

LYME DISEASE

LEARN THE
FACTS
&
PREVENT
INFECTION!!





ISSUE #1

IN A QUIET TOWN
OF CONNECTICUT...



Hayden Fisher

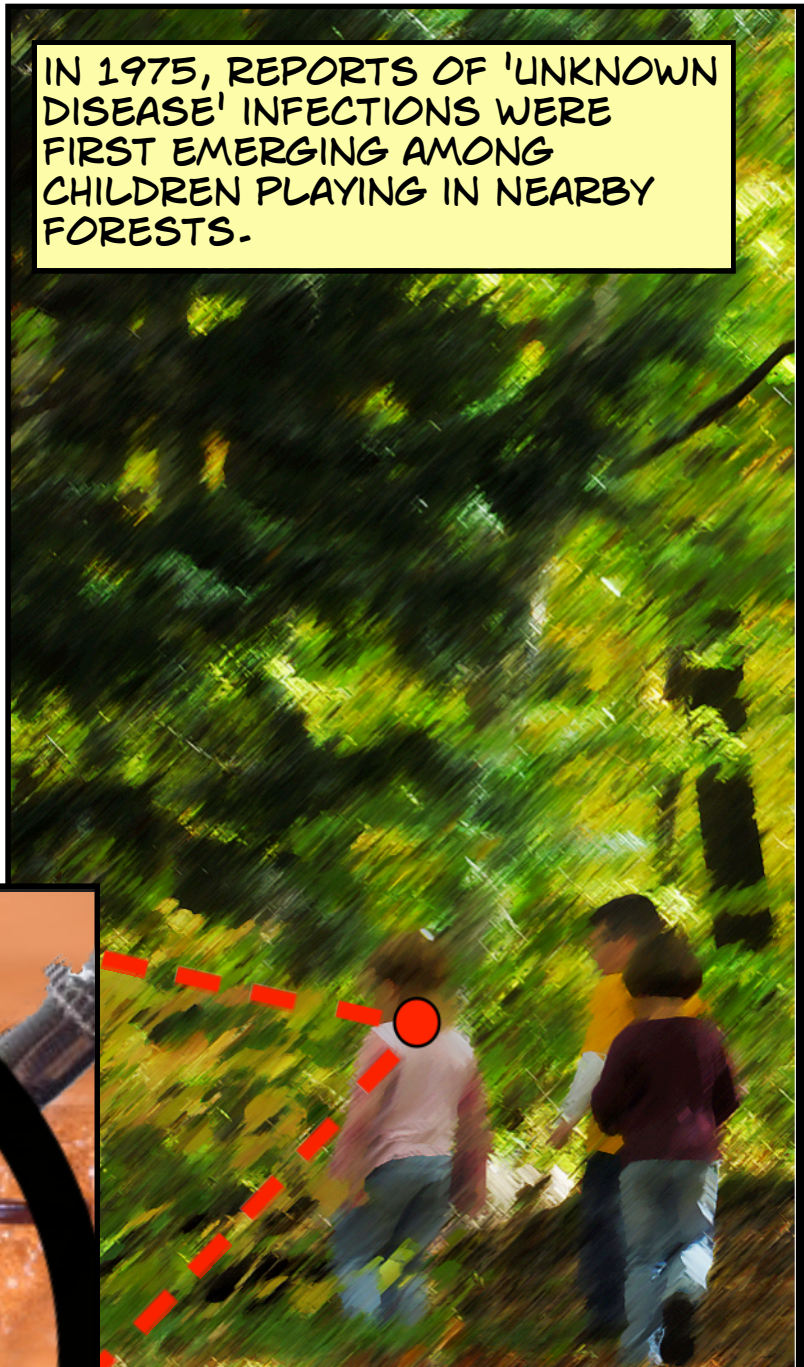


DEDICATED TO VIRGINIA & BRUCE BRACKETT.
FOR THE MANY BOOKS THAT PLANTED SEEDS
FOR EARLY CREATIVITY.

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...

BACTERIA!

