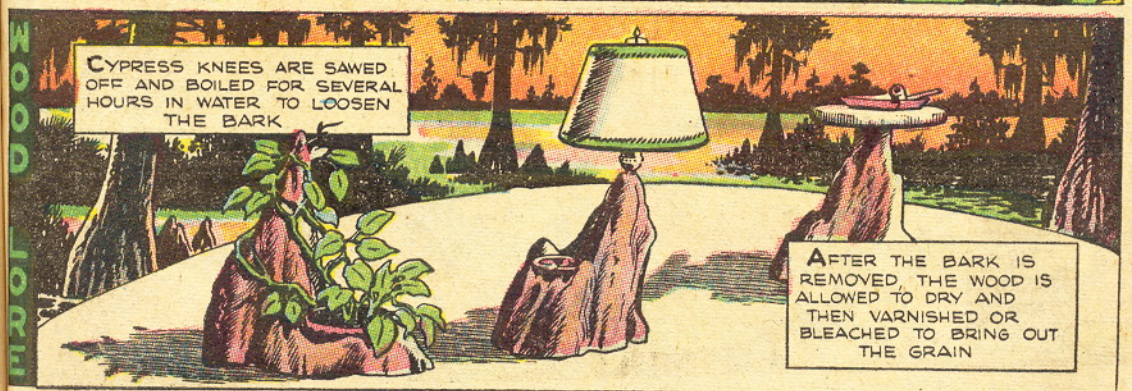


OR PERMIT THE INTAKE OF
OXYGEN FOR THE SUBMERGED
ROOTS IS STILL UNCERTAIN



BUT WHATEVER
THEIR PURPOSE,
THE CYPRESS
HOLDS THE
DISTINCTION OF
BEING THE
ONLY TREE
WITH KNEES

CYPRESS KNEES ARE SAWED
OFF AND BOILED FOR SEVERAL
HOURS IN WATER TO LOOSEN
THE BARK



AFTER THE BARK IS
REMOVED, THE WOOD IS
ALLOWED TO DRY AND
THEN VARNISHED OR
BLEACHED TO BRING OUT
THE GRAIN

THE TWISTED PINE

FOR REASONS YET UNDETERMINED BY SCIENCE CERTAIN INDIVIDUALS OF SEVERAL TREE FAMILIES GROW IN A SPIRAL WITH A GRAIN LIKE A BARBER'S POLE...

IN THE RUGGED WINDSWEEP ROCKIES TWO NEIGHBORING PINES HAVE GROWN UP TO FACE THE ELEMENTS

SEVERAL YEARS BEFORE THESE TWO SEEDS FELL FROM THE SAME CONE, ONE DROPPED INTO THE LUSH VEGETATION OF A VALLEY...

THE OTHER, BORNE BY A RESTLESS BIRD, FELL HIGH UP THE MOUNTAINSIDE AT TIMBERLINE

AND NOW, THOUGH THE BROTHER TREES ARE THE SAME AGE, THE TIMBERLINE PINE IS GNARLED AND BENT, WHILE THE VALLEY PINE IS STRAIGHT AND PROUD!

BUT UP ON THE BLEAK ROCKY MOUNTAINSIDE THE TIMBERLINE BROTHER WEATHERS THE SCREAMING TEMPEST

HOWEVER, A HOWLING WINDSTORM STRIKES THE MOUNTAIN RANGE, AND AS IT ROARS DOWN THE SLOPES THE PROUD YOUNG GIANT BELOW FALLS WITH A MIGHTY CRASH!

FOR HIS GNARLED TRUNK WAS MOLDED BY CONSTANT STRUGGLE AGAINST THIS **VERY** ENEMY, AND NOW HE COMES THROUGH UNSCATHED!

THIS STRANGE TWISTING OF A TREE'S TRUNK IS MOST EVIDENT AT TIMBERLINE WHERE THE FIGHT FOR SURVIVAL IS FURTHER BURDENED BY CONTINUAL BUFFETING FROM CONSTANT WINDS

THOUGH THESE TIMBERLINE SENTINELS ARE TORTUROUSLY WARPED AND TWISTED, THEIR NATURAL GRACE AND BEAUTY IS OFTEN ENHANCED BY THEIR WEIRD, ABSTRACT FORMATIONS

SPLASH PLANTS

EACH SPORE CASE OF BIRD'S-NEST FUNGUS IS EQUIPPED WITH A "DRAG LINE" WHICH CATCHES ON NEARBY PLANTS TO HALT ITS FLIGHT

THE STEADY DRUMBEAT OF FALLING RAIN-DROPS ON FOREST FLOORS BRINGS A WELCOME DRINK TO THIRSTY PLANTS

BUT TO A SMALL FUNGUS GROWING AMONG THE FALLEN LEAVES THE RAIN HAS A SPECIAL MEANING

AS THE FIRST FEW DROPS MOISTEN THE DELICATE CUPS OF THE BIRD'S-NEST FUNGUS, A STARTLING CHANGE BEGINS

TINY "SPORE CASES" ATTACHED TO THE SLOPING SIDES ARE LOOSENEED...

AND WHEN THE FIRST BIG DROP OF RAIN SCORES A BULL'S EYE IN THE CENTER OF THE CUP...

THE SHINY 'PODS' ARE SPLASHED OUT IN ALL DIRECTIONS TO LAND SEVERAL FEET AWAY

THEN TINY SPORES WITHIN THESE CASES SPROUT...AND START AN EVER-SPREADING RING OF 'SPLASH' PLANTS

WOOD LORE

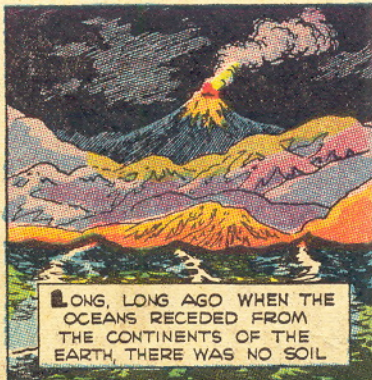
1 THE SPEED WITH WHICH A SPORE CASE IS SPLASHED FROM A FUNGUS CUP CAUSES ITS 'ANCHOR' TO WRAP AROUND PLANT LEAVES

2 HERE THE SPORE CASE HANGS UNTIL A BROWSING ANIMAL EATS THE PLANT

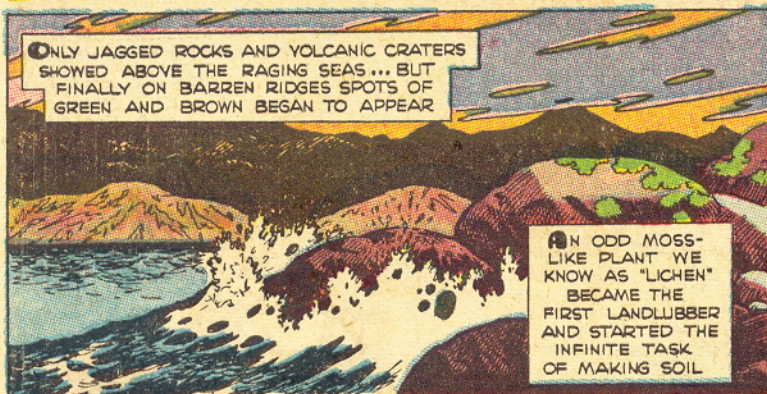
3 THEN THE ANIMAL'S DIGESTION SOFTENS THE HARD 'POD' THEREBY FREEING THE SPORES, WHICH SPROUT FASTER THAN SEEDS WHEN THEY MEET THE SOIL

