

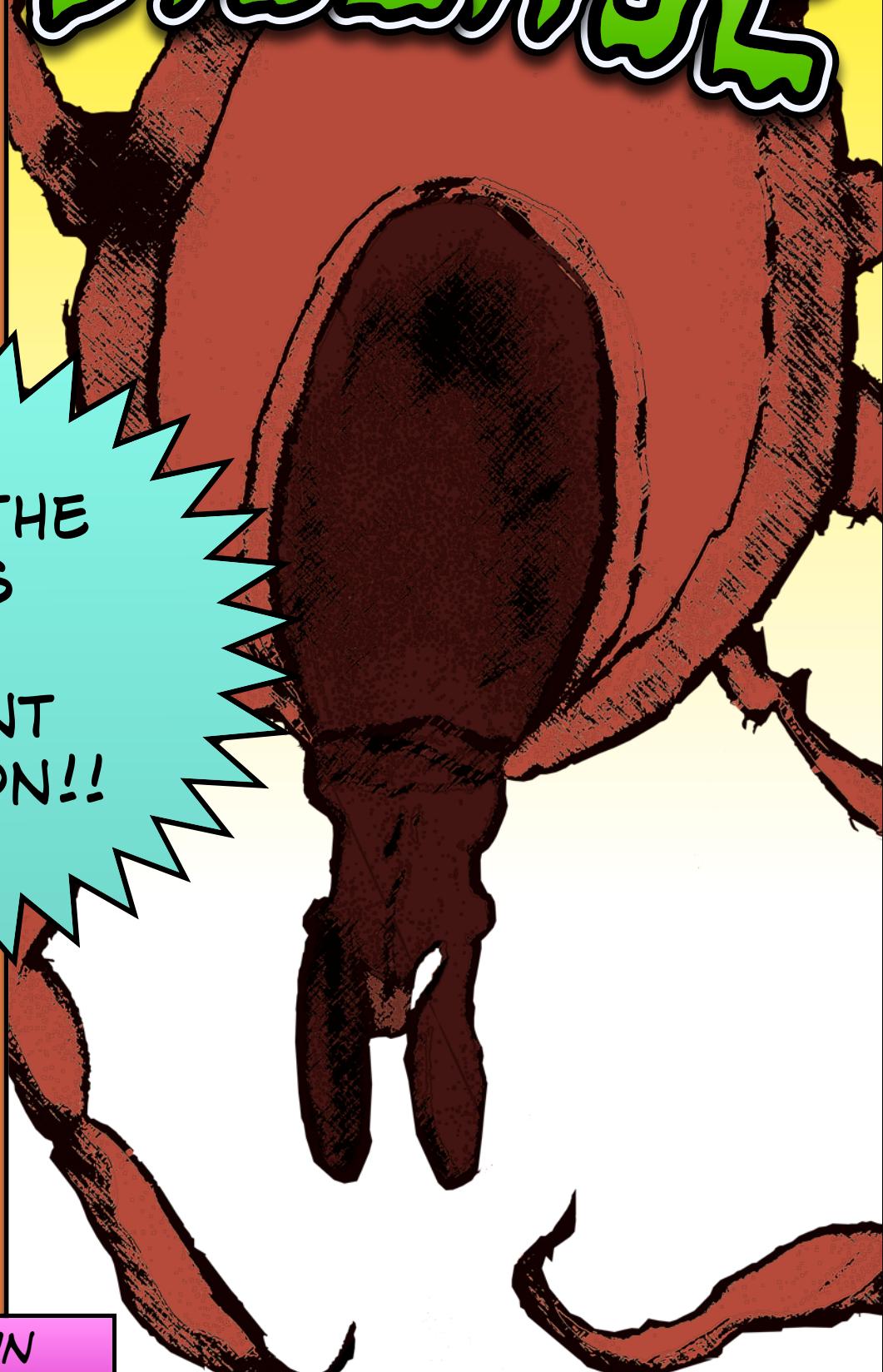
Lyme Disease

LEARN THE
FACTS
&
PREVENT
INFECTION!!



