



2019



CVBD

Companion vector-borne diseases

The CVBD® World Forum Calendar

The **Companion Vector-Borne Disease (CVBD®) World Forum** is a working group of leading experts in natural sciences, veterinary and human medicine from around the world. Its goal is to exchange knowledge and findings about vector-borne diseases to increase awareness regarding specific regional risks and to foster effective preventative measures. These aims are now more important than ever as vector-borne diseases become more widespread and prevalent. This is driven by a changing climate and increasing movement of people and pets around the world. Rapidly shifting parasite and vector distributions mean that it is vital for veterinary and medical professionals to be armed with the latest data and evidence-based advice.

But how best to disseminate this information?

Welcome

Excellent vector-borne disease information is available from the CVBD® World Forum and other parasite advice organisations around the world through websites, webinars and articles. This information can, however, be overwhelming and it can be difficult to know where to go to get more detailed information. And sometimes you just want to know if dinosaurs had fleas ...

... welcome to the CVBD calendar!

This 2019 desktop calendar is designed for use in veterinary practice and is packed full of entertaining and insightful facts. CVBD members have collaborated to provide a pearl of wisdom with each calendar day. This may be a memorable snippet of information about a vector-borne disease to inform and share with clients, an entertaining historical fact or a link to further information and websites. In providing short and engaging information in an easily accessible way, we hope this calendar will be an entertaining, educational and meaningful tool for veterinarians.

Welcome

Bayer Animal Health would like to thank the numerous people who have helped to bring this calendar to life:

- The CVBD® World Forum members, who shared their great experience and knowledge about vector-borne diseases.
- The editorial board for its diligent review and scientific advice.
- Dr. Roeland Wessels (St. Anna Advies, The Netherlands) for providing the idea for this calendar, his contributions and continuous support to move the project forward.
- The local colleagues for their valuable feedback
- The CVBD® World Forum members and colleagues who supported the translation of this calendar into different languages.

If you have any feedback, comments or questions related to the CVBD calendar or CVBD in general, please do not hesitate to contact us via the contact form on www.cvbd.org.

We hope you will enjoy this calendar and find it a source of useful knowledge!

Bayer Animal Health

Please note the disclaimer on the last page.

Acknowledgements



For how long can flea pupae survive in the environment while waiting for a host?

- a. up to 1 day
- b. up to 1 month
- c. up to 1 year
- d. up to 1 decade



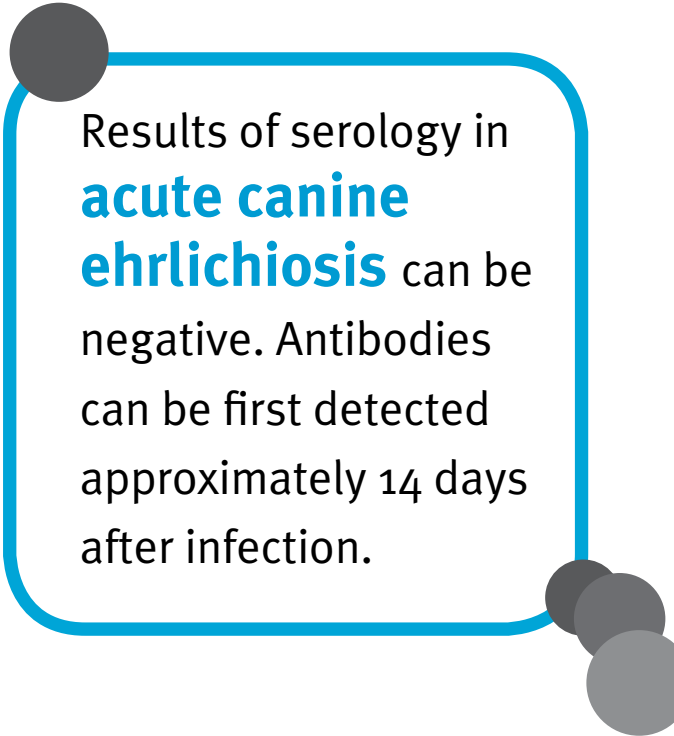
Check out this video
about flea cocoons
in the environment!

Right answer: c

A positive ...

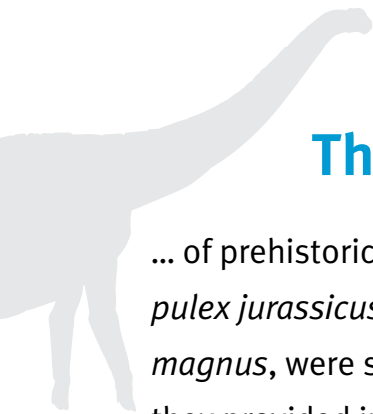
... lab result is not enough to identify a vector-borne disease as the cause of illness in your patient. Try to add more information, such as the patient's travel history, exposure to vectors and the possibility of co-infections.





Results of serology in **acute canine ehrlichiosis** can be negative. Antibodies can be first detected approximately 14 days after infection.

Thursday **3** January



The fossils ...

... of prehistoric ‘fleas’, *Pseudopulex jurassicus* and *Pseudopulex magnus*, were so well preserved they provided insights into what the monster ‘fleas’ of 165 million years ago looked like. They were much like today’s flea, but 10 times bigger – **ouch!**

CVBD – Companion Vector-Borne Diseases

You can find more information about companion vector-borne diseases (CVBD) online at **cvbd.org**. The site covers distribution, clinical presentation, pathogenesis, diagnosis and prevention of CVBD. It's an outlet for the CVBD® World Forum, a working group of leading international experts, and is supported by Bayer Animal Health, specialists in the field of parasite prevention.

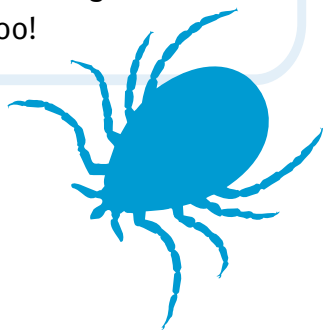
Want to get more details on CVBDs? Check out the official website!

Saturday
Sunday

5/6

January

Many owners may not realise they can be susceptible to ticks and flea bites — just like their pet. Explain that by protecting their pet's health, they're protecting themselves and their family too!





“

It only takes **a few *Giardia* cysts** to cause an infection in a human or another animal. And an infected pet releases an enormous number in it's faeces — a drop in the ocean can cause quite some trouble.

”



It's important ...

... to warn owners they should not remove a tick with their bare fingers but wear gloves. Tick fluids can contain pathogens which are infectious to both humans and their pets.

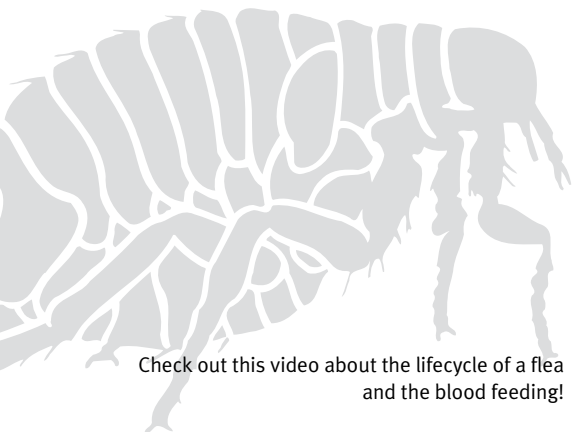


Usually cats infected with *Bartonella* do not show clinical signs. This is likely due to host and bacteria adaptations that have occurred over millenia to allow for co-existence.



“**Bon appetite!**”

Flea larvae eat their
parents' poo.



Check out this video about the lifecycle of a flea
and the blood feeding!

Friday **11** January



Prof. Susan E. Little, DVM, PhD

Dept. Veterinary Pathobiology
Center for Veterinary Health Sciences
Oklahoma State University
USA

Meet the Expert

My area of special interest:

**Ticks and tick-borne infections, zoonotic
vector-borne disease, canine heartworm**

My pets:

**2 dogs – Freckles (retired research Beagle)
and Pico (Retriever mix)**

3 cats – Google, Roy, and Tibby

My message:

www.ncvetp.org

www.showusyourticks.org

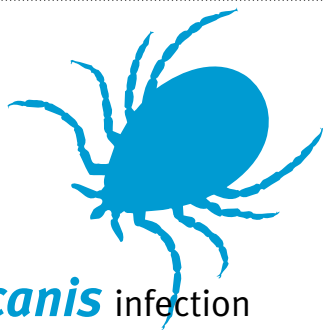
Saturday
Sunday

12 / 13

January

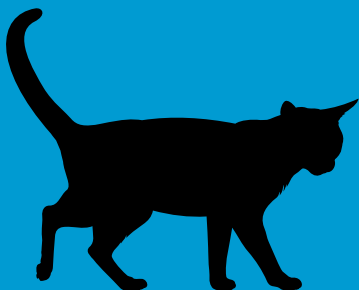
The key to a
successful clinic is
not doing more, but
doing more of what
works for your clinic.

Monday **14** January



Ehrlichia canis infection has been described as a ‘silent killer’ by some clinicians. By the time clinical signs become apparent in a chronic case it may be too late — continuous infection finally leads to bone marrow suppression and overwhelming infection.

Did you know
that cats can
get leishmaniosis
too?



Wednesday **16** January

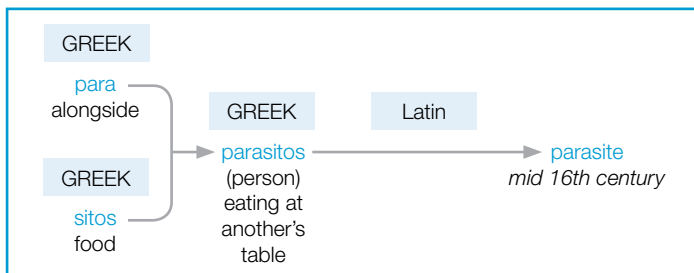
Exsanguinated by ticks!

Dogs heavily infested with brown dog ticks often require blood transfusions to recover. Routine use of tick control keeps the situation from getting out of paw.



The Greek origin of the word **'parasite'** is the combination of **'para'** and **'sitos'** meaning **'person eating at another's table'**.

But make sure the guests at your next dinner party don't take it as an offence when you tell them this detail.





Prof. Peter J. Irwin, BVetMed, PhD

College of Veterinary Medicine
School of Veterinary and Life Sciences
Murdoch University
Australia

Meet the Expert

My area of special interest:

**Canine babesiosis, haemoparasites of wildlife,
tick-borne infections of humans in Australia**

My pets:

**Jasper, an 8-year-old male Border Collie, who is a
complete nutcase!**

**Tashi, an 11-year-old Burmese cat – number one in
the pecking order in our home!**

My message:

**Try to ‘stop and smell the roses’... in other words,
occasionally take time out of your busy schedule
to appreciate the beauty of life – and if this
involves vector-borne parasites, then so much
the better!**

Saturday
Sunday

19 / 20

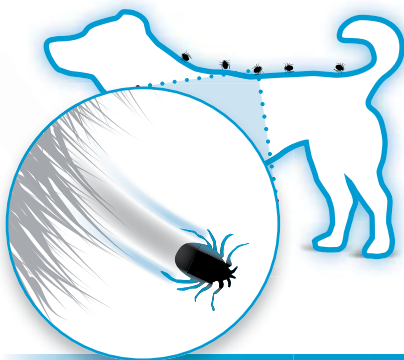
January

**A HEALTHY PET
AND HAPPY OWNER
MAKE FOR THE
BEST BUSINESS
STRATEGY OF
ALL.**



Monday **21** January

Mode of action of topically acting parasiticides:



Topically acting parasiticides kill through contact, **no biting required.**



Easier said than done:

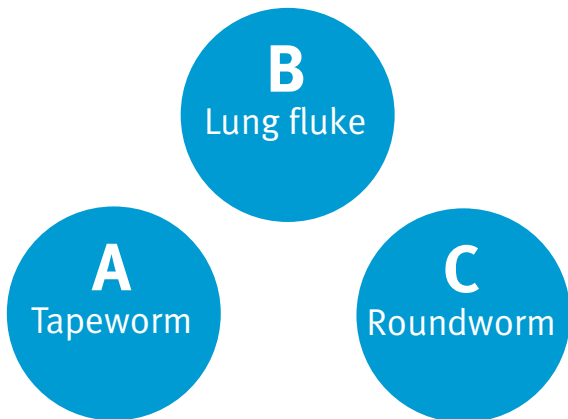
A spot-on isn't always easy for owners to apply at home, so **demonstrate the application** in the consulting room when your client and pet are present.