PIONEER PLANTS

WHEREVER BARE, DRY ROCK LIES EXPOSED, LICHEN PLANTS ARE USUALLY FOUND CLINGING TO THE BARREN SURFACE

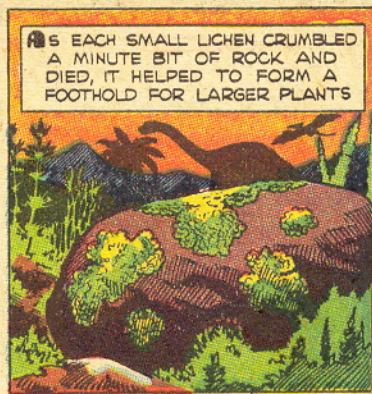


LONG, LONG AGO WHEN THE OCEANS RECEDED FROM THE CONTINENTS OF THE EARTH, THERE WAS NO SOIL



ONLY JAGGED ROCKS AND VOLCANIC CRATERS SHOWED ABOVE THE RAGING SEAS... BUT FINALLY ON BARREN RIDGES SPOTS OF GREEN AND BROWN BEGAN TO APPEAR

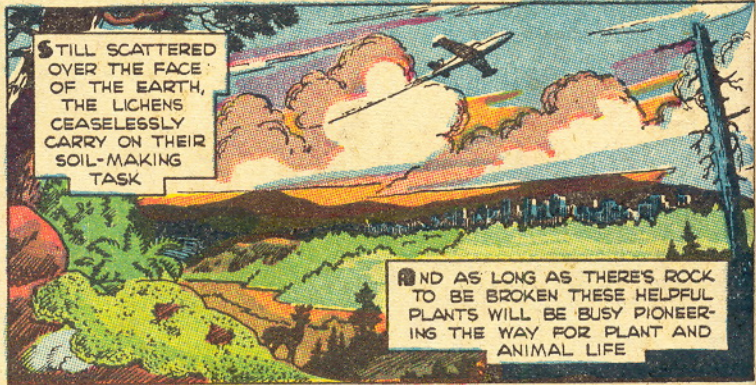
AN ODD MOSS-LIKE PLANT WE KNOW AS "LICHEN" BECAME THE FIRST LANDLUBBER AND STARTED THE INFINITE TASK OF MAKING SOIL



AS EACH SMALL LICHEN CRUMBLLED A MINUTE BIT OF ROCK AND DIED, IT HELPED TO FORM A FOOTHOLD FOR LARGER PLANTS

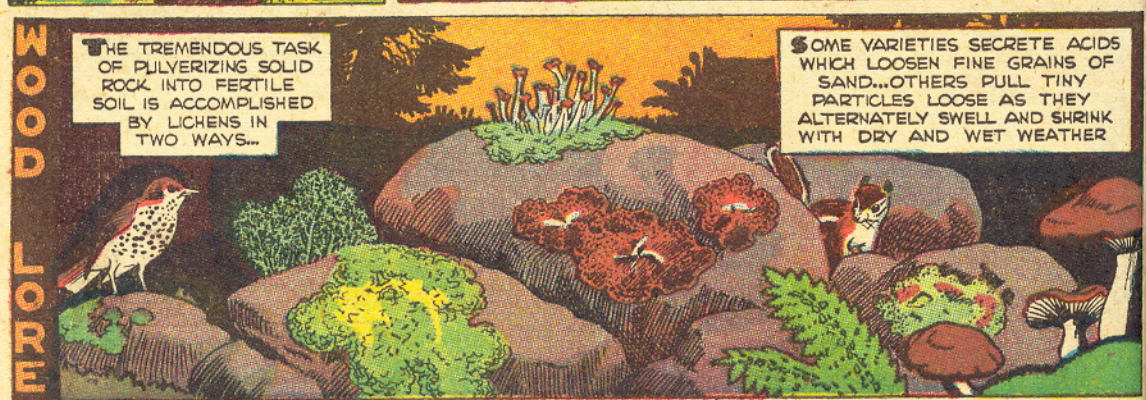


NOW GREAT FORESTS STAND WHERE THESE HARDY PIONEERS PAVED THE WAY



STILL SCATTERED OVER THE FACE OF THE EARTH, THE LICHENS CEASELESSLY CARRY ON THEIR SOIL-MAKING TASK

AND AS LONG AS THERE'S ROCK TO BE BROKEN THESE HELPFUL PLANTS WILL BE BUSY PIONEERING THE WAY FOR PLANT AND ANIMAL LIFE



THE TREMENDOUS TASK OF PULVERIZING SOLID ROCK INTO FERTILE SOIL IS ACCOMPLISHED BY LICHENS IN TWO WAYS...

SOME VARIETIES SECRETE ACIDS WHICH LOOSEN FINE GRAINS OF SAND... OTHERS PULL TINY PARTICLES LOOSE AS THEY ALTERNATELY SWELL AND SHRINK WITH DRY AND WET WEATHER

WOOD FORE

WOOD FORE

DESERT STORAGE TANKS

THE WATER
STORED IN THE
LARGE BARREL
CACTUS HAS
OFTEN SAVED
LOST TRAVELERS
FROM DEATH

LIVING IN THE HOSTILE WASTES
OF THE DESERT, THE CACTUS
FAMILY HAS DEVELOPED MAR-
VELOUS METHODS OF EXISTENCE

ALL PLANTS MUST HAVE
WATER, AND RAIN
COMES SELDOM TO THIS
SUN-PARCHED LAND

IN SOME SPECIES, THE STEMS
GROW THICK AND FLESHY
SO THEY CAN HOLD GREAT
AMOUNTS OF WATER

SO THE CACTUS
PRODUCES NO
LEAVES, FOR WATER
VAPOR WOULD
ESCAPE THROUGH
THEIR MANY PORES

AND TO PROTECT ITS PRECIOUS
STORES FROM BURGLARS...

THE CACTUS WEARS A SPINY
SUIT OF ARMOR WHICH QUICKLY
DISCOURAGES THIRSTY ANIMALS

TO OBTAIN WATER
FROM THE BARREL
CACTUS, SLICE OFF
THE TOP AND
POUND THE
INTERIOR TO
A PULP...

IN A SHORT WHILE WATER RELEASED
FROM THE CRUSHED CENTER WILL
PROVIDE A REFRESHING DRINK

MARK TRAIL

by **ED DOBO**

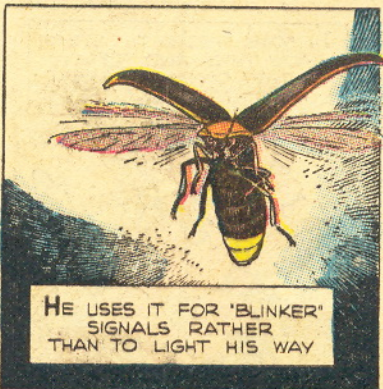
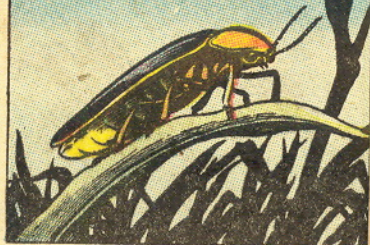


INSECTS

ALTHOUGH THERE ARE SOME 600,000 KNOWN SPECIES OF INSECTS IN THE WORLD, SCIENTISTS ARE STILL DISCOVERING NEW VARIETIES IN REMOTE PARTS OF THE EARTH

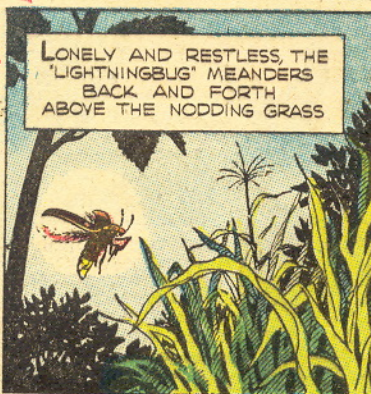


THOUGH THE FIREFLY CARRIES A FLASHLIGHT ON HIS TWILIGHT JAUNTS...