ISSUE #1

IN A QUIET TOWN
OF CONNECTICUT---



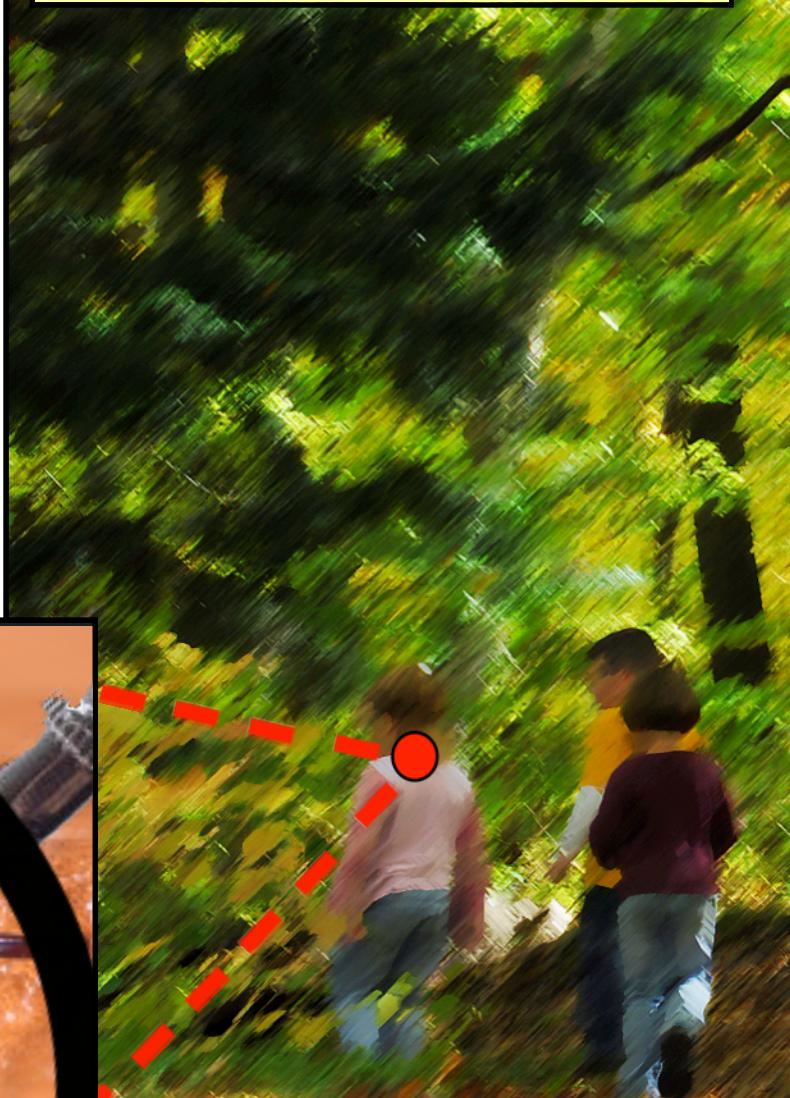
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DEDICATED TO VIRGINIA & BRUCE BRACKETT.
FOR THE MANY BOOKS THAT PLANTED SEEDS
FOR EARLY CREATIVITY.

OUR STORY BEGINS IN LYME, CONNECTICUT.



IN 1975, REPORTS OF 'UNKNOWN DISEASE' INFECTIONS WERE FIRST EMERGING AMONG CHILDREN PLAYING IN NEARBY FORESTS.



CHILDREN WERE NOT RETURNING FROM THE FOREST ALONE...

BLACK-LEGGED TICK

BLACK-LEGGED TICK (IXODES SCAPULARIS) IS A PARASITE THAT FEEDS ON THE BLOOD OF ITS HOSTS.

A *PARASITE* IS AN ORGANISM THAT LIVES ON ANOTHER ORGANISM AND FEEDS FROM IT. THE CHILDREN PLAYING IN THE WOODS WERE *HOSTS* FOR THE TICKS.