**Did you know
that from almost
900 tick species
worldwide
Australia is
home to ~7%?**

Ref: Horak *et al.* The Argasidae, Ixodidae and
Nuttalliellidae (Acari: Ixodida): a world list
of valid tick names. Exp Appl Acarol. 2002;
28(1-4):27-54

Thursday **24** January

What was the earliest known parasite in a human?



Ref: Cox. History of human parasitic diseases. Infect Dis Clin North Am. 2004; 18(2):171–188

Right answer: B

Friday **25** January



**Assoc. Prof. Mary Marcondes,
DVM, PhD**

College of Veterinary Medicine
São Paulo State University
Brazil

Meet the Expert

My area of special interest:

Canine and feline leishmaniosis

My pets:

Duna, a Miniature Schnauzer

My message:

**You can find important information about
infectious diseases at the International
Society for Companion Animal
Infectious Diseases (ISCAID)
website (<https://iscaid.org>).**

Saturday
Sunday

26 / 27

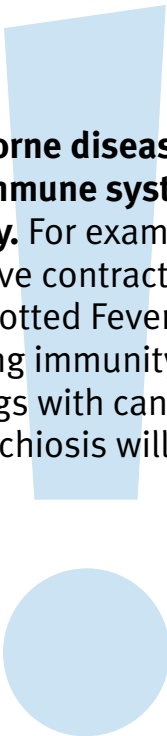
January



Good communication means the message has been received, not that it has been sent.

When speaking with an owner, ensure that they have understood everything by giving them a recap of the **key points** and time to **ask questions** within the consultation.





Tick-borne diseases can impact immune systems very differently. For example, dogs, which have contracted Rocky Mountain Spotted Fever will develop long-lasting immunity, whereas dogs with canine ehrlichiosis will not.

**Many vector-borne
infections can be
transmitted by blood
transfusions – testing
your donors is
best practice
to limit the risk!**

Wednesday **30** January

Did you know, ***Giardia***
cysts are able to survive and
stay infective for up to 3 months
in the environment?



Thursday **31** January

Simon's Cat - “Wake up!”



**What happens in
the morning when
a cat is desperately
hungry?**

Check out this video!

Friday **1** February



Dr. Ian Wright, BVMS

Head of ESCCAP UK & Ireland
(European Scientific Counsel
Companion Animal Parasites)
The Mount Veterinary Practice
Fleetwood
United Kingdom

Meet the Expert

My area of special interest:

**Prevention of vector-borne disease spread,
intestinal helminths**

My pets:

**Bella, a Miniature Australian Shepherd,
officially the cutest dog in the world**

My message:

**A world free of vector-borne disease is a
dream that we all have a part to play in
making a reality.**

Saturday
Sunday

2/3

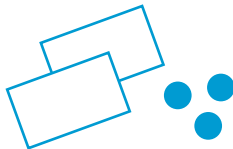
February

“



There is always
someone who
will do it cheaper.

”



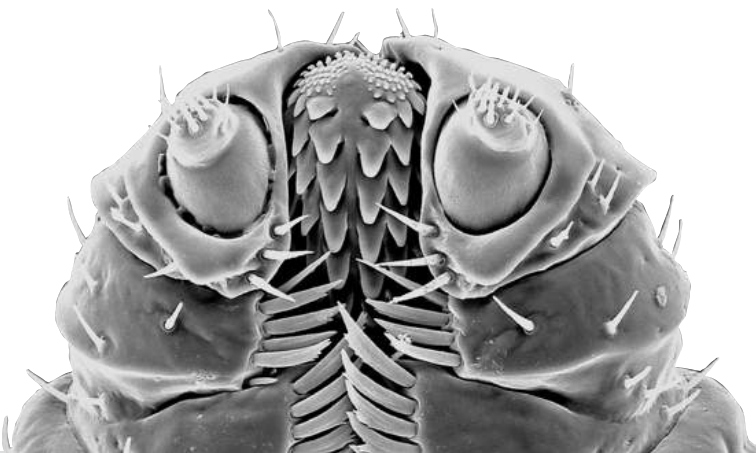
Did you know ...

... a single female tick can lay thousands of eggs in a single clutch. When the tick can also thrive indoors – like brown dog ticks – a massive home infestation may result.

Tuesday **5** February

Believe it or not:

Transmission of hepatozoonosis occurs by **ingestion of an infected tick** and not by a tick bite.



Wednesday

6

February

YOU and YOUR TEAM

have an important responsibility in human health by helping to control vector-borne diseases in companion animals. And so, you play a key role in the worldwide **One Health** approach championed by the World Health Organisation (WHO).

Want to read more about the **One Health** approach?



Thursday **7** February

***Hepatozoon canis* is transmitted by the ingestion of which tick species?**



- A** *Rhipicephalus sanguineus*
- B** *Ixodes ricinus*
- C** *Dermacentor variabilis*
- D** *Ixodes ricinus*

Right answer: A



Prof. Gaetano Oliva, DVM, PhD

Dept. Veterinary Medicine
and Animal Production
University of Naples Federico II
Italy

Meet the Expert

My area of special interest:

Canine leishmaniosis, CVBD

My pets:

Balù, a 1-year-old, male, chocolate Labrador Retriever

My message:

Canine leishmaniosis diagnosis is really simple, but we insist on making it complicated.

(Confucius said: “Life is really simple, but we insist on making it complicated.”)

Saturday
Sunday

9/10

February

“

Heard of the saying,

“Don’t run before you can walk”? Bear it in mind

when speaking with owners.

Ensure you know all the facts
before offering solutions.

If you don’t you’ll end up solving
the wrong problem.

”




Do you know which parasites are bigger or smaller? Try putting the following in the right order of body size, starting from small to big:

- a. Flea
- b. Mosquito
- c. Tick larva
- d. Sand fly



Right order: c - d - a - b



It's true that PCR tests
are highly sensitive for
vector-borne pathogens
but a negative result
doesn't rule them out.

Did you know

Babesia canis can be passed from one generation of *Dermacentor* ticks to the next, so a larva can already be infected without having had a blood meal.

Watch **Dr. Ian Wright** (Head of ESCCAP UK & Ireland) talking about an outbreak of babesiosis in the UK!



Thursday **14** February

In Earth's history, when did ticks develop from mite-like acari?

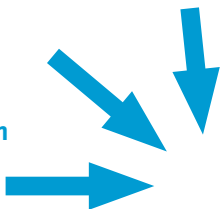
- a.** only after mammals were present on earth (~60 million years ago)
- b.** when birds developed (~100 million years ago)
- c.** when dinosaurs developed (~220 million years ago)
- d.** when amphibians developed (~350 million years ago)
- e.** when fishes developed (~450 million years ago)

Right answer: d

CAPC – Companion Animal Parasite Council

The Companion Animal Parasite Council (CAPC) is an independent non-profit organization in the United States that works to educate pet owners and veterinary professionals about diagnosis, treatment, prevention and control of parasitic infections.

**! Want to get more
information on companion
animal parasites? Check
out the CAPC website!**



Saturday
Sunday

16 / 17

February

Keep in mind that you have to send your key message at least 3 times.

1

**Tell them what
you are going
to tell them**

2

Tell them

3

**Tell them what
you told them**

Monday **18** February

Did you know ...

... that you may not always spot a tapeworm in pet's faeces after treatment, but this doesn't mean the pet wasn't infected?

The treatment, praziquantel, targets the tegument of the worm, which may mean it's digested by the animal instead.

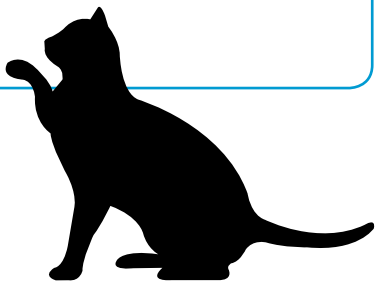




**Even though indoor cats
don't venture outside,
they are still vulnerable
to parasites and
vector-borne diseases.**



Did you know that
Mycoplasma spp.
infections in cats
can result in chronic
disease and mild
anaemia?



TODAY is 'Walking the Dog Day'!

Whoever started it, this is an easy day to take part in. Make sure you have suitable clothing and footwear for the conditions – and away you go.



Friday **22** February



Prof. Patrick Bourdeau, DVM, PhD

Dept. Clinical Sciences
Veterinary School of Nantes
University of Nantes
France

Meet the Expert

My area of special interest:

**Parasitic zoonoses, leishmaniosis in pets,
prevention and control of vectors or
ectoparasites**

My pets:

Dog and cat

My message:

**In many cases, when a vector-borne infection
occurs, the diagnosis will be often difficult
and curative treatment uncertain. Thus
prevention is the best way to avoid these
problems.**

Saturday
Sunday

23 / 24

February

“

It's a good idea to manage the expectations of the pet owner when they are experiencing a flea infestation in their home because there isn't a quick fix. Eradicating fleas takes discipline and time.

”

[Check out this video about the lifecycle of a flea and the role of carpets in it!](#)



Did you know ...

... better control of leishmaniosis in dogs could help cut incidence of visceral leishmaniosis in humans, of which there are up to 400,000 new cases each year? It's best practice to explain to clients living in endemic areas the importance of protecting their dog and the role they play in protecting human health.

Want to know more about canine leishmaniosis?
Check out this video with Prof. Domenico Otranto!

Tuesday **26** February



Prevention

Prevention equals precision when it comes to treating companion vector-borne diseases. Treatment is more effective when you create a tailor-made solution for every case you see in practice. That's where you add professional veterinary value.

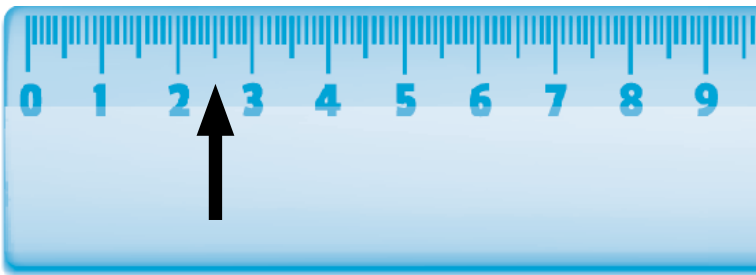


Mammalian meat allergy in humans – resulting in serious anaphylaxis and caused by the bite of ***Ixodes holocyclus*** – was first formally published by Australian immunologist Dr. Sheryl van Nunen after a cluster of cases on the east coast of Australia. It has since been described in countries all around the world.

Want to read more about mammalian product allergy? Check out TiARA – ‘Tick induced Allergies Research & Awareness’!

Thursday **28** February

Thankfully now extinct –
Saurophthirus longipes found
in Siberia and *Saurophthirus
exquisitus* discovered in China,
were both types of ‘giant’ fleas
found fossilized from the
Mesozoic period, measuring
2.5 cm!