HE USES IT FOR 'BLINKER' SIGNALS RATHER THAN TO LIGHT HIS WAY

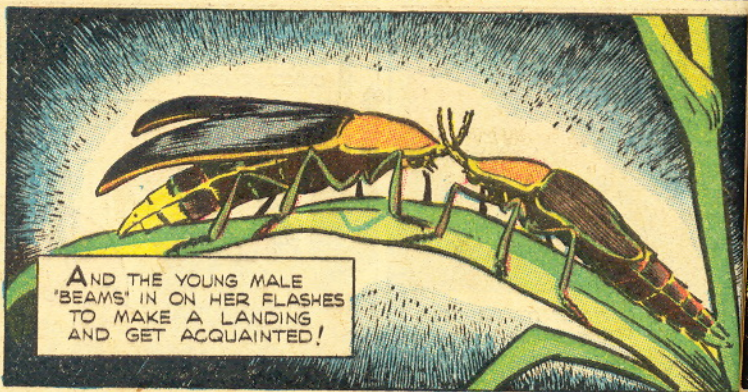
LONELY AND RESTLESS, THE 'LIGHTNINGBUG' MEANDERS BACK AND FORTH ABOVE THE NODDING GRASS



WHILE, ON A BLADE BELOW, A FEMALE FIREFLY PICKS UP THE MESSAGE

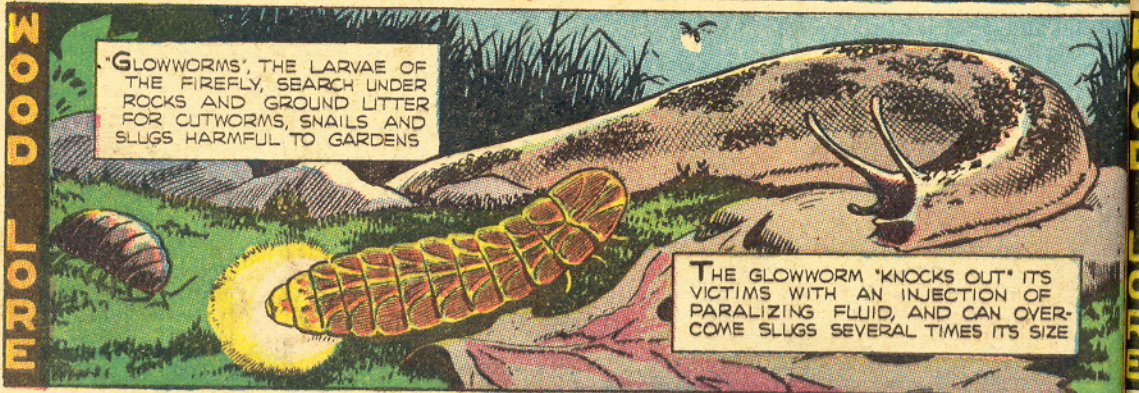


SHE TAKES A 'SHINE' TO THE SILENT CALLER AND SENDS BACK AN ANSWER



AND THE YOUNG MALE 'BEAMS' IN ON HER FLASHES TO MAKE A LANDING AND GET ACQUAINTED!

'GLOWWORMS', THE LARVAE OF THE FIREFLY, SEARCH UNDER ROCKS AND GROUND LITTER FOR CUTWORMS, SNAILS AND SLUGS HARMFUL TO GARDENS



THE GLOWWORM 'KNOCKS OUT' ITS VICTIMS WITH AN INJECTION OF PARALYZING FLUID, AND CAN OVERCOME SLUGS SEVERAL TIMES ITS SIZE

WOOD LORE

WOOD LORE

A SWEET RECEPTION

FROM DAYLIGHT UNTIL DARK THE BUMBLEBEE HURRIES FROM BLOSSOM TO BLOSSOM COLLECTING NECTAR AND POLLEN FOR HUNGRY MOUTHS AT HOME

DOWN IN AN OLD CHIPMUNK BURROW THE BUSY HUM OF THE BUMBLEBEE COLONY WARNS INTRUDERS AWAY

SELDOM ARE THESE FORMIDABLE INSECTS BOTHERED BY ENEMIES, FOR THEIR STINGING ATTACK WILL ROUT THE LARGEST POE!

BUT OCCASIONALLY A PARASITE BEE, WHICH LOOKS VERY MUCH LIKE THE KEEPERS OF THE NEST...

WILL TRY TO STEAL INSIDE AND LEAVE HER EGGS FOR THE INDUSTRIOUS WORKERS TO CARE FOR

STRANGE TO SAY, THE INTERLOPER IS NOT OPENLY ATTACKED WITH DEADLY STINGS!

BUT THE WORKERS SLIP UP BEHIND HER AND DAUB HER WITH HONEY!

THIS SWEET RECEPTION TURNS HER INTO A WET AND STICKY MESS, AND SHE DEPARTS IN HUMILIATION!

NATURE HAS PROVIDED THE BUMBLEBEE WITH "POLLEN BASKETS", WHICH ARE SMOOTH SPOTS ON THE HIND LEGS SURROUNDED BY HAIRS



AS THE BEE CRAWLS INTO A FLOWER, HER FUR ALSO GETS COATED WITH POLLEN GRAINS, WHICH ARE BRUSHED OFF ON THE NEXT FLOWER

AND THUS THE BUMBLEBEE PLAYS AN IMPORTANT PART IN CROSS-POLLINATION AND REPRODUCTION OF PLANTS!

FUNGUS FARMERS

PROTECTED BY TOUGH, SPINY ARMOR, THE PEACE-LOVING FUNGUS ANT GOES ABOUT HIS FARMING UNDISTURBED

SAFELY HIDDEN BENEATH THE FOREST FLOOR, A COLONY OF FUNGUS ANTS CAREFULLY TEND THEIR GARDEN

HER FOLLOWERS CULTIVATE A CROP CAPABLE OF FEEDING A SETTLEMENT OF SEVERAL HUNDRED

FROM ONE TINY MOUTHFUL OF FUNGUS BROUGHT BY THE QUEEN "MOTHER" WHEN SHE STARTED THE NEW COLONY...

AND THE TINY FARMERS ARE CAREFUL TO ADD FERTILIZER FREQUENTLY TO INSURE GOOD GROWTH

THEY CHEW BITS OF LEAVES INTO PULP TO MULCH THE GRAY-GREEN GARDEN

UNLESS THEY COULD RUN OVER AND BORROW A NEW "STARTER" FROM A NEIGHBOR'S GARDEN!

SINCE THEY EAT NO OTHER FOOD, LOSS OF THE CROP WOULD MEAN STARVATION...

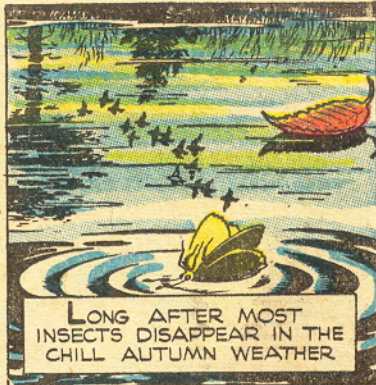
ONE SPECIES OF FUNGUS ANTS CARRIES LEAF-CUTTINGS OVER ITS HEAD IN SUCH A MANNER THAT IT HAS BEEN NAMED "PARASOL ANT"

SOME OF THESE LEAF-CUTTING FUNGUS ANTS CAUSE GREAT DAMAGE TO TREES IN THEIR LOCALITY BY COMPLETELY STRIPPING THEM OF FOLIAGE