THERE HAS
TO BE A
SOURCE OF THIS
INFECTION
BUT WHAT
IS IT...??



SCIENTISTS NAMED THE
DISEASE 'LYME DISEASE'
BECAUSE OF ITS ORIGIN.
A COMMON PRACTICE IN
EPIDEMIOLOGY.



EPIDEMIOLOGY IS THE
STUDY OF DISEASES.

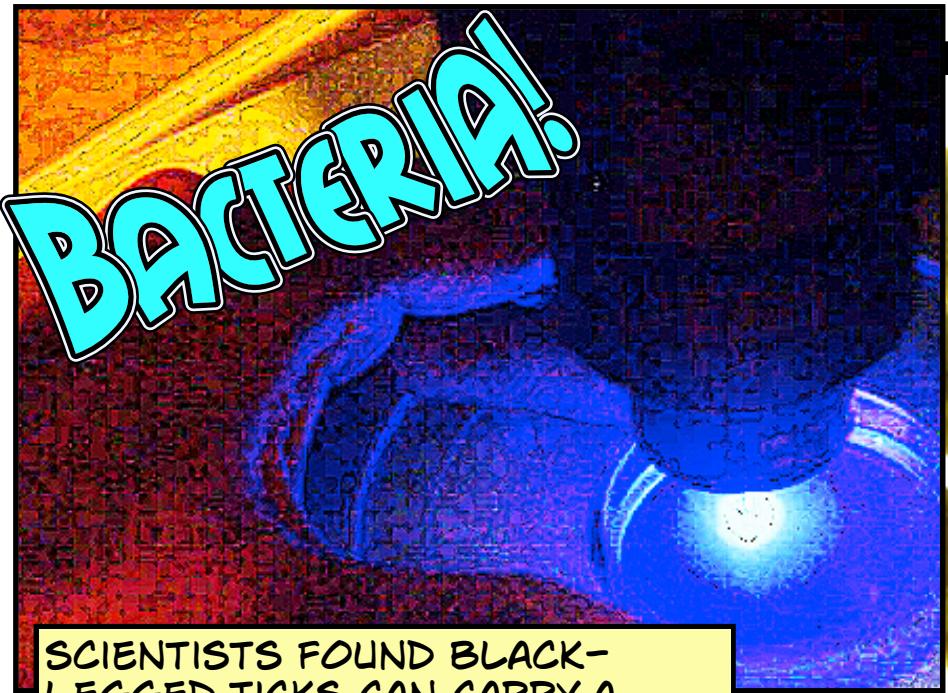
1982



SORRY!



THEN IN 1982 SCIENTISTS
WERE ABLE TO LINK THE
SAME TICKS FOUND ON
CHILDREN IN LYME WITH TICKS
ON DEAR...



SCIENTISTS FOUND BLACK-LEGGED TICKS CAN CARRY A DISEASE CAUSING *BACTERIA* (BORRELIA BURGDORFERI)



THE BACTERIA CAN LIVE IN THE STOMACHS OF TICKS AND ARE SPREAD THROUGH TICK SALIVA WHILE FEEDING.

Symptoms of Lyme

1 FEVER/CHILLS ONSET OF INFECTION

2 *CIRCULAR RASH* (WITHIN 3-30 DAYS)

3 ACHES/PAINS

MANY OF THESE SYMPTOMS CAN BE TREATED WITH ANTIBIOTICS BUT... SEVERE CONDITIONS MAY LEAD TO HOSPITALIZATION!



EXAMPLE OF *CIRCULAR RASH* CAUSED BY LYME DISEASE

COMPLEX LIFE CYCLE

TICKS UNDERGO A SERIES OF MULTIPLE STAGES FROM EGG TO ADULT.



