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New Treatments for an ancient disease and new challenges

DAVID GRANT MBE B.Vet.Med FRCVS
VETERINARY SURGEON





- **MANGE IS A DISEASE OF THE SKIN CAUSED BY VARIOUS MITES**
- **MITES ARE RELATED TO SPIDERS AND HAVE FOUR PAIRS OF LEGS**
- **THEY ARE GENERALLY NOT VISIBLE TO THE NAKED EYE**
- **TWO MAIN TYPES: DEMODICOSIS (DEMODECTIC MANGE) CAUSED BY *DEMODOX CANIS***
- **SCABIES (SARCOPTIC MANGE) CAUSED BY *SARCOPTES SCABIEI***

MAIN FEATURES OF SARCOPTIC MANGE (SCABIES)



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- It is very itchy and increases without treatment
- Contagious to other dogs
- Contagious to people
- Itch scratch cycle when ear rubbed (important sign –not 100% but means treatment is highly advisable)
- Quite easy to treat once diagnosed –many drugs effective



- **SCABIES IN PEOPLE DESCRIBED IN THE BIBLE (LEVITICUS)**
- **CONTROL MEASURES FOR INFECTIOUS SKIN DISEASES INCLUDED AT THAT TIME QUARANTINE AND BURNING OF CLOTHES AND BEDDING**
- **SCABIES PROBABLY THE FIRST DEFINITELY KNOWN CAUSE OF HUMAN DISEASE DESCRIBED IN 1687**
- **MITE FORMALLY IDENTIFIED IN 1778**
- **DESCRIBED AS *SARCOPTES SCABIEI* IN 1802**

CANINE SARCOPTIC MANGE



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**EXCORIATION DUE TO SARCOPTIC
MANGE (CANINE SCABIES)
FRENCH 'MANGER' TO EAT**



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SARCOPTES SCABIEI X 400



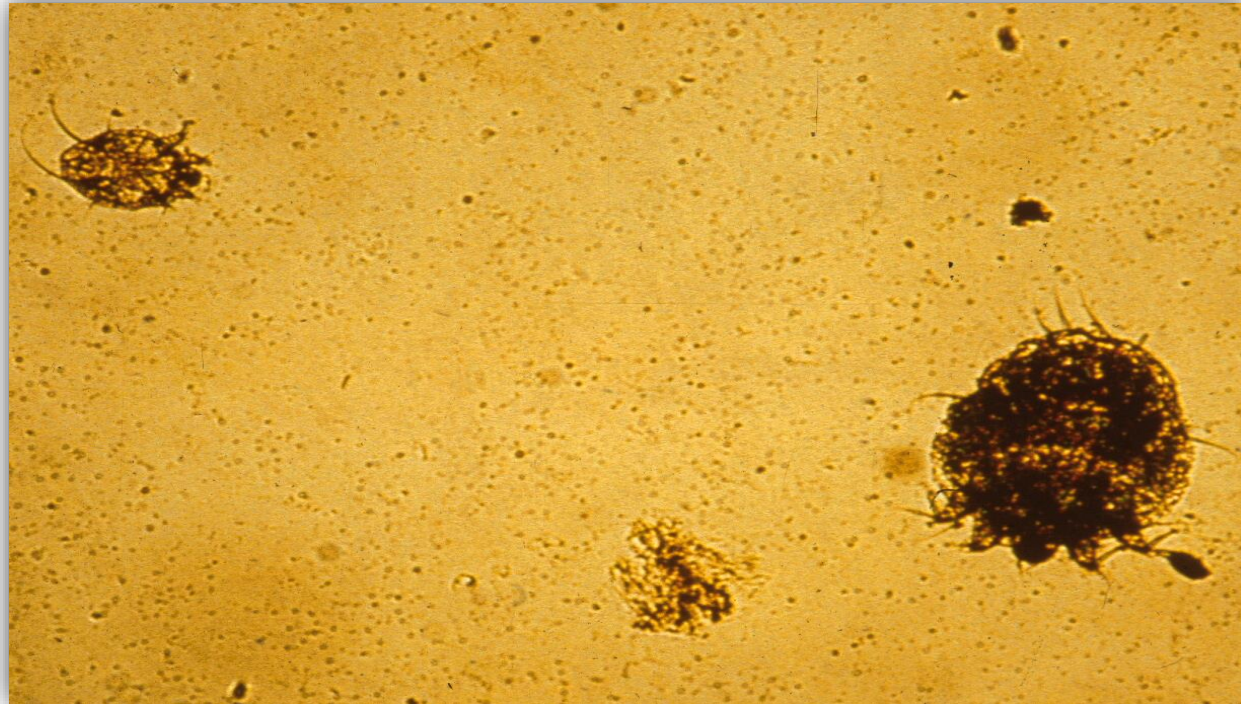
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Sarcoptes adult and larva x100