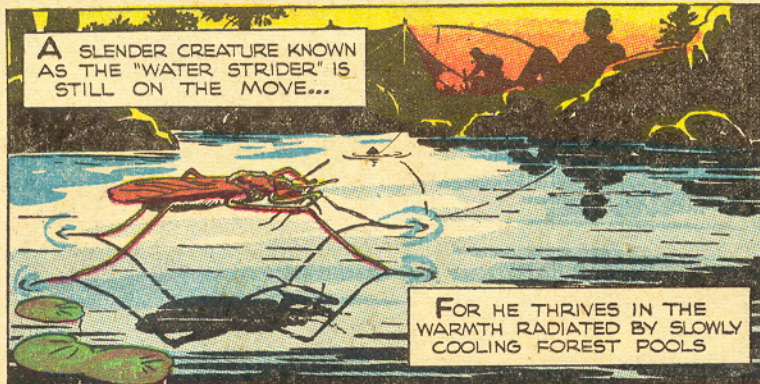
THE WATER WALKER



WITH THE FIRST HARD FROST OF FALL, INSECTS SEEK SHELTER OR LEAVE THEIR EGGS AND PUPAE IN HIDDEN NOOKS TO PASS THE WINTER MONTHS

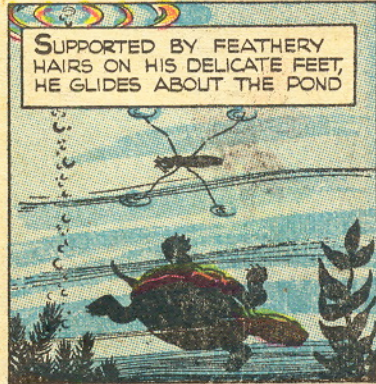


LONG AFTER MOST INSECTS DISAPPEAR IN THE CHILL AUTUMN WEATHER



A SLENDER CREATURE KNOWN AS THE "WATER STRIDER" IS STILL ON THE MOVE...

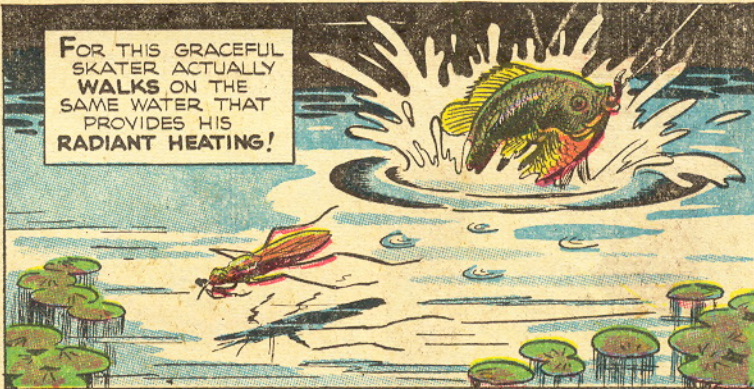
FOR HE THRIVES IN THE WARMTH RADIATED BY SLOWLY COOLING FOREST POOLS



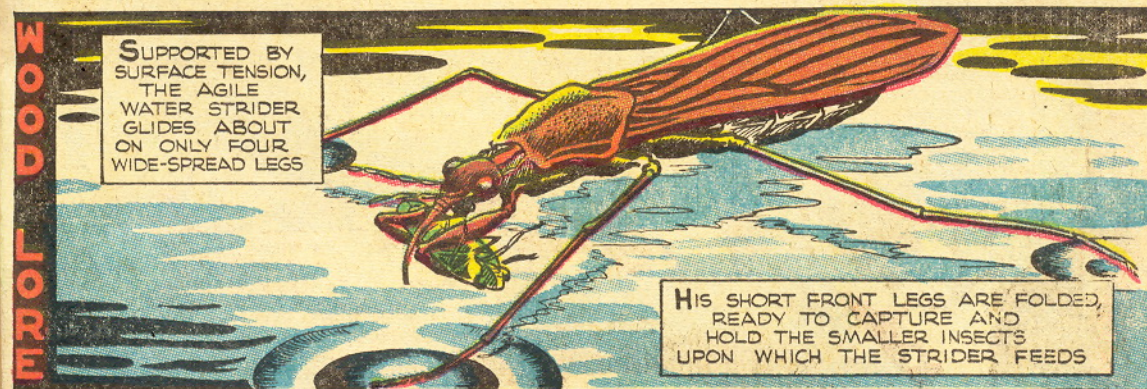
SUPPORTED BY FEATHERY HAIRS ON HIS DELICATE FEET, HE GLIDES ABOUT THE POND



NEVER GETTING HIS FEET WET AS HE RUNS AND JUMPS ON THE GLASSY SURFACE



FOR THIS GRACEFUL SKATER ACTUALLY WALKS ON THE SAME WATER THAT PROVIDES HIS RADIANT HEATING!

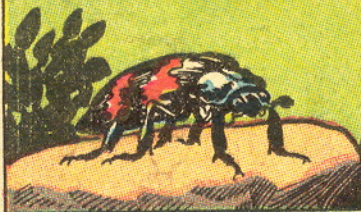


SUPPORTED BY SURFACE TENSION, THE AGILE WATER STRIDER GLIDES ABOUT ON ONLY FOUR WIDE-SPREAD LEGS

HIS SHORT FRONT LEGS ARE FOLDED, READY TO CAPTURE AND HOLD THE SMALLER INSECTS UPON WHICH THE STRIDER FEEDS

THE GRAVE DIGGER

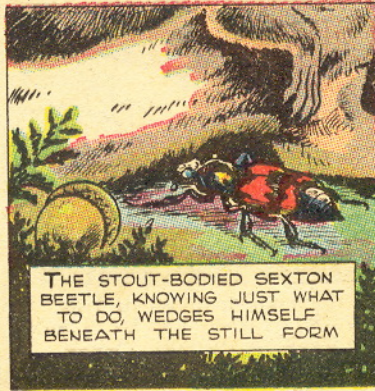
NATURE'S
SANITATION
DEPARTMENT IS
CONTINUALLY
AT WORK
CLEANING THE
LANDSCAPE
OF ORGANIC
DEBRIS



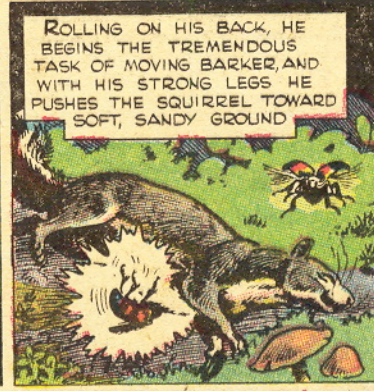
WHEN 'OLD BARKER', THE GREY
SQUIRREL, COMES TO THE END
OF HIS CAREFREE LIFE, HIS
RELATIVES PAY NO ATTENTION
WHATSOEVER



BUT HE
STILL HAS
SOMEONE
TO TAKE
CARE
OF HIM



THE STOUT-BODIED SEXTON
BEETLE, KNOWING JUST WHAT
TO DO, WEDGES HIMSELF
BENEATH THE STILL FORM



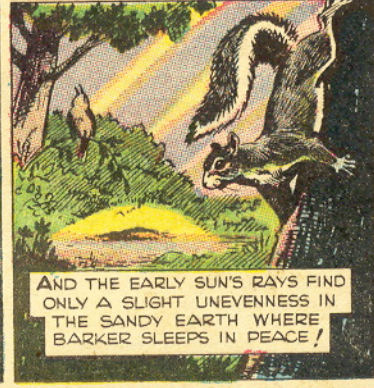
ROLLING ON HIS BACK, HE
BEGINS THE TREMENDOUS
TASK OF MOVING BARKER, AND
WITH HIS STRONG LEGS HE
PUSHES THE SQUIRREL TOWARD
SOFT, SANDY GROUND