Friday **1** March



Cinzia Cantacessi, DVM, PhD

Dept. Veterinary Medicine
University of Cambridge
United Kingdom

Meet the Expert

My area of special interest:

Canine and human hookworms, host-parasite interactions, helminthic therapy

My pets:

Ben, a black Labrador

My message:

<http://www.bbc.com/future/story/20130422-feeling-ill-swallow-a-parasite>

A smile is the prettiest
thing you can wear in your clinic.

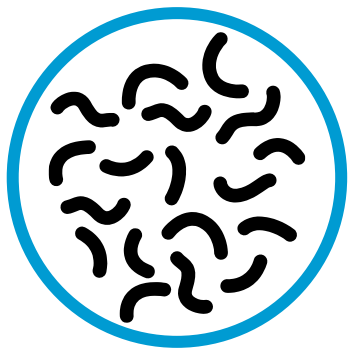


Monday **4** March

Did you know

that heartworm microfilariae can only mature into infective L3 larvae once they've abandoned the affected dog and infected a mosquito?

Want to know more about the infection in dogs? Check out this video!



By what age should puppies receive their first preventive treatment for heartworm in endemic areas?

- A** 2 weeks
- B** 8 weeks
- C** 10 weeks
- D** 12 weeks



Right answer: B

BREAKS YOUR HEART

Heartworm can be a silent cat killer. Prevention is protection.



Thursday **7** March



**Watch this funny video made by
students of the Cornell University
College in 2017!**

Friday **8** March

WSAVA – World Small Animal Veterinary Association

Representing more than 200,000 veterinarians globally, the World Small Animal Veterinary Association (WSAVA) brings together 105 companion animal veterinary associations across the world. The WSAVA gives professionals in these associations one global voice, and helps them to work together to deliver even higher standards of animal care.

Want to read more about the members, committees and global guidelines?
Check out this website!

Saturday
Sunday

9/10

March

If you can offer your clients
evidence-based veterinary
medicine, transparency, honesty,
kindness and humour, you have
all the ingredients to create a
successful practice.



Monday **11** March

Can you **pair up** the parasite with the volume of its blood meal?

- a. <1 microliter
- b. 7 microliters
- c. 7000 microliters

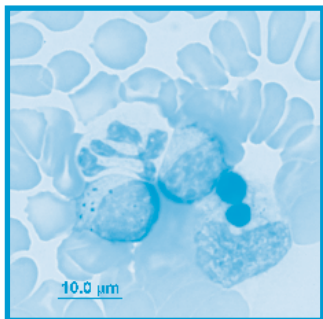
- 1. Tick
- 2. Sand fly
- 3. Mosquito

Right answer: a-2; b-3; c-1

**Mild or moderate unexplained
thrombocytopenia in your
patient's haematology profile?**

**Don't forget to add vector-borne
diseases to your differential
diagnosis list!**

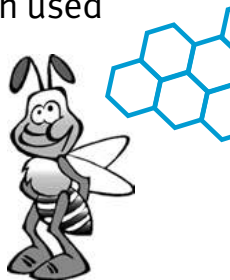




IgG antibodies can be detected about 14 days post-infection with *Ehrlichia canis*, however antibodies do not appear to be protective against this intracellular pathogen.

How times have changed –

One of the medicines for intestinal worms listed in Ancient Greek medical work, the Hippocratic Corpus, was a recipe which used the crushed root of the wild herb seseli mixed with water and honey, to be taken as a drink.



[Want to read more about historic parasites?](#)



Prof. Dwight D. Bowman, MS, PhD

Dept. Microbiology and Immunology
College of Veterinary Medicine
Cornell University
USA

Meet the Expert

My area of special interest:

Parasites of dogs and cats, methods to prevent and to kill those parasites

My pets:

A 'grandcat' named Sambuca

My message:

If you kill fleas and ticks as soon as they get on the pet, they are not a bother; if you treat dogs and cats with products labeled to treat or prevent helminth infections, they do not have helminth infections.

Saturday
Sunday

16 / 17 March

Do not allow **vector-borne
disease-causing pathogens**
to break the bond between
pet and owner:

Protect them!



Monday **18** March

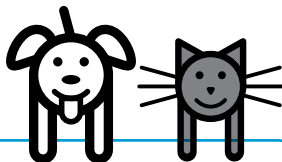
Did you know that it's possible for **lungworm** to damage lung tissue even in its larval stage?

Prevention is key.



Check out this video
with Dr. Roland Schaper
on lungworms in dogs!

Tuesday **19** March



Did you know the zoonotic parasite *Onchocerca lupi* may cause ocular disease?

Onchocercosis, thus far found in wolves, dogs, cats and humans, is diagnosed by the detection of microfilariae in skin snips or surgical removal of adults from the eye of the host.

Ref: Campbell *et al.* Paramyosin of canine *Onchocerca lupi*: usefulness for the diagnosis of a neglected zoonotic disease. Parasit Vectors. 2016; 9(1):493



It's a fact:
Dogs infected with
Babesia gibsoni can
infect other dogs
through biting.

Thursday **21** March

If you want to see how anti-parasitic treatment looked like in 1665, check out this painting from Gerard ter Borch.

‘Boy ridding his dog of fleas’





Prof. Dr. Barbara Kohn, DVM

Clinic for Small Animals
Faculty of Veterinary Medicine
Freie Universität Berlin
Germany

Meet the Expert

My area of special interest:

Infectious diseases, haematology/clinical pathology, immune-mediated disease, gastroenterology

My pets:

None ... but many in the hospital

My message:

“We can judge the heart of a human being by its treatment of animals.”

Immanuel Kant

Saturday
Sunday

23 / 24

March

Help to minimise the risk of Lyme borreliosis by encouraging owners to check their pet and themselves for ticks on a daily basis. Collected ticks can be kept in alcohol, sent to a lab and checked for pathogens when necessary.



Monday **25** March

How quickly can a tick transmit
Ehrlichia canis to a dog after biting?



- a. 20 seconds
- b. 6 minutes
- c. 3 hours
- d. 18 hours

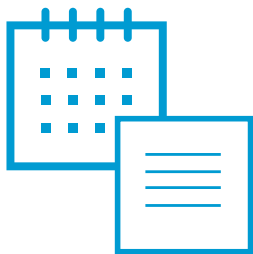
Ref: Fourie *et al.* Transmission of *Ehrlichia canis* by *Rhipicephalus sanguineus* ticks feeding on dogs and on artificial membranes. Vet Parasitol. 2013; 197(3-4):595-603

Right answer: c

Tuesday **26** March

COMPLIANCE IS THE KEY TO SUCCESS,

so try to make it as easy as possible for owners to treat their pets. Think of healthcare plans, home delivery, and reminder services, online and offline.



Wednesday **27** March



Questing ticks find their next meal by crawling up stems of grass and other plants extending their front legs, ready to attach themselves to a passing host.

Hunting ticks actively attack their host.



Want to watch a questing tick in action? Watch this video!



Adult fleas become addicted to blood. After their first meal they need blood at least twice a week to survive.

Ticks are tougher — they can wait months for a bloodmeal.

LeishVet

LeishVet is a scientific association dedicated to research, clinical management and education relating to leishmaniosis in veterinary medicine.

Perfect for practicing veterinarians!
Check out the official website for fact sheets on feline and canine leishmaniosis!



Saturday
Sunday

30/31

March

There are 5 levels of listening.

Which level might describe you most when speaking with pet owners?

- 1 Ignoring or not listening
- 2 Pretending to listen but not absorbing the information
- 3 Selective listening
- 4 Active or attentive listening
- 5 Empathic listening

Try to reach **levels 4 and 5 as often as you can.**



“

It's important to be vigilant when it comes to vector-borne diseases — there is still a lot to learn about them and their epidemiology is always changing!

That's mother nature.

”

In endemic areas canine leishmaniosis is best prevented by ...?

B

Vaccination

A

A long-acting topical insecticide with activity against sand flies

C

Informing pet owners how to avoid sand fly bites

D

A combination of all of the above



Right answer: D

Leishmania spp.

need two hosts to complete the life cycle: macrophages of a vertebrate host, such as a dog and the digestive tract of an arthropod, a sand fly.



**Want to learn more?
Watch this video about
the lifecycle of *Leishmania*
in the insect vector!**



Did you know that sand flies don't get their name because they like to live in sandy locations?

In fact, the name is inspired by their sandy colour.



Friday **5** April



**Prof. Edward B. Breitschwerdt,
DVM**

Dept. Clinical Sciences
College of Veterinary Medicine
North Carolina State University
USA

Meet the Expert

My area of special interest:

**Canine and feline vector-borne diseases,
human zoonotic diseases, bartonellosis**

My pets:

Beef cattle and a cat called Casey

My message:

cvmticklab@ncsu.edu

www.galaxydx.com

Saturday
Sunday

6/7

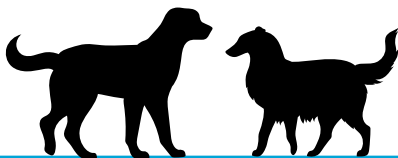
April



More than **100,000 dogs** rehomed from endemic to non-endemic areas in central Europe are carriers of *Leishmania*, which may increase the risk of the infection spreading.

[Want to know more about the increasing spread of leishmaniosis? Check out this video!](#)

Monday **8** April



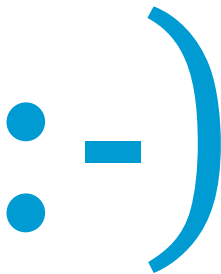
Did you know that more than half of the dogs infected with *Leishmania* do not present with clinical signs? Real-time PCR is the most sensitive test to detect infection!

If you want to learn more about what determines the diagnostic sensitivity of PCR assays, check out this paper:

Ref: Solano-Gallego *et al.* Diagnostic challenges in the era of canine *Leishmania infantum* vaccines. Trends Parasitol. 2017; 33(9):706–717

If your patient has clinical signs indicative of a tick-borne disease it's best practice to test — even if ticks have not been seen.

The tests of your lab are more sensitive than the eyes of the owner.





Did you know

that Lyme borreliosis is the most common tick-borne infection in people across North America and Europe?

Around 30,000 clinical cases are reported in the United States each year!

Any questions about Lyme borreliosis?
The 'Centers for Disease Control and Prevention'
(CDC) website will probably give you the answer.

Thursday **11** April

Believe it or not

— one of the reasons lapdogs were initially bred was to distract fleas, so they would bite the dog rather than the owner.





Carla Maia, DVM, PhD

Inst. Hygiene and Tropical Medicine
Universidade NOVA de Lisboa
Portugal

Meet the Expert

My area of special interest:

Zoonotic leishmaniosis, vector-borne zoonotic diseases

My pets:

2 dogs (1 Beagle, 1 Teckel), 1 cat (British), and 15 ornamental fish

My message:

“Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do.”

Steve Jobs

A great work requires a great team.

Saturday
Sunday

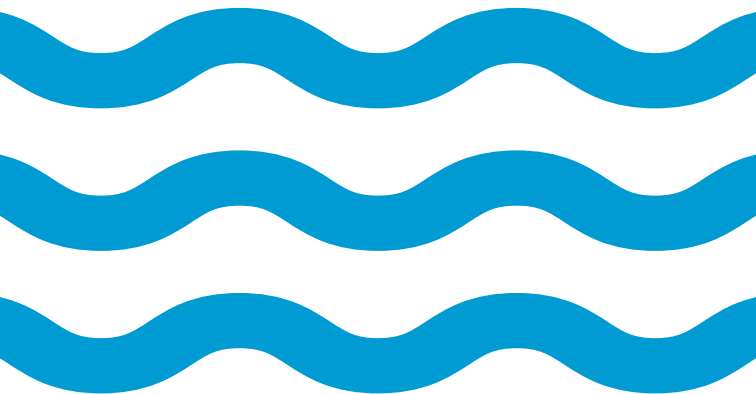
13/14

April

Trust is like paper.
Once it's crumpled
it can't be
perfect again.