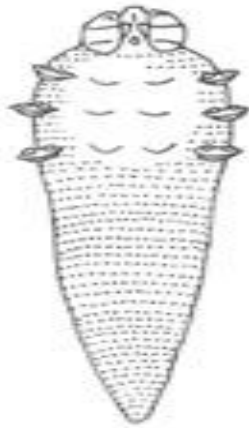
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DEMODEX LIFE CYCLE (NORMALLY INSIDE THE HAIR FOLLICLE)



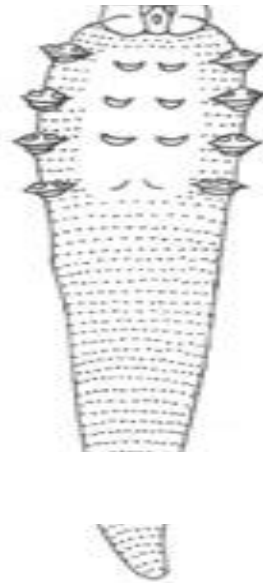
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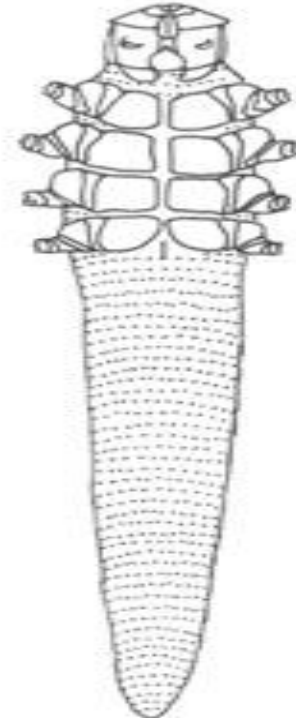
Egg



Larva



Nymph



Adult



- Transmitted from mother to pups in first few days –not thereafter
- Generalised form traditionally very difficult to treat
- Euthanasia used to be regularly offered
- Many treatments over centuries
- Tends not be itchy-big difference to scabies
- Secondary infection common-may then become itchy
- Acute and chronic forms recognised since middle ages

TWO DEMODEX MITES



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DEMODECTIC 'REDDE' MANGE - WEST HIGHLAND WHITE (ACUTE)



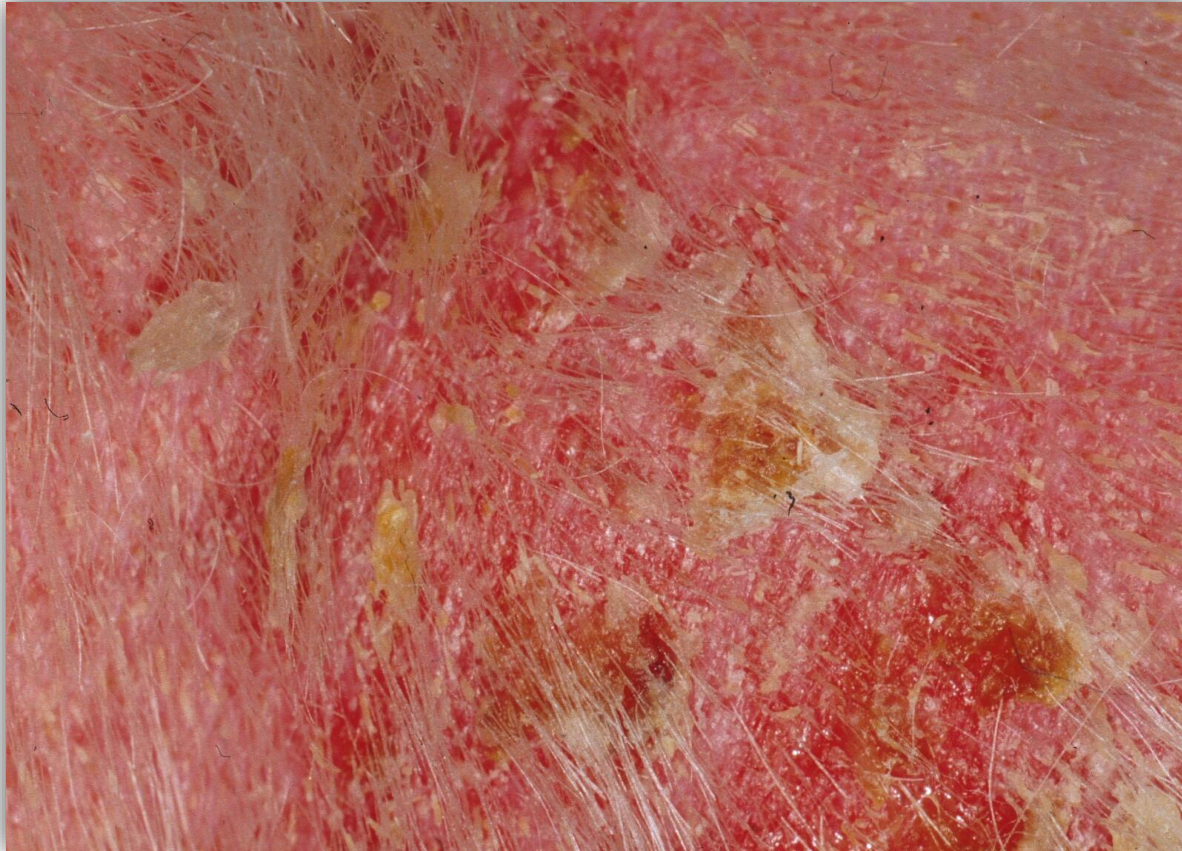
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CLOSE UP PREVIOUS DOG'S FLANK