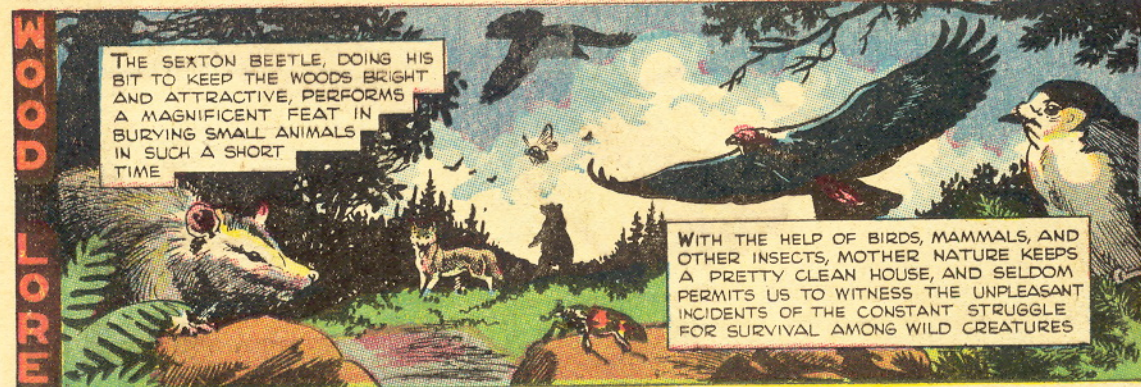
ASSISTED BY A FEMALE, THE
BEETLE BEGINS EXCAVATING
THE SOFT DIRT BENEATH
THE FURRY BODY



AS THE TIRELESS WORKERS
DIG, BARKER SINKS STEADILY
FROM SIGHT TO HIS LAST
RESTING PLACE



AND THE EARLY SUN'S RAYS FIND
ONLY A SLIGHT UNEVENNESS IN
THE SANDY EARTH WHERE
BARKER SLEEPS IN PEACE!

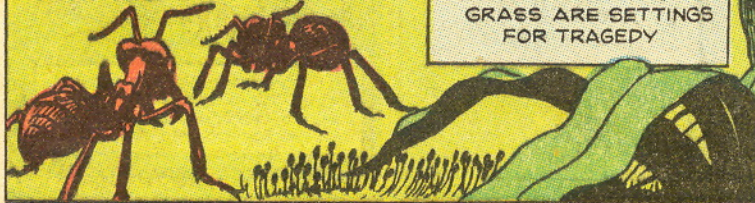


THE SEXTON BEETLE, DOING HIS
BIT TO KEEP THE WOODS BRIGHT
AND ATTRACTIVE, PERFORMS
A MAGNIFICENT FEAT IN
BURYING SMALL ANIMALS
IN SUCH A SHORT
TIME

WITH THE HELP OF BIRDS, MAMMALS, AND
OTHER INSECTS, MOTHER NATURE KEEPS
A PRETTY CLEAN HOUSE, AND SELDOM
PERMITS US TO WITNESS THE UNPLEASANT
INCIDENTS OF THE CONSTANT STRUGGLE
FOR SURVIVAL AMONG WILD CREATURES

BATTLE OF THE GRASSROOTS

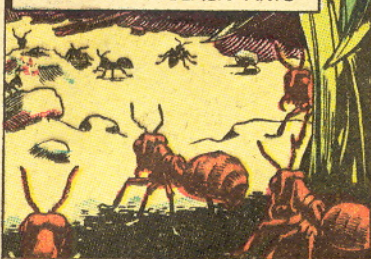
THE STRUGGLE FOR SURVIVAL GOES ON ENDLESSLY, AND EVEN THE MINIATURE JUNGLES OF TANGLED GRASS ARE SETTINGS FOR TRAGEDY



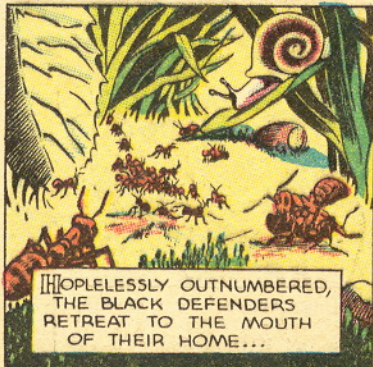
IN THE TINY WORLD OF THE INSECT, LIVES A COLONY OF "AMAZON" ANTS, WHO START OUT TO KIDNAP THE YOUNG OF OTHER ANTS FOR SLAVES...



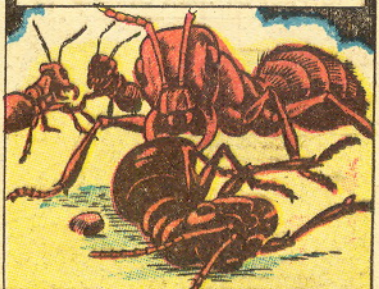
THEIR SCOUTS LOCATE THE PREY, AND THEY CLOSE IN ON A NEST OF UNSUSPECTING BLACK ANTS



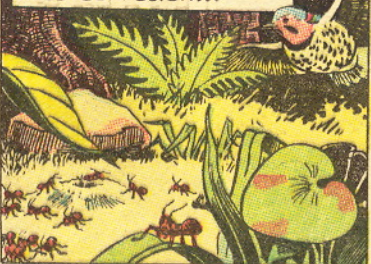
HOPELESSLY OUTNUMBERED, THE BLACK DEFENDERS RETREAT TO THE MOUTH OF THEIR HOME...



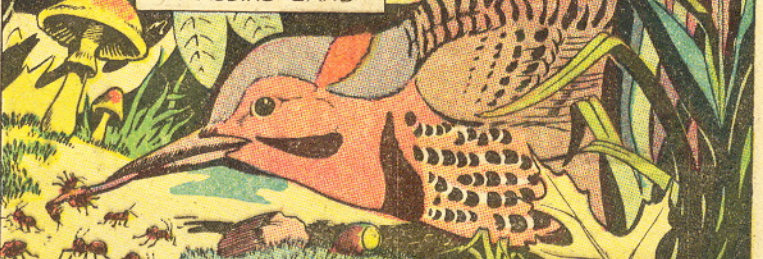
THE RED WARRIORS DEAL DESTRUCTION WITH THEIR POWERFUL PINCER MANDIBLES



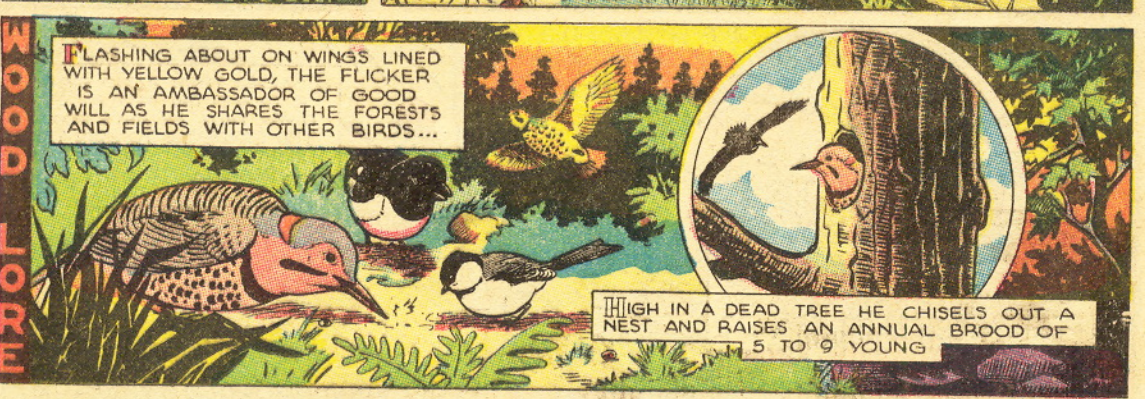
BUT AS THEY SWARM TO THE NEST ENTRANCE, THEY SUDDENLY SCATTER IN WILD CONFUSION...