SPRING

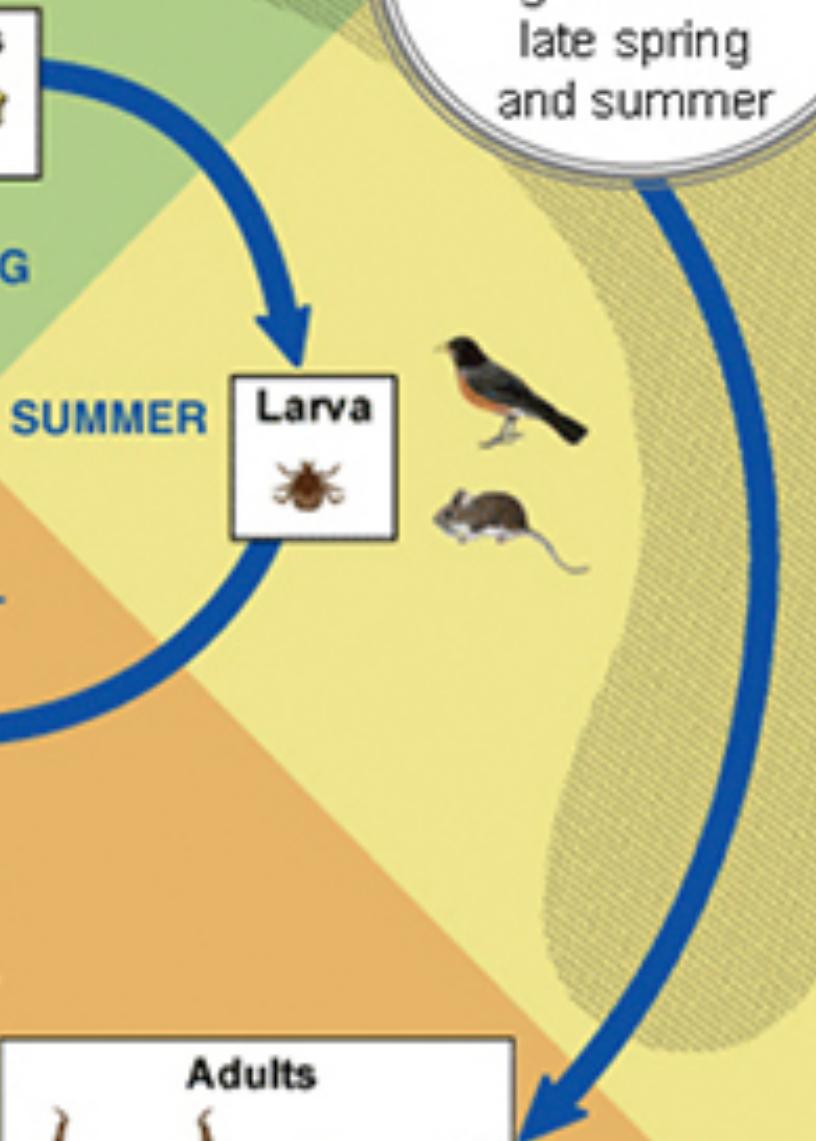
WINTER

FALL





Risk of
human
infection
greatest in
late spring
and summer



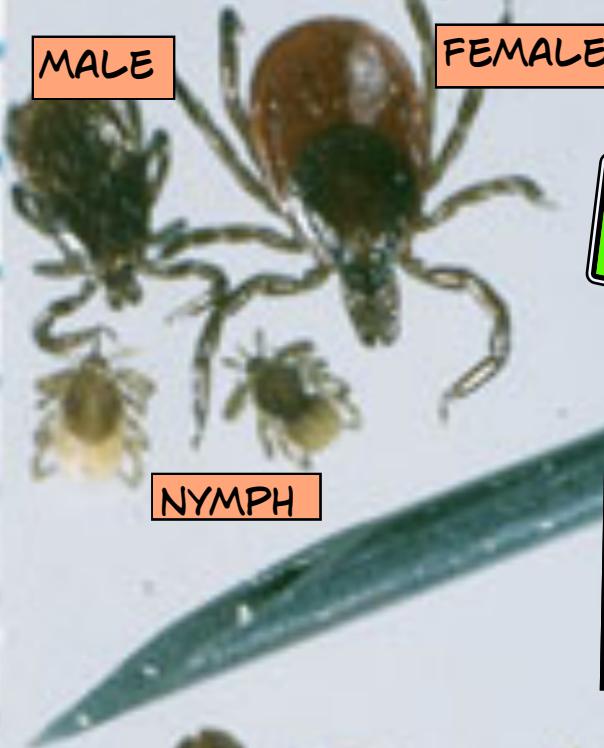
MULTIPLE LIFE CYCLE STAGES

BLACK-LEGGED TICKS

MALE

FEMALE

NYMPH



TICK LIFE STAGES