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DEMODECTIC 'REDDE' MANGE



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DEMODEX MITES CAPTURED FROM THE PREVIOUS DOG



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GENERALISED CHRONIC DEMODICOSIS IN A STAFFORDSHIRE BULL TERRIER-NOTABLE CHANGE IN COLOUR



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- **HISTORY**
- **EXAMINATION**
- **CATCH THE MITE-SKIN SCRAPES/HAIR PLUCKS/TAPE STRIPS**
- **MYRIAD OF TREATMENTS OVER THE CENTURIES WITH MOST OF THEM UNSUCCESSFUL UNTIL VERY RECENTLY**



- **IN THE MIDDLE AGES SUCCESSFUL TREATMENTS WERE DESCRIBED**
- **AT THIS TIME THREE MAIN FORMS OF GENERALISED DEMODICOSIS WERE DESCRIBED-REDDE (RED), SCALEY AND BLACK**
- **TODAY WE WOULD RECOGNISE THESE AS ACUTE AND CHRONIC**
- **OINTMENT CONTAINING WALNUT OIL, JUNIPER OIL, WORM OIL, HONEY, VINEGAR, PITCH, NEW WAX, **SULPHUR**, IRON SULPHATE AND COPPER CARBONATE WAS THE TREATMENT OF CHOICE.**
- **AFTER APPLYING THE OINTMENT THE DOG WOULD THEN BE TIED UP IN FRONT OF A FIRE TO PROMOTE A HEALTHY SWEAT**

A MEDIEVAL VETERINARY SURGEON



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TEACHING STAFF AT THE RVC 1895
(From 'the Royal Veterinary College'
Professor Ernest Cotchin)



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- **CONSIDERED A VERY DIFFICULT DISEASE TO CURE AND EUTHANASIA ADVISED 'UNLESS A VALUABLE DOG'**
- **VARIOUS TREATMENTS TRIED INCLUDING CARBOLIC ACID, MERCURY PREPARATIONS OR CREOSOTE**
- **COMPOUND NAPHTHOL OINTMENT-NAPHTHOL BETA, PREPARED LARD, GREEN SOFT SOAP, PURE OXIDE OF ZINC WAS A FAVOURED TREATMENT**

(FROM DOGS THEIR MANAGEMENT BEING A NEW PLAN OF TREATING THE ANIMAL BASED UPON A CONSIDERATION OF HIS NATURAL TEMPERAMENT)