FOR A GREAT FLICKER SPOTS THEM AND UNKNOWINGLY BECOMES A HERO AS HE WIPES OUT THE MARAUDING BAND



FLASHING ABOUT ON WINGS LINED WITH YELLOW GOLD, THE FLICKER IS AN AMBASSADOR OF GOOD WILL AS HE SHARES THE FORESTS AND FIELDS WITH OTHER BIRDS...

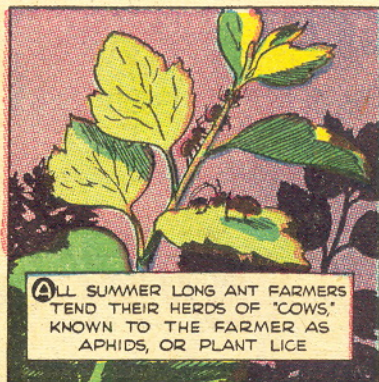


HIGH IN A DEAD TREE HE CHISELS OUT A NEST AND RAISES AN ANNUAL BROOD OF 5 TO 9 YOUNG

ANT COWS

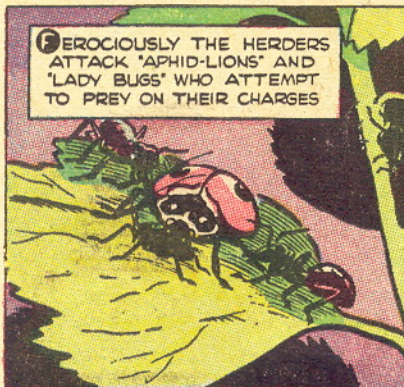


THE TINY APHIDS WHICH ATTACK GARDEN AND FARM CROPS ARE SUCH PROLIFIC BREEDERS THAT 13 BROODS MAY BE PRODUCED BY A SINGLE FEMALE IN ONE YEAR

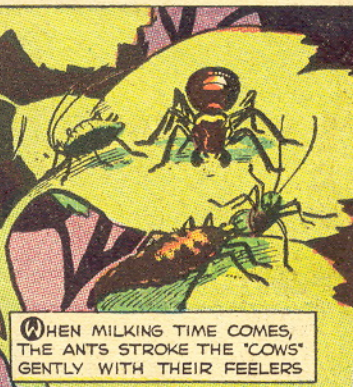


ALL SUMMER LONG ANT FARMERS TEND THEIR HERDS OF "COWS," KNOWN TO THE FARMER AS APHIDS, OR PLANT LICE

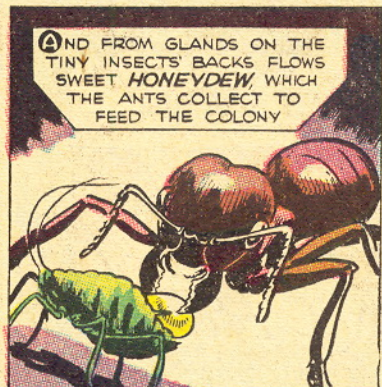
FEROCIOUSLY THE HERDERS ATTACK "APHID-LIONS" AND "LADY BUGS" WHO ATTEMPT TO PREY ON THEIR CHARGES



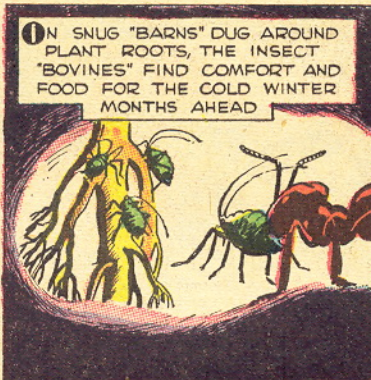
WHEN MILKING TIME COMES, THE ANTS STROKE THE "COWS" GENTLY WITH THEIR FEELERS



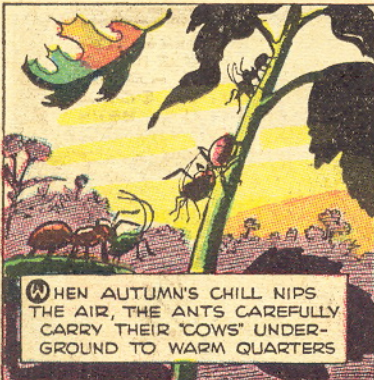
AND FROM GLANDS ON THE TINY INSECT'S BACKS FLOWS SWEET HONEYDEW, WHICH THE ANTS COLLECT TO FEED THE COLONY



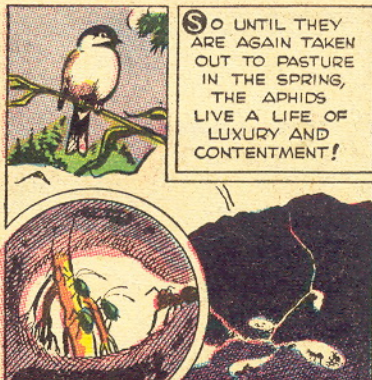
IN SNUG "BARNs" DUG AROUND PLANT ROOTS, THE INSECT "BOVINES" FIND COMFORT AND FOOD FOR THE COLD WINTER MONTHS AHEAD



WHEN AUTUMN'S CHILL NIPS THE AIR, THE ANTS CAREFULLY CARRY THEIR "COWS" UNDERGROUND TO WARM QUARTERS

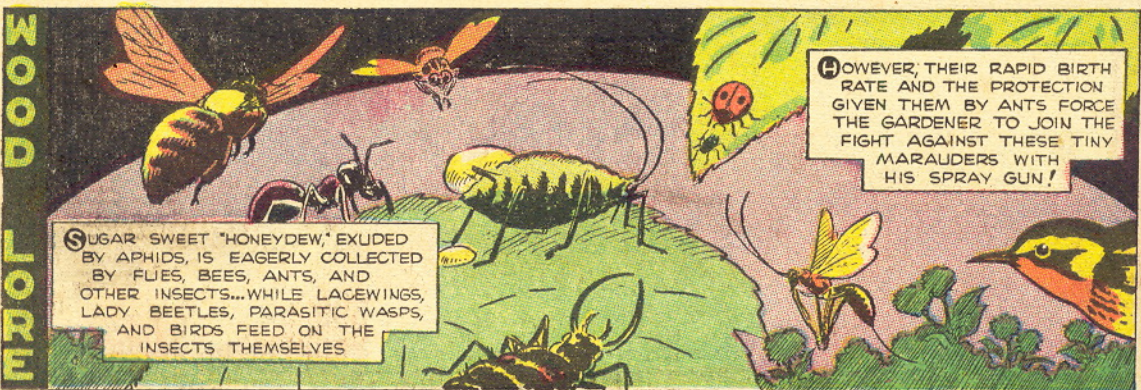


SO UNTIL THEY ARE AGAIN TAKEN OUT TO PASTURE IN THE SPRING, THE APHIDS LIVE A LIFE OF LUXURY AND CONTENTMENT!



HOWEVER, THEIR RAPID BIRTH RATE AND THE PROTECTION GIVEN THEM BY ANTS FORCE THE GARDENER TO JOIN THE FIGHT AGAINST THESE TINY MARAUDERS WITH HIS SPRAY GUN!

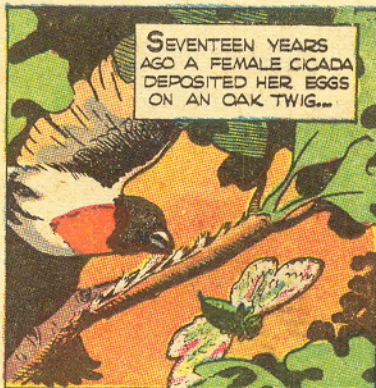
SUGAR SWEET "HONEYDEW," EXUDED BY APHIDS, IS EAGERLY COLLECTED BY FLIES, BEES, ANTS, AND OTHER INSECTS...WHILE LACEWINGS, LADY BEETLES, PARASITIC WASPS, AND BIRDS FEED ON THE INSECTS THEMSELVES



LONG-LIVED LOCUST



BENEATH THE GROUND'S SURFACE THE BROWN NYMPHS OF THE CICADA TUNNEL IN DARKNESS UNTIL ONE SUMMER'S NIGHT WHEN THEY COME FORTH TO LIVE IN SUNSHINE



SEVENTEEN YEARS AGO A FEMALE CICADA DEPOSITED HER EGGS ON AN OAK TWIG...