Monday **15** April

The platypus, an Australian monotreme, is host to its own tick, *Ixodes ornithorynchi*, that survives being submerged with its aquatic host, and lives in the platypus' burrows!



Tuesday **16** April

Do you want to know which countries harbour which vector-borne agents for your travelling clients and pets?

Check out the CVBD occurrence maps!



Wednesday **17** April



It's a fact: Human cases of the zoonotic parasitic nematode *Dirofilaria repens* have been reported in Finland in recent years.

Ref: Pietikäinen *et al.* *Dirofilaria repens* transmission in southeastern Finland. Parasit Vectors. 2017; 10(1):561

Thursday **18** April



Even **Luther** did not like fleas. There exists an old script from **1525** with a dead flea inside that he killed. At his time people were scared to death by fleas as they played a role in spreading the Plague.

WVA — World Veterinary Association

The World Veterinary Association (WVA) brings together veterinarians from across the world, to share experiences, exchange ideas and promote the development of veterinary medicine. It is the umbrella organisation for national and international veterinary associations.

Want to read more about
the world's largest family of
veterinarians?
Check out this website!

Saturday
Sunday

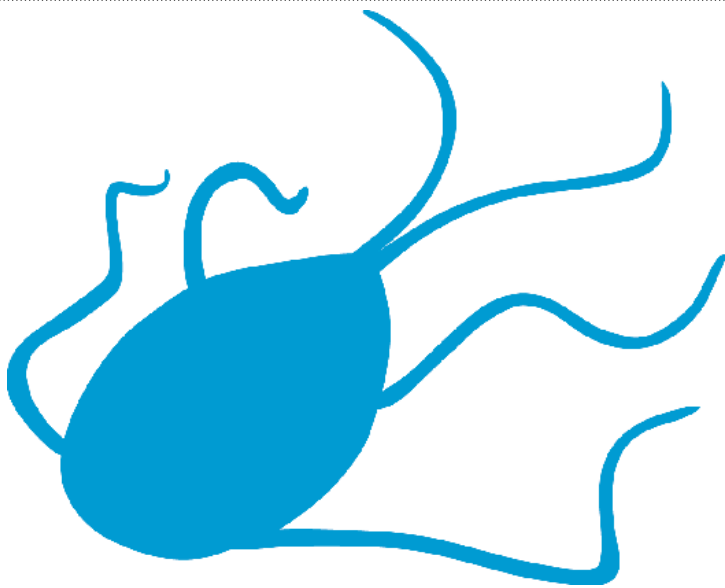
20 / 21 April



Did you know

that hookworm larvae found in contaminated soil are able to migrate through bare skin and cause pruritic infections in humans?

Monday **22** April

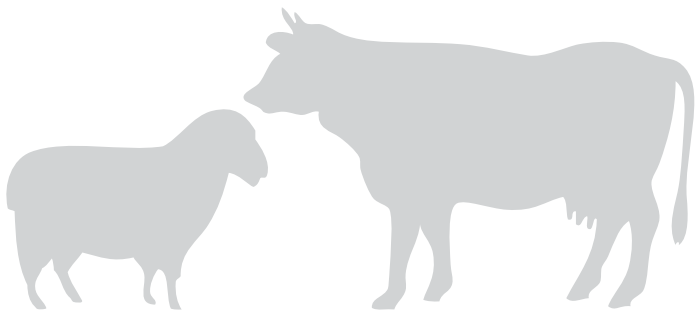


Infected cats can shed ***Giardia*** cysts in their faeces despite not showing any clinical signs!

Did you know that the larger species of *Babesia* parasites may be easier to find in capillary blood – try making an ear-tip smear.

Method:

- 1 Shave a small patch of fur from the ear tip, but don't disinfect with ethanol
- 2 Gently prick the skin with a 25G needle
- 3 Squeeze the site between finger and thumb to produce a tiny drop of (capillary) blood
- 4 Dab the blood spot with a clean microscope slide and make a smear
- 5 Stain in the usual way and look for intracellular parasites!



Infection with *Anaplasma phagocytophilum* is often known as pasture fever, because it affects sheep and cattle.



But in endemic regions of North America and Eurasia it also infects cats, dogs and even humans.



Parasites have been around for thousands of years. Hookworm dates back to 5,100 BC in Brazil; large roundworm eggs have been detected in Peru from 2,330 BC.



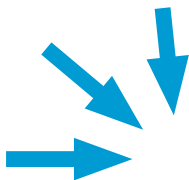
Ref: Cox. History of human parasitic diseases. Infect Dis Clin North Am. 2004; 18(2):171–188

Friday **26** April

Today is

‘WORLD VETERINARY DAY’!

Check out this video to learn what makes
our profession so unique. Enjoy :-)



Saturday
Sunday

27/28

April

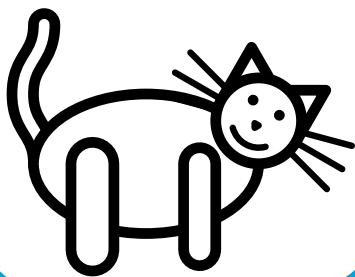
Taking time to educate and raise awareness of key issues in your area will encourage owners to better adhere to your recommendations.



So, take the time!

Monday **29** April

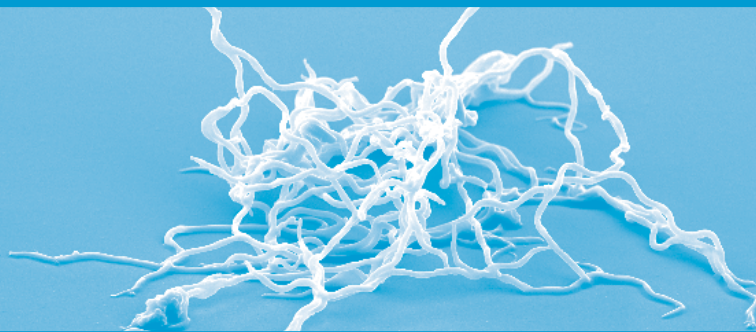
The most pathogenic haemoplasma species in cats is *Mycoplasma haemofelis*.





Check out [this link](#) for a
quick repetition of Lyme
disease facts!

Wednesday **1** May



What's the incubation period of a *Borrelia burgdorferi* infection (Lyme borreliosis) in dogs?

- a. 1–2 weeks
- b. 2 weeks–2 months
- c. 2–5 months
- d. 5 months and longer

Right answer: c (based on experimental data)

Lyme borreliosis presents differently in dogs compared with humans. See if you can match the facts below to **canine** or **human** borreliosis:

- 1 The incubation period is usually 2 to 5 months
- 2 The first sign of disease is often a 'bull's-eye' rash
- 3 The incubation period is typically 3 to 30 days
- 4 Intermittent, recurrent lameness is a common clinical sign

Right answers: 1. canine; 2. human; 3. human; 4. canine



**Assoc. Prof. Luís Cardoso,
DVM, PhD**

Dept. Veterinary Sciences
School of Agrarian and
Veterinary Sciences
University of Trás-os-Montes e Alto Douro
Portugal

Meet the Expert

My area of special interest:

**Vector-borne diseases, leishmaniosis,
zoonotic parasites**

My pets:

No pets currently

My message:

A well-known yet effective advice:

Prevention is better than treatment!

Saturday
Sunday

4/5

May

80-20 rule:

Clients will remember approximately 20% of what is said during a consultation.



Don't assume they will remember everything you've said.

Canine borreliosis has been associated with a rapidly progressive renal failure, and some breeds such as Labradors, Golden Retrievers and Bernese Mountain Dogs appear to be at a higher risk of developing this form of the disease.

Ref: Krupka & Straubinger.
Lyme borreliosis in dogs and cats:
background, diagnosis, treatment
and prevention of infections with
Borrelia burgdorferi sensu stricto.
Vet Clin North Am Small Anim Pract.
2010; 40(6):1103–1119



How can you differentiate
vaccination titers from natural
infection titers against
Borrelia burgdorferi?
(more than one answer possible)

A
Impossible

B
Western
blot test

C
ELISA

D
SNAP® 4Dx® test
(C6-peptide)

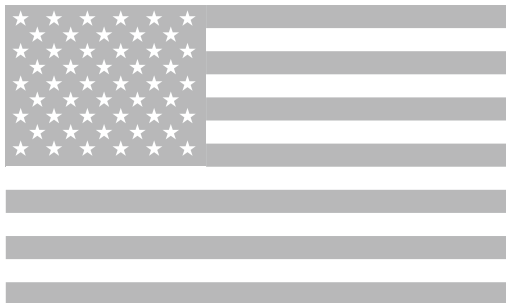
Right answers: B and D

Wednesday **8** May

Which of these facts is correct?

- A** Ticks can be found on all continents of our earth except Antarctica
- B** Only mammals and birds are hosts for ticks
- C** All living ticks may suck blood from humans and domestic animals
- D** The only veterinary significance of ticks is their capacity to transmit pathogens

Right answer: A



Did you know

that Lyme disease was named after a town? It was discovered in 1975 after a mysterious outbreak of what appeared to be juvenile rheumatoid arthritis in children who lived in Lyme and Old Lyme.

Friday **10** May



Prof. Guadalupe Miró, DVM, PhD

President of LeishVet
Animal Health Dept.
Veterinary Faculty
Universidad Complutense de Madrid
Spain

Meet the Expert

My area of special interest:

**Leishmaniosis, vector-borne diseases,
zoonosis of pets**

My pets:

2 dogs, 2 cats, and 3 turtles

My message:

**Parasites are the most intelligent creatures
I've ever met.**

Saturday
Sunday

11 / 12

May

A memorable way to practise good communication techniques with owners is to remember the **4 'A's**:

1. **A**ctively listen
2. **A**sk questions
3. **A**dapt to the owner
4. **A**lways be N.E.C.
(nice, empathetic and clear)

[Check out this video about
'Improving client communication
in parasite prevention'!](#)

Did you know

that ticks don't engorge within 24 hours? If you see an engorged tick it means it has been there for longer.

The feeding period can range from several days to more than a week.

**Want to know how ticks
find their host and dig in?
Watch this video!**

“

A regular course of antibiotics treatment (7–10 days) is not sufficient for patients with Lyme borreliosis. **4 weeks of treatment are recommended.**

”

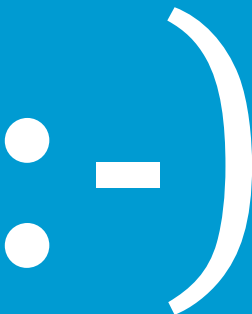
| M | T | W | T | F | S | S |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |



Even though **cats** have been found to have seroprevalence of Lyme borreliosis similar to that of dogs, feline clinical cases appear uncommon and may be underrecognized.

Ref: Hoyt *et al.* Evidence for clinical anaplasmosis and borreliosis in cats in Maine. *Top Companion Anim Med.* 2018; 33(2):40–44

**Don't feel sorry
for ticks,
they suck.**



Friday **17** May

WHO — The World Health Organization

Any diseases that impact public health are of high interest to the World Health Organization (WHO), a specialised agency of the United Nations. Understanding and controlling zoonotic diseases across the world are high on its list of priorities, therefore veterinary science plays a key role.

Want to read more about the WHO and get more information on their current topics? Check out this website!

Saturday
Sunday

18/19

May



**One-liner for
client communication:**

**It takes seconds to prevent,
but it could take months
to diagnose and cure.**

Monday **20** May



Did you know that the majority of dogs infected with *Borrelia burgdorferi* will not develop the clinical signs associated with Lyme borreliosis?