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

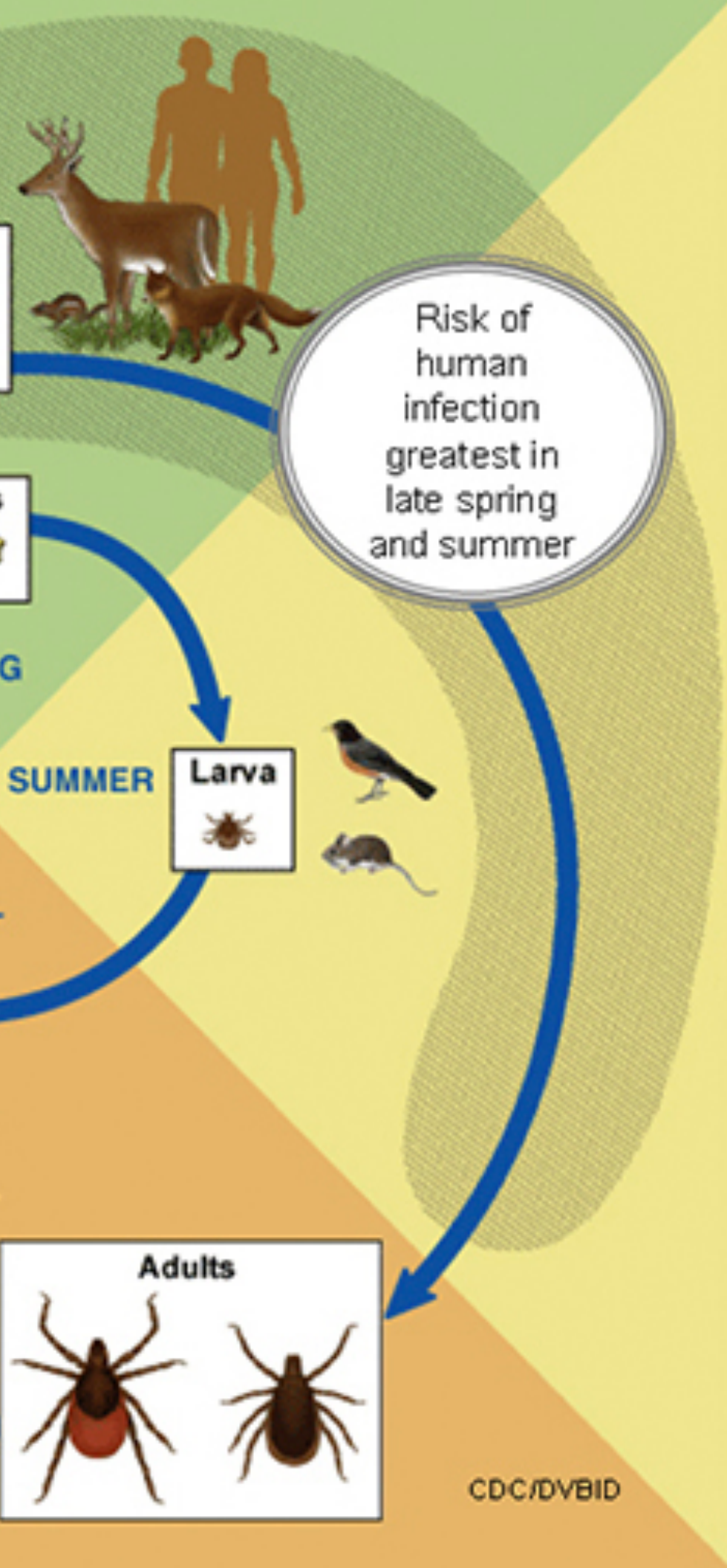
MANY OF THESE SYMPTOMS CAN BE TREATED WITH ANTIBIOTICS BUT... SEVERE CONDITIONS MAY LEAD TO HOSPITALIZATION!

EXAMPLE OF *CIRCULAR RASH* CAUSED BY LYME DISEASE

COMPLEX LIFE CYCLE

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





MULTIPLE LIFE CYCLE STAGES

BLACK-LEGGED TICKS

MALE

FEMALE

NYMPH

ENGORGED FEMALE TICK

TICK LIFE STAGES

#1 EGGS

#2 LARVAE

(~SIZE OF A PEN POINT)

#3 NYMPHS (6 LEGS)

4 ADULTS (8 LEGS)

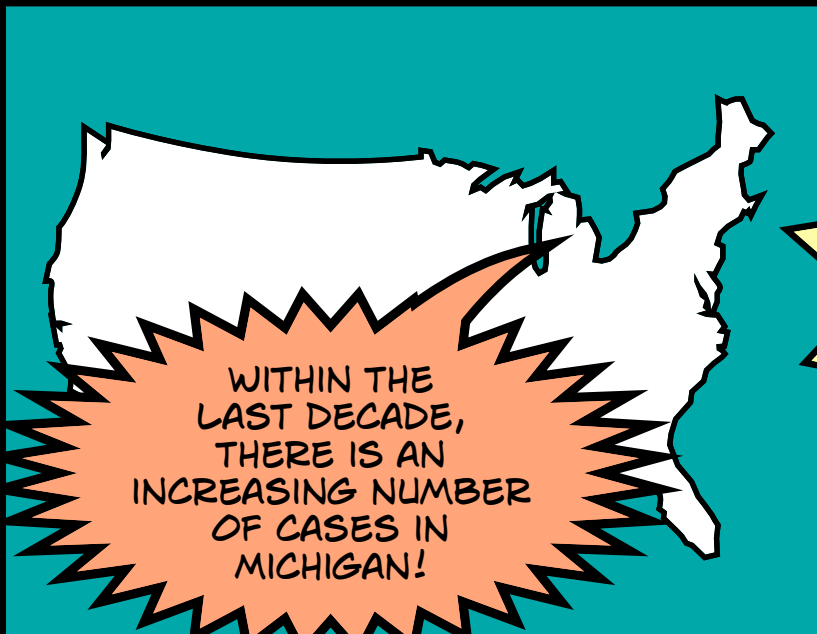
NOTE: FEMALES ARE
GENERALLY LARGER
BECAUSE OF THE
VOLUME OF EGGS.
ADULT FEMALE TICKS
CAN LAY OVER 1,000
EGGS IN ONE EVENT!

DOG TICKS

DOG TICKS

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


DISEASE PREVENTION



WITHIN THE
LAST DECADE,
THERE IS AN
INCREASING NUMBER
OF CASES IN
MICHIGAN!




43 STATES
NOW HAVE LYME
DISEASE
REPORTED!



WEAR LONG PANTS
&
LONG-SLEEVED
SHIRTS TUCKED IN.



USE TICK REPELLENT
THAT CONTAINS 0.5%
PERMETHRIN.



EXAMINE YOUR
CLOTHING, HAIR &
PETS FOR TICKS
AFTER SPENDING
TIME OUTDOORS.

Acknowledgements

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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 ZOO NOTIC 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.