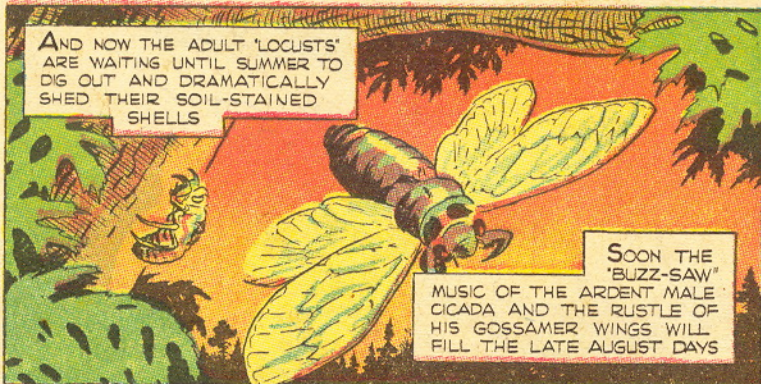
THE EGGS HATCHED AND THE TINY NYMPHS DROPPED FROM THE TREE TO BURROW DEEP INTO THE EARTH



...WHERE EACH SOUGHT A TENDER ROOT AND BUILT AN UNDERGROUND APARTMENT BESIDE IT

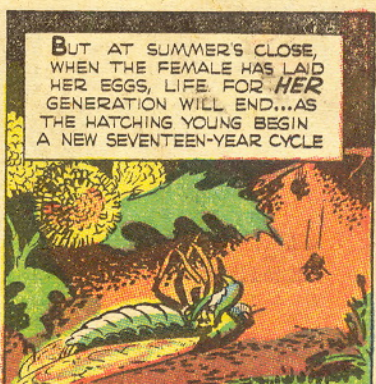


LONG YEARS HAVE PASSED WHILE THESE SAME NYMPHS, GROWING FAT ON ROOT SAP, HAVE FINALLY MATURED...

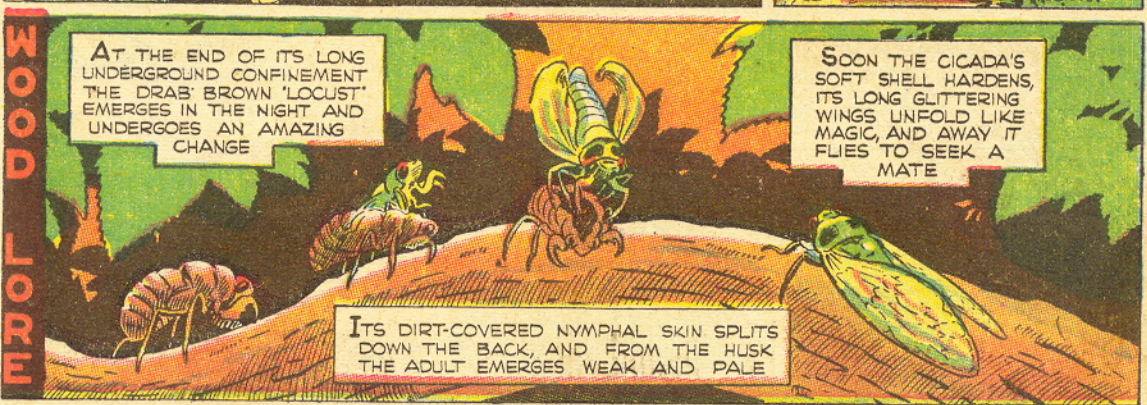


AND NOW THE ADULT 'LOCUSTS' ARE WAITING UNTIL SUMMER TO DIG OUT AND DRAMATICALLY SHED THEIR SOIL-STAINED SHELLS

SOON THE 'BUZZ-SAW' MUSIC OF THE ARDENT MALE CICADA AND THE RUSTLE OF HIS GOSSAMER WINGS WILL FILL THE LATE AUGUST DAYS



BUT AT SUMMER'S CLOSE, WHEN THE FEMALE HAS LAID HER EGGS, LIFE FOR *HER* GENERATION WILL END...AS THE HATCHING YOUNG BEGIN A NEW SEVENTEEN-YEAR CYCLE



AT THE END OF ITS LONG UNDERGROUND CONFINEMENT THE DRAB BROWN 'LOCUST' EMERGES IN THE NIGHT AND UNDERGOES AN AMAZING CHANGE

SOON THE CICADA'S SOFT SHELL HARDENS, ITS LONG GLITTERING WINGS UNFOLD LIKE MAGIC, AND AWAY IT FLIES TO SEEK A MATE

ITS DIRT-COVERED NYMPHAL SKIN SPLITS DOWN THE BACK, AND FROM THE HUSK THE ADULT EMERGES WEAK AND PALE

DANGEROUS DOODLER

WHEN MAN FIRST USED A PIT-FALL TO TRAP LARGE GAME, THE DOODLEBUG, OR ANT LION, HAD BEEN USING THE SAME TRICK FOR CENTURIES

IN THE FUNNEL-SHAPED PIT HE CALLS HOME, THE "DOODLEBUG" LIES IN WAIT FOR ANY VISITOR WHO MAY DROP IN!

OF COURSE HIS MEALS ARE SOMETIMES FEW AND FAR BETWEEN, BUT NEVERTHELESS HE STAYS AT HOME AND WAITS

THIS IS AN EASY LIFE, FOR UNLIKE OTHER INSECTS HE DOESN'T HAVE TO HUNT FOR FOOD

SOONER OR LATER A VICIOUS FIRE ANT FROM A NEARBY COLONY SLIDES INTO MR. DOODLEBUG'S TRAP

...FOR ITS SLOPING WALLS OF SAND PERMIT TRAVEL IN ONLY ONE DIRECTION...**DOWNWARD!**

AND AT THE BOTTOM THE DOODLEBUG "WELCOMES" HIM WITH OPEN JAWS!

SELECTING A DRY, SANDY OR DUSTY SPOT IN A SHELTERED PLACE, THE DOODLEBUG BEGINS BACKING AROUND IN EVER-DIMINISHING CIRCLES

AS HE PROGRESSES HE VIGOROUSLY FLIPS LOOSE SAND OUT WITH HIS HEAD UNTIL HE HAS BUILT A PERFECT, FUNNEL-SHAPED PIT

THE SILKEN TRAP

OVER THE FACE OF THE EARTH, WHEREVER CLIMATIC CONDITIONS PERMIT LIFE, THE SPIDER CLAN OF SOME 25,000 SPECIES WEAVE THEIR SILKY WEBS

OUT IN THE GARDEN BY THE OLD ROCK WALL LIVES CHLOE, A DAINTY LITTLE SPIDER...

LAZILY SHE DOZES IN THE SUNSHINE AS A BREEZE ROCKS HER SILKEN CRADLE

SUDDENLY A GREAT DEADLY WASP LOOMS UP AGAINST THE SKY AND BUZZES IN TO ATTACK THE LITTLE "WEB SPINNER"

CHLOE ZIPS DOWN A LINE TO SAFETY, AND THE WASP, MISSING HER, CRASHES INTO THE STICKY WEB OF HER NET

BEFORE THE KILLER CAN DISENTANGLE HERSELF, THE SPIDER RUSHES OUT AND SPINS A SILKEN SHROUD AROUND HER

THEN SNIPPING OFF THE SUPPORTING LINES, CHLOE DROPS THE NEATLY "HOG-TIED" STINGER TO THE GROUND, AND UNCONCERNEDLY GOES ABOUT PATCHING HER TORN WEB

AT THE TIP OF THE SPIDER'S ABDOMEN IS A SET OF UNIQUE ORGANS WITH WHICH THE SKILFUL ARTISAN IS ABLE TO SPIN SEVEN DIFFERENT KINDS OF SILK

THIS HARDENS QUICKLY UPON CONTACT WITH AIR, AND FORMS THE GOSSAMER STRANDS OF DELICATE WEBS

WITH A TENSILE STRENGTH FAR STRONGER THAN STEEL, THIS AMAZING SUBSTANCE ISSUES FORTH AS A FLUID...