- #1 EGGS
- #2 LARVAE
(~SIZE OF A PEN POINT)
- #3 NYMPHS (6 LEGS)
- #4 ADULTS (8 LEGS)

ENGORGED FEMALE TICK



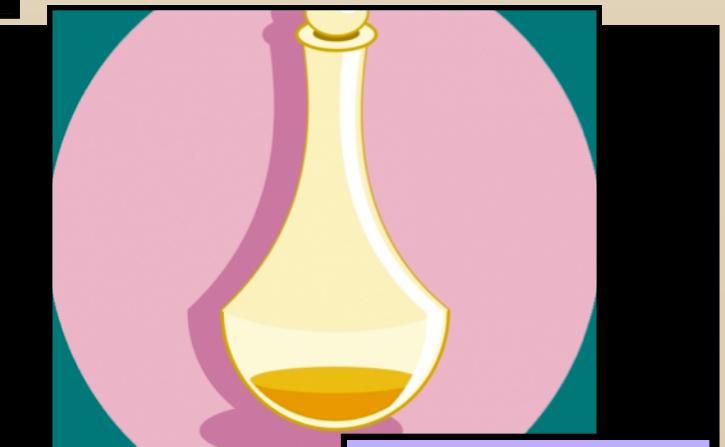
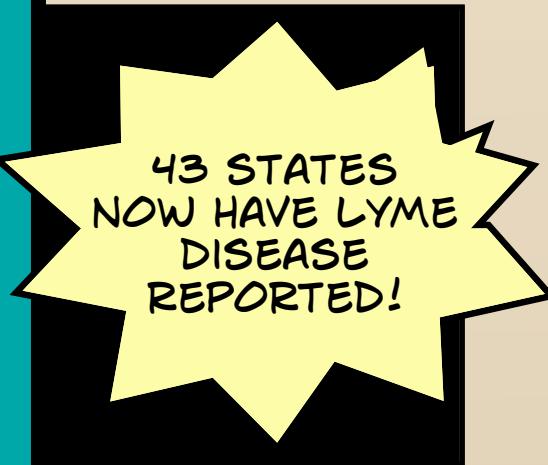
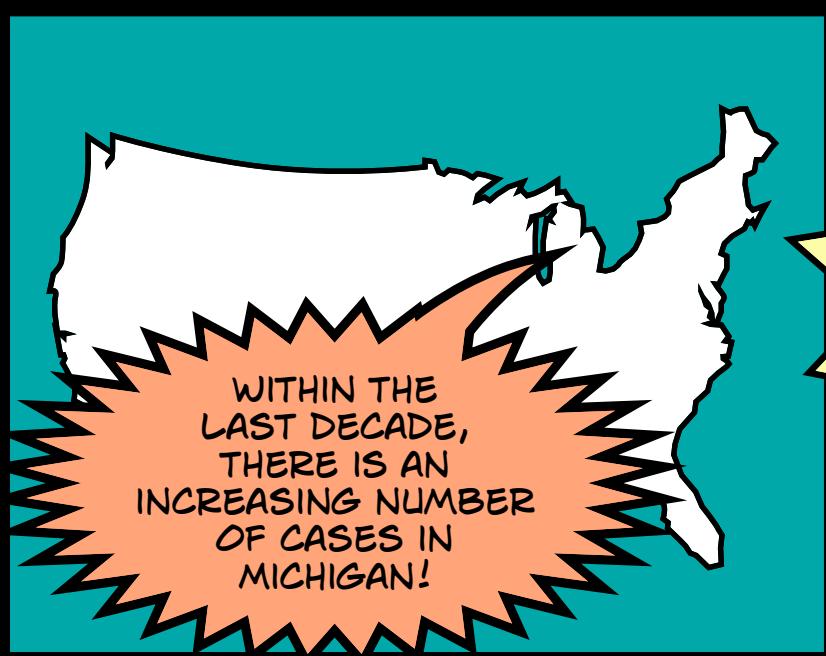
DOG TICKS