GENERALISED DEMODICOSIS 1970'S



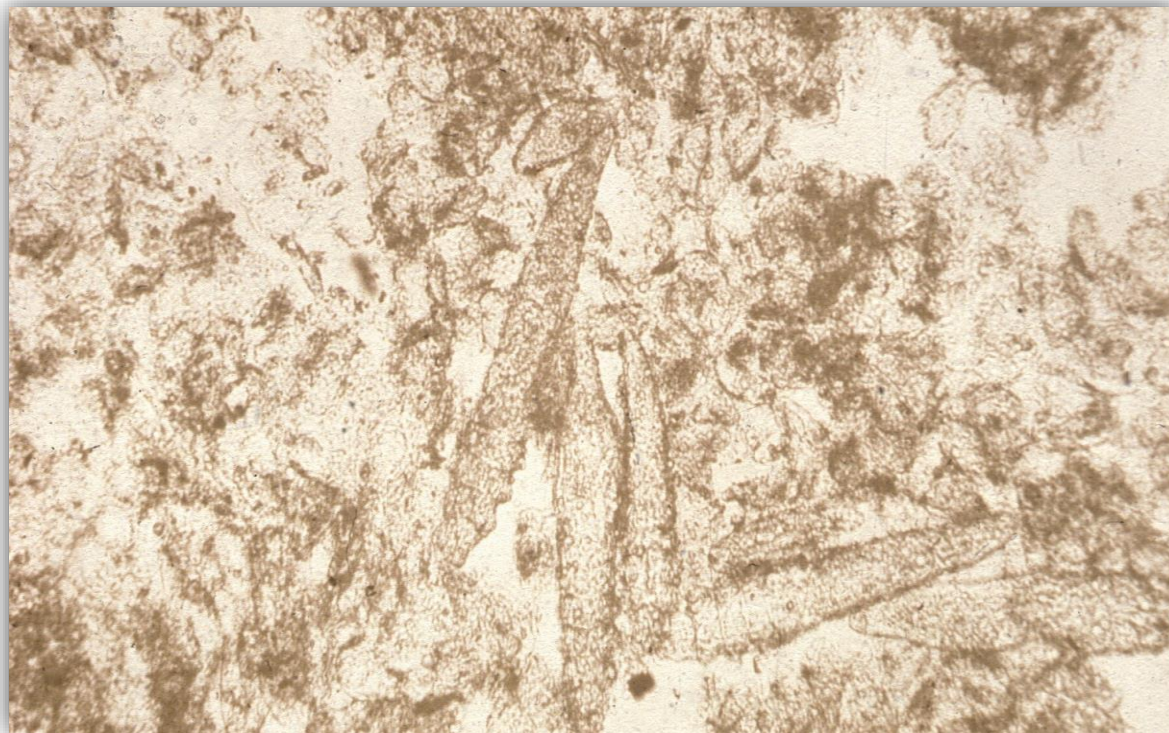
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THE FAMILY DEMODEX FROM THE PREVIOUS DOG



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- **STILL A VERY DIFFICULT DISEASE TO CURE AND TEXTBOOKS OF THE TIME ADVISED DISCUSS EUTHANASIA IF TREATMENT TOO SLOW OR DIFFICULT FOR THE OWNER**
- **RUELENE CONTAINING ROTENONE A POTENT PESTICIDE WAS THE LICENSED TREATMENT APPLIED TO A THIRD OF THE BODY EVERY DAY FOR AT LEAST 12 WEEKS**
- **NEEDED A VERY COMMITTED OWNER**
- **NOW PHASED OUT**



- **AMITRAZ FIRST DISCOVERED IN 1969 MARKETED AS ALUDEX**
- **MOST COMMONLY USED AS A SHAMPOO ALSO IN SOME SPOT ONS AND COLLARS**
- **MAIN ADVANTAGE ONLY REQUIRED WEEKLY APPLICATION**
- **MANY SIDE EFFECTS-MAINLY ANOREXIA, SEDATION, SLOW HEART BEAT AND RARELY NEUROLOGICAL SIGNS**
- **NOT FOR USE IN DOGS LESS THAN 3 MONTHS OR CHIHUAHUAS OR DIABETICS (INCLUDING DIABETIC PEOPLE)**
- **FLAMMABLE-DON'T SMOKE!**

GENERALISED DEMODICOSIS BEFORE TREATMENT WITH AMITRAZ



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**PREVIOUS DOG AFTER 12 WEEKLY APPLICATIONS OF
AMITRAZ**



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NELLIE. DUMPED OUTSIDE POLICE STATION IN NORTH LONDON



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**CANINE SARCOPTIC MANGE (COMPARE
NELLIE'S EARS WITH THIS DOG)**



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NELLIE'S FIRST DAY AT THE HOSPITAL-



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3 MONTHS LATER



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NELLIE -IN HER NEW HOME (STILL CAMERA SHY)



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MAJOR BREAKTHROUGH 2015 –A COMPLETE REVOLUTION IN THE TREATMENT OF ECTOPARASITES



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- **THE ISOXAZOLINES**
- **Fluralaner (Bravecto)**
- **Lotilaner (Credelio)**
- **Afoxolaner (Nexgard)**
- **Sarolaner (Simparica)**

DEMODICOSIS BEFORE TREATMENT WITH ISOXAZOLINE PREPARATION



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Courtesy

Anita Patel FRCVS



PREVIOUS DOG AFTER TREATMENT 3 MONTHS LATER



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- **CURRENT DEBATE ON POSSIBLE CONTAMINATION OF ENVIRONMENT**
- **FIPRONIL AND IMIDACLOPRID HAVE BEEN FOUND DOWN STREAM FROM WATER WORKS IN THE UK. OTHERS? YET TO BE DETERMINED**
- **PROMPTED DISCUSSION ON CAREFUL USE OF THESE DRUGS –NOT A BLANKET USE?**
- **SOME BEE SPECIES IN DANGER OF EXTINCTION**
- **SEE PUBLICATIONS BY PROFESSOR DAVE GOULSON BUMBLEBEE EXPERT (FOUNDER OF THE BUMBLEBEE FOUNDATION TRUST)**



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Thank you