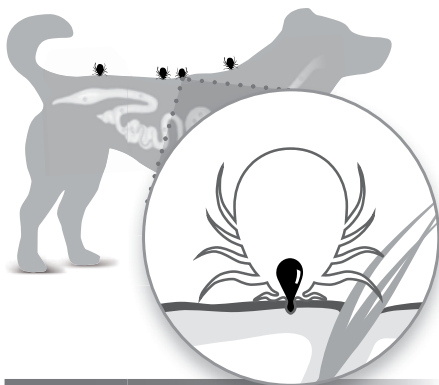
Ref: Littman *et al.* ACVIM consensus update on Lyme borreliosis in dogs and cats. J Vet Intern Med. 2018; 32(3):887–903

Hyperglobulinaemia is a marker for chronic inflammation, including vector-borne infections.

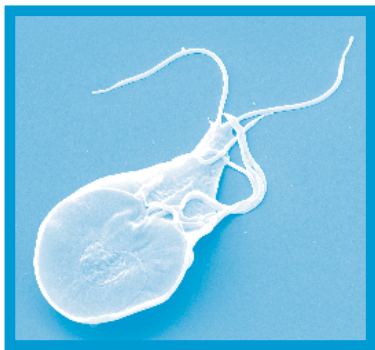
Ask the laboratory to conduct serum electrophoresis so you can differentiate a **polyclonal gammopathy** (consistent with infection and inflammation) from a **monoclonal gammopathy** (most consistent with neoplasia).

Mode of action of systemically acting parasiticides.
Parasites must feed to die.

Orally-treated dog



**Ticks must
feed to die.**



Antoni van Leeuwenhoek

(1632–1723) was a pioneer in biological microbiology.

He was the first person to see a protozoan parasite (*Giardia* spp.) after developing the first microscope that had high magnification power.



Filipe Dantas-Torres, DVM, PhD

Dept. Immunology
Aggeu Magalhães Institute
Fiocruz
Brazil

Meet the Expert

My area of special interest:

**Sand flies and leishmaniosis,
ticks and tick-borne diseases**

My pets:

Too much travelling to have a pet right now

My message:

**No matter where you live in this world, you
should never underestimate vectors and
vector-borne diseases.**

For more information visit our Facebook page:
<https://www.facebook.com/vbdOneHealth/>

Saturday
Sunday


25/26

May



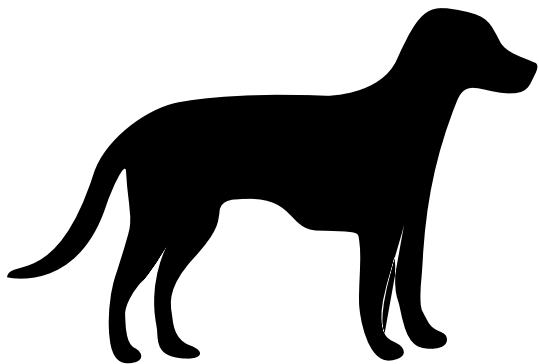
Take advantage of every opportunity

to practice your communication skills so that when important occasions arise, you will have the gift, the style, the sharpness, the clarity, and the emotions to affect other people.



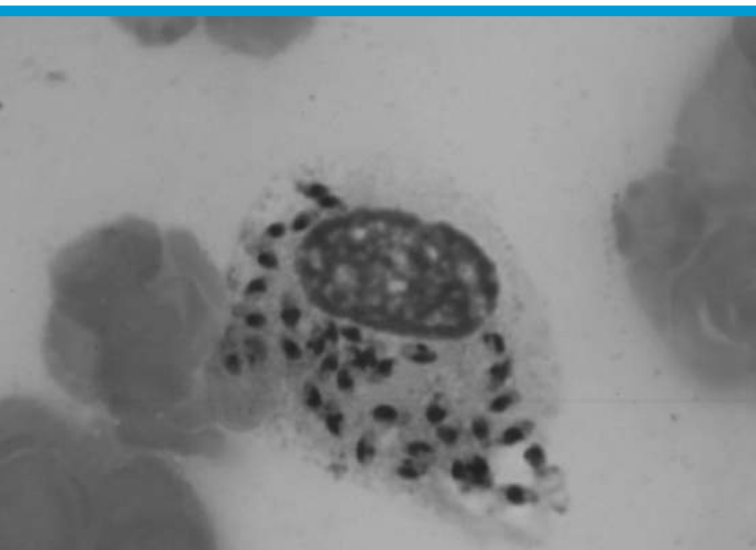
Although global insect populations are under serious threat, the number of ticks and mosquitoes is growing, raising the risk of companion vector-borne diseases.

Tuesday **28** May



Did you know

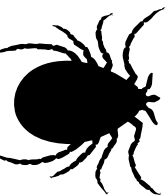
that by splenectomizing a dog
a subclinical infection with
Mycoplasma haemocanis can
cause immune-mediated
haemolytic anaemia?



Picture by courtesy of Gad Baneth.

Would you be able to identify
Leishmania by cytology?

Thursday **30** May



For how many years has the oldest tick specimen in the world existed?

- A** 1 million years
(Madagascar amber)
- B** 18 million years
(Dominican Republic amber)
- C** 45 million years
(Baltic amber)
- D** 100 million years
(Burmese amber)
- E** 250 million years
(hard coal from Russia)

Right answer: D



**Emeritus Prof. Michael J. Day,
BVMS, PhD**

College of Veterinary Medicine
School of Veterinary and Life Sciences
Murdoch University
Australia

Meet the Expert

My area of special interest:

Veterinary pathology, immunology and microbiology

My pets:

Sadly none ... I travel too much!

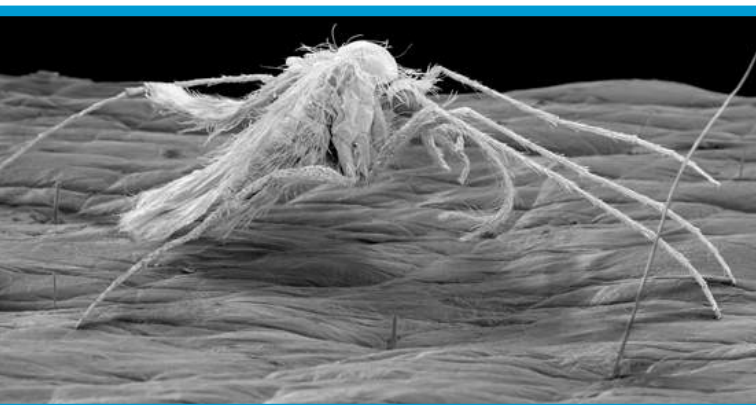
My message:

The clinical signs of many arthropod-borne infectious diseases develop because of the three-way interaction between the host immune system, the infectious agent and the vector arthropod.

Saturday
Sunday

1 / 2

June



In areas where **sand flies** are rife, it's important owners are aware they must protect their dogs using products that repel and prevent parasites biting.

How many dogs are estimated to be infected with *Leishmania infantum* across Italy, Spain, France and Portugal?

A
25,000

C
2.5 million

B
250,000

D
25 million



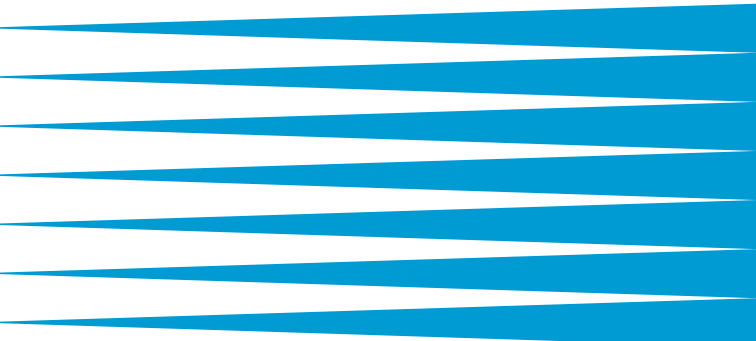
Right answer: C



Not all insecticides are effective against sand flies.

If endemic in your area, study the indications and characteristics closely to prescribe the right preventive product.

Did you know that the sand fly ***Phlebotomus ariasi*** in France can fly at speeds of **up to 2.5 km/h** but the African ***Anopheles mosquito*** outstrips it with a top speed of **6.5 km/h**?

A series of horizontal, wavy blue lines of varying thicknesses, creating a stylized, fluid pattern that spans the width of the page.

Thursday **6** June

The Ebers Papyrus is a series of medical documents, which dates back to the Early Dynastic period in Egypt, prior to 2,000 BC.

There is mentioned a skin disease under the term 'Nile Pimple', which is the possible first reference to cutaneous leishmaniosis.

VSF — Vétérinaires Sans Frontières International

Vétérinaires Sans Frontières (VSF) International is a global network of not-for-profit organisations. They work on hundreds of projects in the field of agriculture, livestock productions, animal health and animal welfare.

Want to read more about the member countries or support the VSF?
Check out this website!

Saturday
Sunday

8/9

June

HELP

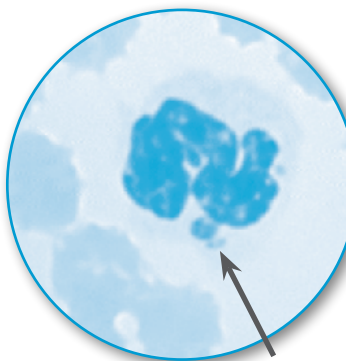
owners identify ticks on their pets — it can be easy to mistake a cutaneous mass (or even a nipple) for a tick at first glance.

Monday **10** June

Infection with *Anaplasma phagocytophilum* results in a short bacteraemia in dogs (<28 days), and the duration of clinical disease corresponds with this.

Picture by courtesy of Peter Irwin.

This differs from canine ehrlichiosis, where clinical disease can persist beyond bacteraemia resulting in chronic manifestations of the disease.





In endemic areas
it's best practice to
regularly test pets for
heartworm,
even if they are
receiving heartworm
preventives.

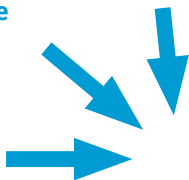
Want to expand your knowledge about
heartworms? Check out the video to find
5 facts you probably didn't know!

Wednesday **12** June

Only female mosquitoes bite and take blood meals.

Both male and female feed mainly on fruit and plant nectar, but the female also needs the protein in blood to help her eggs develop.

Want to read more about mosquitoes and their role as vectors?



Dracula or tear jerker?



It's not all about blood vectors
are interested in:

Phortica variegata feeds on
lachrymal fluid and transmits
the zoonotic eye worm
Thelazia callipaeda.



**Prof. Maria Grazia Pennisi,
DVM, PhD**

Dept. Veterinary Sciences
University of Messina
Italy

Meet the Expert

My area of special interest:

**Feline leishmaniosis, canine leishmaniosis,
vector-borne diseases**

My pets:

Cats (at present)

My message:

**The main task in our own life is to give birth
to ourselves.**

Saturday
Sunday

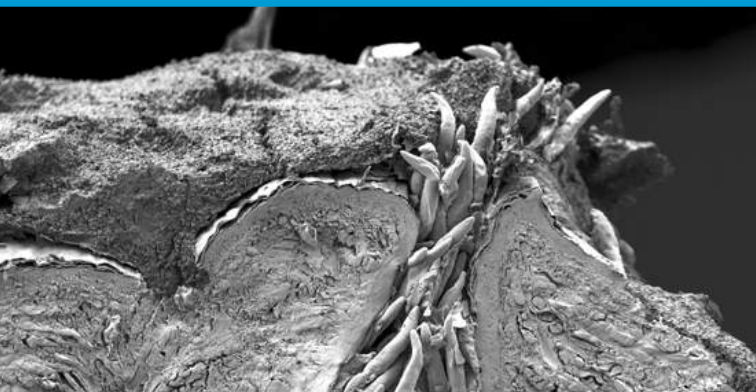
15/16

June

**Every great
consultation
starts with
good listening.**



Monday **17** June



Did you know that humans can be infected with ***Demodex* mites** too? Dry skin in human eyebrows is often caused by these little critters.