THE KING BEE



MOTHER NATURE PROVIDED THE TINY BEE WITH A WEAPON THAT SOMETIMES VANQUISHES THE LARGEST ANTAGONIST

WHEN THE CRISP FALL AIR TURNS THE LEAVES BRILLIANT HUES...



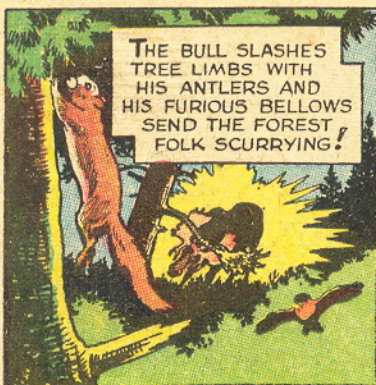
THE MIGHTY MOOSE BEGINS TO POLISH HIS WEAPONS FOR THE FIGHTING DAYS AHEAD!



EVEN THE BEAR TAKES TO HIS HEELS WHEN HE MEETS THE LONG-LEGGED GIANT!



JUST FOR PRACTICE AND TO LET OTHERS KNOW HE'S LORD OF THE FOREST!



THE BULL SLASHES TREE LIMBS WITH HIS ANTLERS AND HIS FURIOUS BELLOWS SEND THE FOREST FOLK SCURRYING!



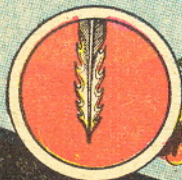
BUT OCCASIONALLY MISTER MOOSE ATTACKS THE WRONG TREE..



AND THE "LORD OF THE FOREST" BOWS BEFORE THE TINY BEEBOWS CLEAR OUT OF SIGHT, THAT IS!

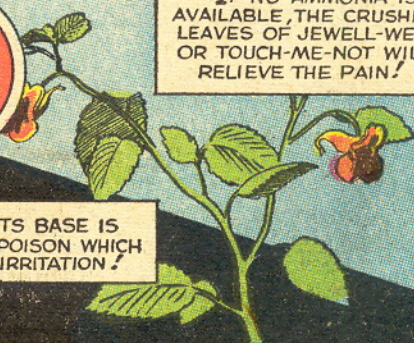
WOOD
LORE

THE BEE'S STING IS A SHARP SPEAR WITH ALTERNATING BARBS WHICH SERVE TO WORK THIS MINIATURE BAYONET DEEPER INTO THE WOUND!



ATTACHED TO ITS BASE IS A SACK OF ACID POISON WHICH ADDS TO THE IRRITATION!

IF NO AMMONIA IS AVAILABLE, THE CRUSHED LEAVES OF JEWELL-WEED OR TOUCH-ME-NOT WILL RELIEVE THE PAIN!



of books, which you may find in your public library, about their interesting adventures with wood folk. Outstanding among these writers are Theodore Roosevelt, John Burroughs, Enos Mills, Dan Beard, Ernest Thompson Seton, and scores of others.

Here at Lost Forest, where MARK TRAIL is drawn, I spend many hours in the woods. By keeping quiet and being observant, I have enjoyed many forest dramas that otherwise would have es-

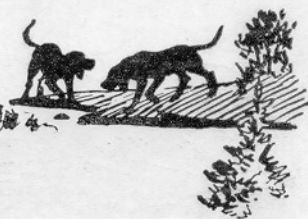
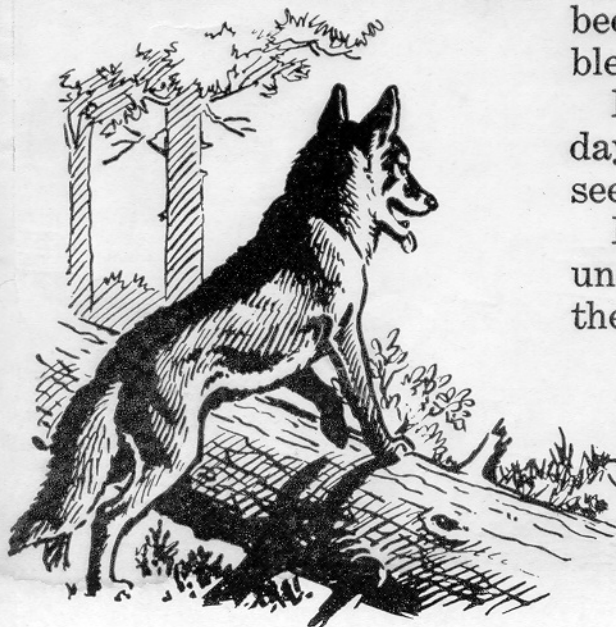
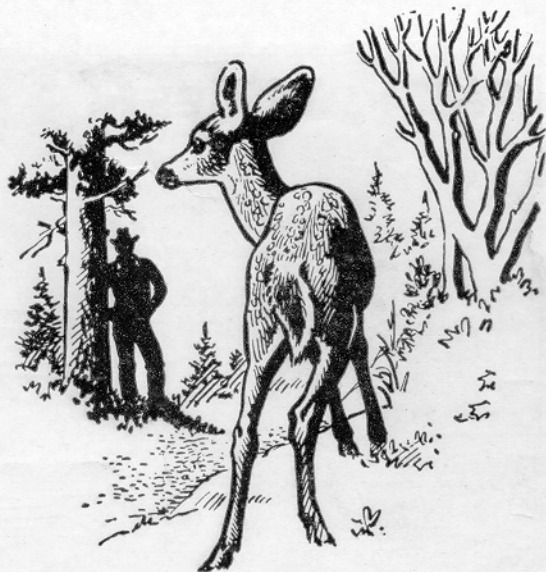
caped me. I remember once seeing a red fox come hurrying down the path to my lake. A neighbor's beagles were hot on his trail, and in full cry. When Reynard reached the rustic bridge which spans a small creek feeding my pond, he leaped to the railing, picked his way daintily across, then jumping into the shallow water and with the overhanging foliage for cover, he followed the stream's edge back the way he had come. The unsuspecting hounds passed him shortly, and when they reached the bridge they were completely thrown off the trail. There the chase stopped as Mr. Fox had planned, and I felt he was certainly somewhere nearby laughing his head off.

I would never have seen this comedy had I not stood quietly and been dressed in drab clothing that blended into the background.

Incidents like this happen every day in the woods, and you too will see them if you'll be a little patient.

I hope this book will help you to understand better our friends in the wilds.

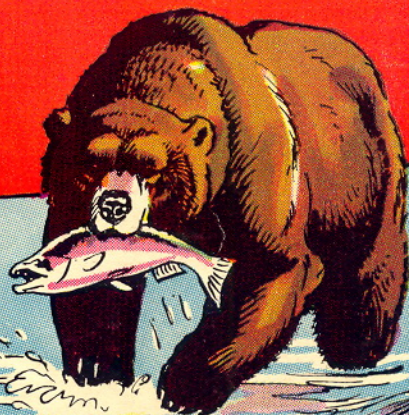
ED DODD
Lost Forest
1958



ALASKAN BROWN BEAR



BLACK BEAR



BEARS OF NORTH AMERICA

GRIZZLY
BEAR



POLAR
BEAR