NOTE: FEMALES ARE GENERALLY LARGER BECAUSE OF THE VOLUME OF EGGS. ADULT FEMALE TICKS CAN LAY OVER 1,000 EGGS IN ONE EVENT!

DOG TICKS
(*DERMACENTOR VARIABILIS*)
ANOTHER COMMON
VECTOR OR CARRIER OF LYME DISEASE.

DISEASE PREVENTION



Acknowledgements

I WOULD LIKE TO THANK THE
VARIOUS SOURCES AND AUTHORS
OF PHOTOS THAT GRANTED
PERMISSION OF USE.

- * MICHIGAN.GOV/DNR
- * INSECTIMAGES.ORG
- * MORGUEFILE.COM
- * CDC.GOV
- * SCOTT BAUER [USDA AGRICULTURAL RESEARCH SERVICE]
- * JIM OCCI [BUGPICS, BUGWOOD.ORG]
- * ALLEN C. STEERE

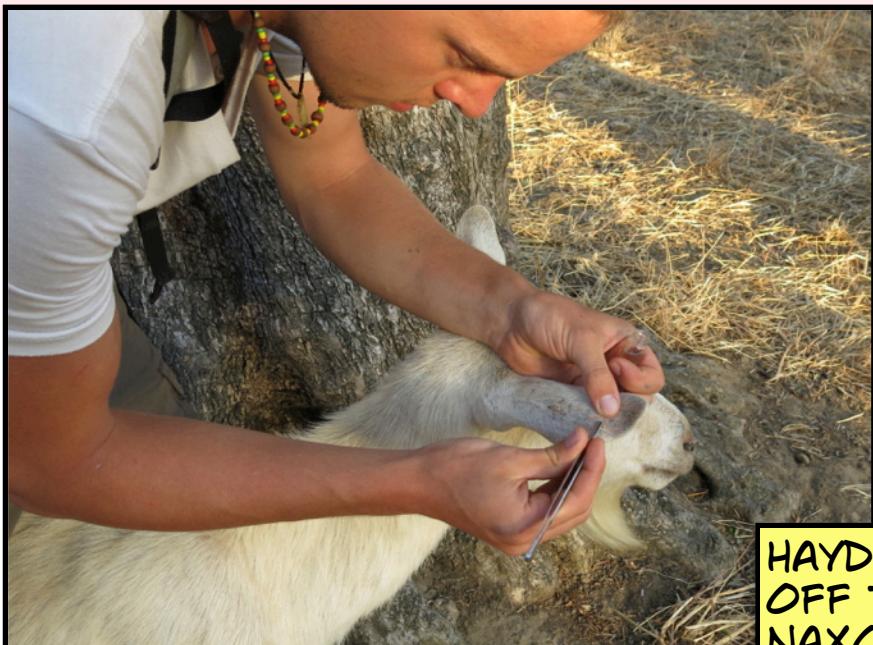


ABOUT THE AUTHOR

HAYDEN HEDMAN GREW UP READING COMIC BOOKS FROM HIS DAD'S OLD COLLECTION. HE'S EXCITED TO INCORPORATE HIS PASSION FOR COMICS WITH DISEASE ECOLOGY. HAMDEN'S STUDYING THE SPILLOVER OF ZOONOTIC DISEASES AT THE UNIVERSITY OF MICHIGAN.

FOR MORE INFO REGARDING HAMDEN'S RESEARCH,
SEE: HAYDENHEDMAN.BLOGSPOT

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HAYDEN EXTRACTING TICKS
OFF THE EAR OF A GOAT IN
NAXOS, GREECE.