But don't be scared — there's no zoonotic potential of the canine species.

In cases when **canine ehrlichiosis** has successfully resolved, some dogs will maintain stable antibody titers for years, so a positive result on a serological test does not mean there is a current infection.





**Did
you know**

that the prevalence
of ***Ehrlichia canis***
in Brazilian dogs
can be as high as

40%?

Thursday **20** June



Pets go on holiday too!

They might not pick up a tan but they may pick up a vector-borne disease not normally found in your area, so consider checking for non-endemic infections.



Dr. Gerhard Dobler, MD

Bundeswehr Institute of Microbiology
Munich
Germany

Meet the Expert

My area of special interest:

**Tick ecology, arbovirus infections,
epidemiology of vector-borne diseases**

My pets:

No pets

My message:

**Nature is the most important 'bioterrorist'
on our earth creating the most dangerous
but also interesting pathogens.**

Saturday
Sunday

22 / 23

June

**One-liner for
client communication:**



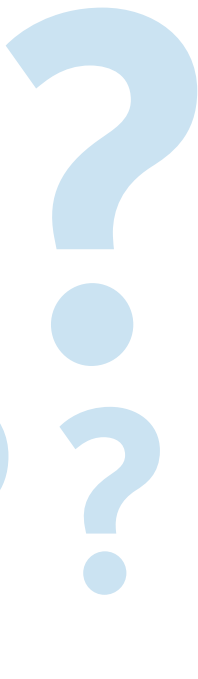
**AVOID INFECTION TO
AVOID DISEASE.**

Monday **24** June

Did you know that

kangaroo ticks
(*Amblyomma triguttatum*)

can bite cats and dogs too?



Tuesday

25

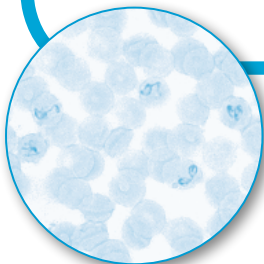
June

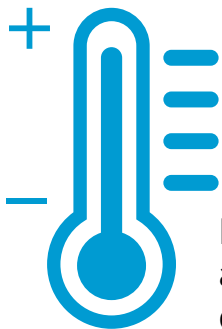
“

Diagnosis of **canine and feline babesiosis** should be based on identifying the organism on a blood smear or via PCR.

A positive serology result does not indicate that there is an active infection.

”

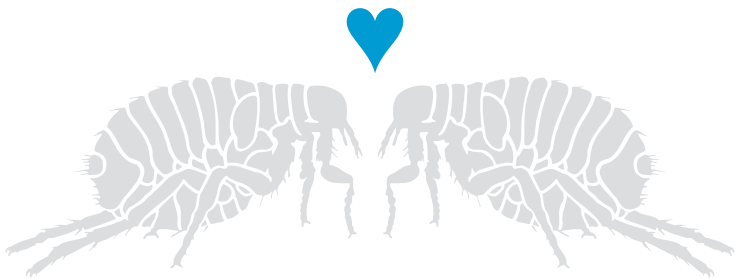




Did you know – the ticks
and pathogens are
conspiring against us!
Infection with

Anaplasma phagocytophilum
induces secretion of an antifreeze
protein that helps its **vector tick**
survive at lower temperatures.

Ref: Neelakanta *et al.* *Anaplasma phagocytophilum* induces
Ixodes scapularis ticks to express an antifreeze glycoprotein
gene that enhances their survival in the cold. J Clin Invest. 2010;
120(9):3179–3190



If fleas were humans, a recently married couple would have a thousand babies within 3 weeks.

What a honeymoon!

Check out this video about
an egg laying flea and get more
information about it!

Friday **28** June



Prof. Lluís Ferrer, DVM, PhD

Dept. Animal Medicine and Surgery
Veterinary School
Universitat Autònoma de Barcelona
Spain

Meet the Expert

My area of special interest:

Canine leishmaniosis, ectoparasites and parasitic skin diseases, canine and feline immunology and immune-mediated diseases

My pets:

Darwin, a 3-year-old Portuguese Water Dog

My message:

“Dogs are our link to paradise. To sit with a dog on a hillside on a glorious afternoon is to be back in Eden, where doing nothing was not boring – it was peace.” *Milan Kundera*

Saturday
Sunday

29/30

June

Top tip:

When enjoying a warm summer night outside, avoid sitting under aphid-infested trees during sand fly season. Honeydew produced by the aphids attracts sand flies.



Monday **1** July

For how long are
Toxoplasma oocysts
able to stay infective
in the environment?

A

3 months

B

7 months

C

18 months

Right answer: C

Did you know that vector-borne infections can cause anaemia through all 3 pathophysiological mechanisms?

- Bone marrow suppression
- Haemolysis
- Blood loss
(when there is concurrent coagulopathy)

Mosquitoes don't like the cold. Once temperatures drop below approximately 10°C, they go into hibernation or seek warmer microclimates indoors.

Thursday **4** July



Did you know
that despite
its name,

Ctenocephalides felis

is the most commonly-found flea
species **on dogs?**

Want to get more information
about the blood feeding of
fleas? Check out this video!

Friday **5** July

Mission of the CVBD® World Forum

To enhance knowledge and communication on companion animal vector-borne diseases for the improvement of animal, human, and environmental health through multi-disciplinary scientific collaboration that advances awareness and informs veterinarians, other medical professionals, and the broader society.

Have a look at the CVBD manuscript collections published open access in *Parasites & Vectors*.

Saturday
Sunday

6/7

July

“

The single biggest problem in communication is the illusion that it has taken place.

”

Bernard Shaw

Irish playwright and
political activist

Monday **8** July



It's a fact:

In Europe zoonotic *Dirofilaria repens* is spreading.

Traditionally this nematode was endemic in southern and eastern Europe. In the last years infections have been documented in dogs that have never left Germany, Austria or Poland.

Did you know

that while **heartworm (*Dirofilaria immitis*) treatment** differs from **heartworm prevention,**



it is best practice to test the actual status in dogs older than 6 months before starting appropriate medication?

Want to read more about *D. immitis*?
Check out the official website of the
American Heartworm Society!

Wednesday **10** July

Quiz:

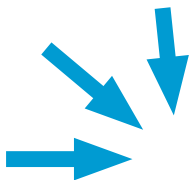
By what routes can *Leishmania* be transmitted?

- a. Sand fly vector
- b. Venereal
- c. Vertical
- d. Blood transfusion
- e. All of the above

Right answer: e

What veterinarians know that physicians don't!

Check out this video to hear
about the benefits of knowledge
across more than one species.



Friday **12** July



Prof. Luigi Gradoni, BSc, PhD

Dept. Infectious Diseases
National Institute of Health
Rome
Italy

Meet the Expert

My area of special interest:

**Human and canine leishmaniosis,
sand fly biology and control**

My pets:

A rosy-faced lovebird (*Agapornis roseicollis*)

My message:

**Every person and animal have the same right
to live in an environment adequate to their
health and well-being.**

Saturday
Sunday

13/14 July

“

Asking your clients

for their travel plans is a perfect match between showing interest and getting essential information for pet protection.

”



To get a current statement on this topic watch a professor speaking on infectious agents in imported dogs.

Monday **15** July

Heartworm microfilariae

can be transmitted to unborn puppies by transplacental transfer. So puppies may be born with microfilariae in circulation.



Tuesday **16** July



In 5 weeks, at August 22nd, it's **'Take Your Cat to the Vet Day'**.

Why not celebrate this day by offering a special deal to your cat owners?

Wednesday **17** July



Did you know:
A mosquito can drink up to
3-times its own weight in
blood!

Thursday **18** July

It's a fact:

Leishmania has been around since the age of the Ancient Egyptians.

Scientists successfully extracted ***Leishmania donovani*** DNA from mummies of people alive 4,000 years ago.



Ref: Zink *et al.* Leishmaniasis in Ancient Egypt and Upper Nubia. *Emerg Infect Dis.* 2006; 12(10):1616–1617



Prof. Dr. Frans Jongejan, MSc, PhD

Utrecht Centre for Tick-borne Diseases
Faculty of Veterinary Medicine
Utrecht University
The Netherlands

Meet the Expert

My area of special interest:

Ticks and tick-borne diseases

My pets:

Benji, a brave Yorkshire Terrier

My message:

Ticks, ‘Spiders from Hell’, as they were recently called in an interview I gave for the weekly Dutch magazine ‘Elsevier’, have gained control over our natural environment. A global concerted effort is required to control ticks rather than ticks controlling us.

Saturday
Sunday

20 / 21 July

“

People will forget what you've said, people will forget what you've done, **but people will never forget how you made them feel.**

”

Maya Angelou

American poet and
civil rights activist

Check out this website to read
more about Maya Angelou!

Monday **22** July



The eastern Australian paralysis tick, ***Ixodes holocyclus***, causes life-threatening neurological signs and respiratory paralysis.

Tuesday **23** July



When treating
respiratory disease
in pets, do you consider
lungworm
as a potential cause?

**It's important to include it as a
differential in endemic areas.**

**Check out this video for more
information on *Angiostrongylus
vasorum*!**

Wednesday **24** July

It's not just the
Australian paralysis tick
(*Ixodes holocyclus*) that has
been associated with paralysis
— you can add the Australian
ticks *Ixodes cornuatus* and
Ixodes hirsti to the list too.





Mythology tells us that **cats** have **multiple lives**, however they are susceptible to **vector-borne diseases** in all of them.



Prof. Dr. Volkhard A.J. Kempf, MD

Inst. Medical Microbiology and
Infection Control
Goethe-University Frankfurt
Germany

Meet the Expert

My area of special interest:

**Zoonotic infections (*Bartonella* spp.),
bacterial pathogenicity, bacterial resistance
(*Acinetobacter* spp.)**

My pets:

No pets, but we love cows and dogs

My message:

**Zoonotic diseases are often not recognized
by medical doctors – mainly due to a lack of
knowledge!**

Saturday
Sunday

27/28

July



**Never had a mosquito
in your bedroom?
So why should indoor
pets be safe?**



Monday **29** July



It takes just **3 hours** of tick attachment for a dog to become infected with ***Ehrlichia canis***.

Ref: Fourie *et al.* Transmission of *Ehrlichia canis* by *Rhipicephalus sanguineus* ticks feeding on dogs and on artificial membranes. Vet Parasitol. 2013; 197(3-4):595-603

Tuesday **30** July

Quiz:

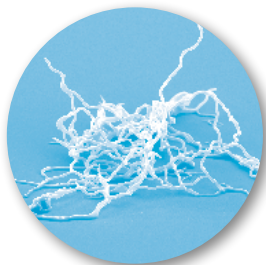
Which *Hepatozoon* species can infect cats?

(several answers are possible)

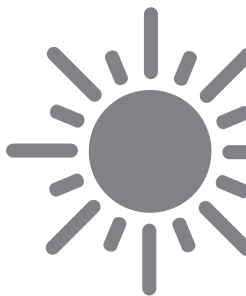
- A** *Hepatozoon canis*
- B** *Hepatozoon felis*
- C** *Hepatozoon lupis*
- D** *Hepatozoon silvestris*
- E** *Hepatozoon easteris*

Right answers: A, B and D

Lyme disease *Borrelia* spp. are dependent on N-acetylglucosamine (NAG). In mammals, NAG is part of hyaluronan, which is distributed widely throughout connective, epithelial, and neural tissues.



**Could this
explain the
bolt-holes of
*Borrelia
burgdorferi*?**



Ever heard of the
dog louse fly
Hippobosca longipennis?

Chances are you haven't
if you don't live in dry climatic
regions of Africa, the Middle
East and Asia.



August 4th is

'Assistance Dog Day'!

This day recognises and honours assistance dogs and their trainers, and aims to raise funds and increase awareness of the work they do. It is part of International Assistance Dog Week, a yearly event started by long-time paraplegic, Marcie Davis.

Saturday
Sunday

3/4

August

Did you know,
people tend to **share a
negative experience 4-times
more often than a positive one?**

Try to ensure you
always offer your clients
your **best service.**

Monday **5** August

In dogs, infection with *Anaplasma phagocytophilum* usually results in acute, self-limiting disease. It rarely manifests as chronic illness, and fatalities are also rare.



Tuesday **6** August

Rhipicephalus sanguineus,

which is commonly known as the brown dog tick, is the perfect vector for a number of dangerous pathogens including *Ehrlichia canis* and *Babesia vogeli*.

And not only for brown dogs ...



Wednesday

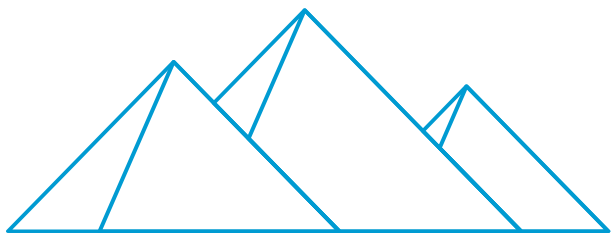
7

August



Originally known as the oriental eye worm, *Thelazia callipaeda* has travelled a long way in the last decade and can now be found across Europe.

Thursday **8** August



Did you know,

ticks of the ***Rhipicephalus sanguineus*** group have infested dogs living near the Mediterranean since ancient times?

Researchers made the discovery when they found an infested dog mummy in El Deir, Egypt.

Ref: Otranto *et al.* The enigma of the dog mummy from ancient Egypt and the origin of '*Rhipicephalus sanguineus*'. Parasit Vectors. 2014; 7:2



Prof. Michael R. Lappin, DVM, PhD

Center for Companion Animal Studies
College of Veterinary Medicine and
Biomedical Sciences
Colorado State University
USA

Meet the Expert

My area of special interest:

Dog and cat flea-borne diseases, dog and cat tick-borne diseases, special interests in *Anaplasma* spp., *Bartonella* spp., *Ehrlichia* spp., and the haemoplasmas

My pets:

1 Labrador, 2 Border Collies, 1 Welsh Springer Spaniel, 3 Domestic Short-Haired cats, and 1 horse

My message:

Healthy dogs and cats without ectoparasites have more health benefits than health risks!

Saturday
Sunday

10 / 11

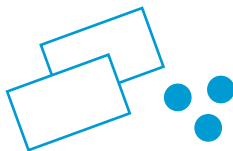
August



“

**Price is all about value.
Price is what you pay,
value is what you get.**

”



Monday

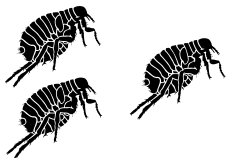
12

August

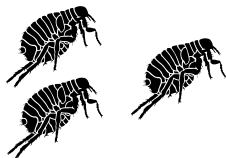
Do you know the most common presenting signs of canine leishmaniosis?

Around **90%** of clinical cases will present with dermal abnormalities, and **80%** with lymphadenomegaly.

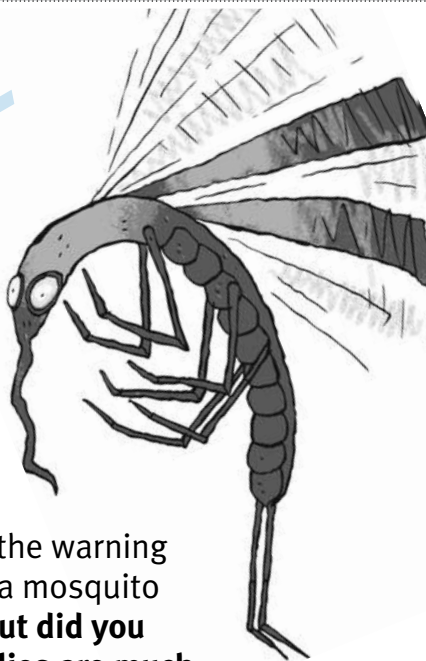
Tuesday **13** August



**Waiting to remove
fleas or ticks could mean
the difference between
a healthy pet and an
extremely ill one.**



buzz
buzz



We all recognise the warning
'buzz' from a mosquito
ready to strike. **But did you
know that sand flies are much
more discreet, silently hunting
their prey?**

Thursday **15** August



Dogs with *Leishmania*
still need a hug.

Friday **16** August



Prof. Maxime Madder, MSc, PhD

Biologics and Infectious Diseases
Clinglobal
Mauritius

Meet the Expert

My area of special interest:

**Ecto- and endoparasites, vectors and
vector-borne diseases, vector control,
vaccine development**

My pets:

No pets right now

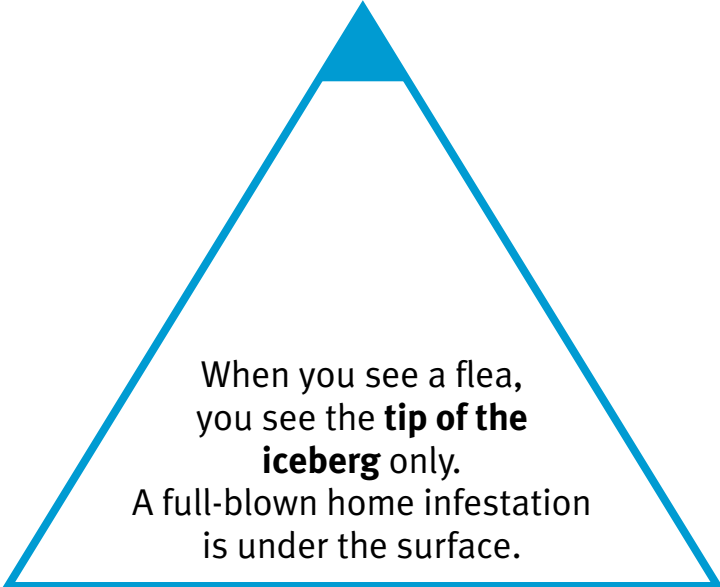
My message:

www.clinvet.com

Saturday
Sunday

17/18

August



When you see a flea,
you see the **tip of the
iceberg** only.
A full-blown home infestation
is under the surface.


**Check out this video to
see where flea infestation
in your home is possible!**



is 'World Mosquito Day'!

Dedicated to the British doctor
Sir Ronald Ross who discovered in
1897 that malaria is transmitted
by female mosquitoes.

Tuesday **20** August



Sand flies can be recognised by their **hairy** bodies and the **‘V’ shape** of their wings over their back when at rest.

Wednesday **21** August

Mix and match:

Can you match the agent with the intermediate host or vector?

- | | |
|-----------------------------------|-------------|
| a) <i>Dirofilaria immitis</i> | 1) Flea |
| b) <i>Angiostrongylus vasorum</i> | 2) Mosquito |
| c) <i>Leishmania infantum</i> | 3) Tick |
| d) <i>Dipylidium caninum</i> | 4) Snail |
| e) <i>Borrelia burgdorferi</i> | 5) Sand fly |

Right answers: a with 2; b with 4; c with 5; d with 1; e with 3



Ever heard of the **'The Flea Waltz'**? This piece of music is known worldwide. Named the **'Dog Waltz'** in Russia, the **'Cat March'** in Bulgaria, the **'Cat's Dance'** in Korea and even the **'Polka of the Blockheads'** in Spain.

You can help to pause the flea soundtrack, by encouraging your clients to use effective flea treatments and preventives on their pets.

**Check out this video
to listen to 'The Flea Waltz'!**

TroCCAP – Tropical Council for Companion Animal Parasites

If you believe you may be dealing with a companion animal parasite from the tropics or sub-tropics, the Tropical Council for Companion Animal Parasites (TroCCAP) offers guidance and best practice recommendations to help you treat the animal.

Want to read more about this non-for-profit public company and its work? Check out the website to get more details!

Saturday
Sunday

24/25

August



One-liner in client communication:

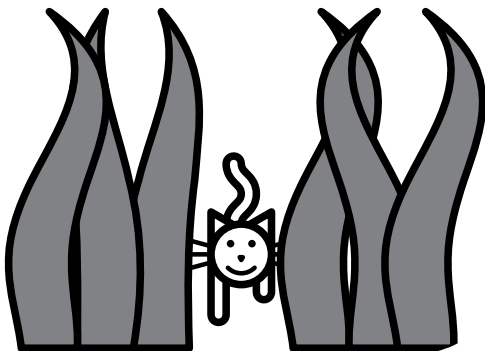
The risk of your pet getting a vector-borne disease will never ever be zero, but it can be reduced significantly by you taking the right preventive measures.



Did you know:

A **dog** presenting with **pruritus** in **southern Europe** could be infected with the nematode ***Acanthocheilonema reconditum***.

Tuesday **27** August



In a cat with suspected feline asthma, you may need to rule out heartworm. In endemic areas juvenile *Dirofilaria immitis* larvae infect the pulmonary vasculature, which can lead to respiratory signs.

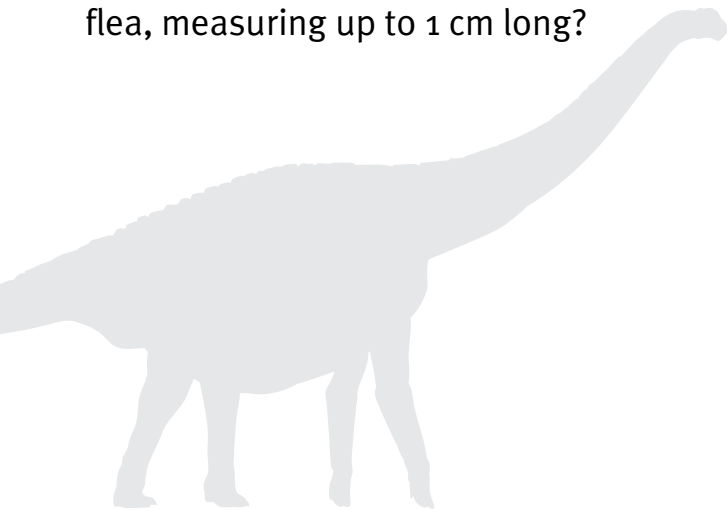
Female ticks imbibe more blood than male ticks. For example, the female ixodid tick increases in size throughout feeding, **but by how much?**

- A** 10 times
- B** 50 times
- C** 100 times

Want to read more about
the increase of weight in
female ticks?

Right answer: C

Did you know that *Tarwinia australis* is the first described Mesozoic 'giant' flea, measuring up to 1 cm long?



Ref: Huang. *Tarwinia australis* (Siphonaptera: Tarwiniidae) from the Lower Cretaceous Koonwarra fossil bed: Morphological revision and analysis of its evolutionary relationship. Cretaceous Research. 2015; 52(Part B):507–515

Friday **30** August



**Assoc. Prof. Ricardo G. Maggi,
MS, PhD**

Dept. Clinical Sciences
College of Veterinary Medicine
North Carolina State University
USA

Meet the Expert

My area of special interest:

**Molecular diagnostics, pathogenicity, and
prophylaxis of vector-borne diseases**

My pets:

A Miniature Wire-Haired Dachshund

My message:

**The best way to predict the future is to
create it.**

Sat
Sun

31/1

Aug/Sep

If you want to know,
how your clinic did yesterday,
look at the financials.

If you want to know,
how your clinic does today,
look at your customers.

If you want to know,
how your clinic will do tomorrow,
look at your team.



No doubt, it's true:

Flea-borne bartonellosis can be fatal in immunocompromised people. Flea faeces carrying the bacteria can be transmitted by cat scratches and bites, hence the name cat scratch disease (CSD).

Canine granulocytic anaplasmosis can be diagnosed by ...

(more than one answer possible)

A

A positive
PCR result

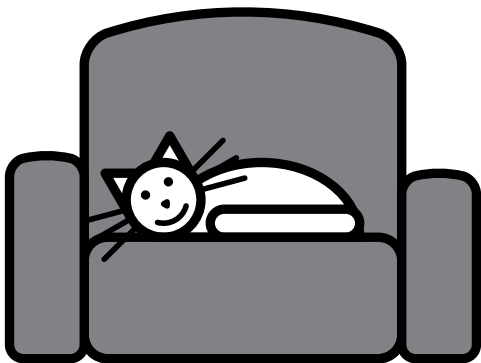
B

A doublefold
rise of the serum
antibody titer

C

A fourfold
rise of the serum
antibody titer

Right answers: A and C



Mosquitoes travel without borders and don't care where their next meal lives. **Indoor cats** need to be **protected from heartworm too!**

The page is decorated with several light blue musical notes and a treble clef. There are four eighth notes, one quarter note, and one treble clef scattered around the text. In the bottom right, there are three blue arrows pointing towards the date.

‘Vet School Funk!’

Watch this funny video made
by students of the Cornell
University DVM Class of 2015!

Friday **6** September



A. Valeria Scorza, DVM, PhD

Center for Companion Animal Studies
College of Veterinary Medicine and
Biomedical Sciences
Colorado State University
USA

Meet the Expert

My area of special interest:

**Canine and feline animal zoonosis
(gastrointestinal and vector-borne diseases),
and public health**

My pets:

Sadly no pets right now

My message:

“The smallest feline is a masterpiece.”

Leonardo da Vinci

Saturday
Sunday

7/8

September

Even **motivated pet owners** who follow your practice prevention scheme can eventually forget the importance of regular treatment as they are less likely to see a parasite on their pet.

So, keep explaining, motivating and complimenting them for doing the right thing.





Did you know
that fleas can
transmit the
tapeworm
Dipylidium
caninum?

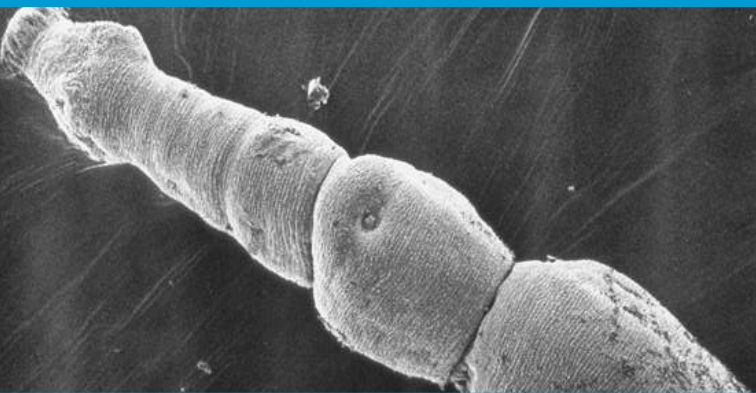
It's a good idea to consider flea
treatment when you spot a pet
with a tapeworm infestation.

Do you really know the full history of your patient?

If a dog or cat has been imported, it may be harbouring infections not normally found in your area.

So ask questions!



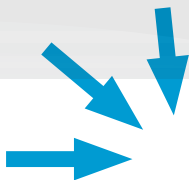


Echinococcus multilocularis

is one of the most dangerous parasitic diseases in humans and can cause a granulomatous tumor-like infection in the liver and brain.

Already ancient Greek physician Hippocrates, the father of medicine, knew about worm infections. In his writings from 2,500 years ago he referred to two intestinal worms, called *Helmins strongyle* and *Ascaris*.

Want to read more about this historic discovery in ancient Greece? Check out this article.





Dr. Torsten J. Naucke, MSc

Laboklin GmbH & Co. KG
Bad Kissingen
Germany

Meet the Expert

My area of special interest:

**Diagnosis and treatment of CVBDs,
especially leishmaniosis, distribution of
sand flies in Germany**

My pets:

**A turtle (*Testudo hermanni*), rescued about
20 years ago**

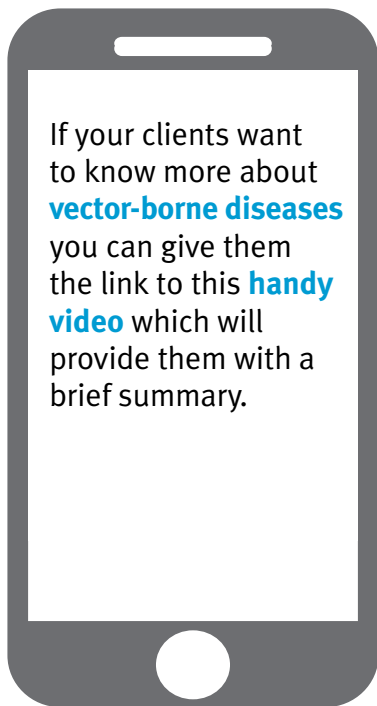
My message:

**Currently supporting veterinarians in
Germany with case-specific canine
leishmaniosis treatment in 10,000 to 12,000
imported cases.**

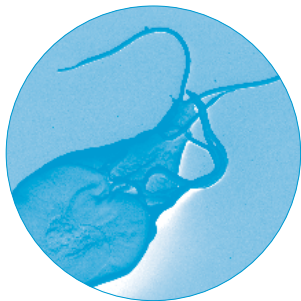
Saturday
Sunday

14/15

September



Giardia can be difficult to control because the cysts in faeces of infected animals are absorbed into the soil, where they can survive for up to 3 months.



Which of the following agents is transmitted when dogs ingest ticks, rather than when they are bitten by ticks?

A *Babesia canis*

B *Hepatozoon canis*

C *Ehrlichia canis*

Right answer: B

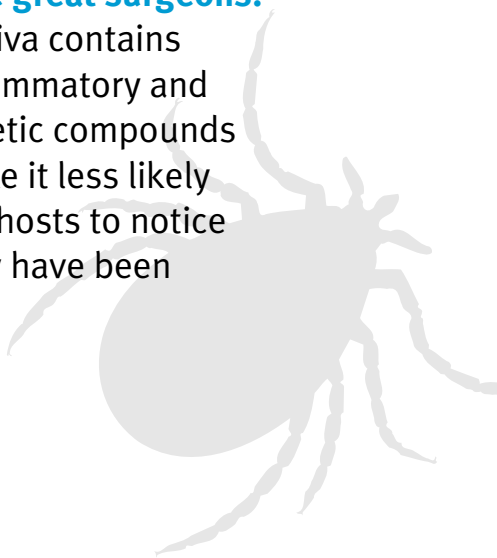
Did you know that *Toxocara spp.* can be passed to puppies and kittens from their mother, and that even feeding on her milk isn't safe?



Thursday **19** September

Ticks are great surgeons:

Their saliva contains anti-inflammatory and anaesthetic compounds that make it less likely for their hosts to notice that they have been bitten.



ESCCAP — European Scientific Counsel Companion Animal Parasites

The European Scientific Counsel Companion Animal Parasites (ESCCAP) is a group of leading European veterinary parasitologists and public health experts that provide free expert advice and guidance. The group's long-term goal is to control companion animal parasites in Europe so they no longer pose health issues for pets or humans.

Want to learn more? Check out the numerous free documents ESCCAP provides!

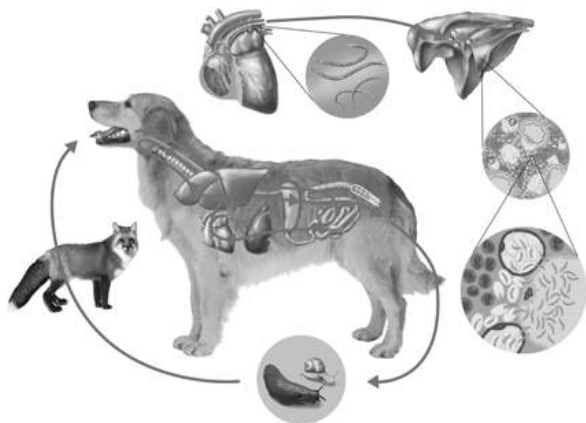
Saturday
Sunday **21 / 22** September

Try to connect to each other
on an **emotional level** before
connecting on an intellectual
level.



**First to
the heart,
then to
the head!**

Did you know that dogs can be infected with ***Angiostrongylus vasorum*** larvae not only by licking an infected slug or snail, but also by licking their slime trail?



Have you ever thought about why the Baermann test can be used to diagnose *Aelurostrongylus abstrusus*? It's because cats shed larvae and not eggs in their faeces.



Check out this video
with Dr. Roland Schaper
on lungworms in dogs!

“

In just a few days, a rapidly engorging female tick can increase more than 100-fold in size, greater than any other blood-sucking animal. The amazing elasticity of the cuticle is due in part to the presence of resilin, the same compound that allows fleas to jump to great heights.

”

Ref: Sonenshine & Roe. Biology of Ticks. Volume 1. 2nd ed., Oxford University Press, New York, USA, 2013; p109–110

Thursday **26** September



Illustration by Wang Cheng,
courtesy of Oregon State
University.

Even dinosaurs weren't safe!

Two newly identified 'flea' species — called *Pseudopulex jurassicus* and *Pseudopulex magnus* — were discovered in Inner Mongolia as preserved compression fossils.



**Hon. Prof. Séverine Tasker,
BVSc, PhD**

Bristol Veterinary School
University of Bristol
United Kingdom

Meet the Expert

My area of special interest:

**Feline infectious diseases, particularly
haemoplasmosis and leishmaniosis**

My pets:

**Bomber, a 19-year-old one-eyed Persian,
Zammy, a 10-year-old male British Shorthair and
Bobbie, a 1-year-old Ragdoll
– all gorgeous feline boys!**

My message:


**Did you know that in the UK vets and owners can
have ticks found on themselves or their pets
identified free of charge by a government
surveillance programme? This can help
determine which infectious agents could
have been transmitted by a bite by a tick
of the species identified.**

Saturday
Sunday **28/29** September



**Most veterinarians
are better in giving
the right answers than asking
the right questions.**

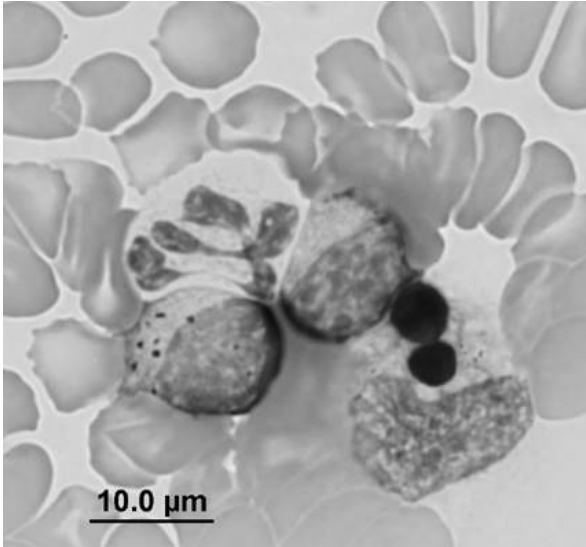
**By asking open questions,
also on uncomfortable subjects
such as poo, pee and parasites,
you will get useful information.**



**Did you know that
Australia has 66 species
of native ticks, none of which
occurs anywhere else
in the world (except for a
few species in Papua New
Guinea)?**

Tuesday **1** October

In endemic areas,
always consider
feline dirofilariosis
(*Dirofilaria repens* and
Dirofilaria immitis) and
leishmaniosis as a
differential diagnosis
in cats.



Picture by courtesy of Peter Irwin.

Did you know that **thrombocytopenia** is the most common haematological abnormality in **canine ehrlichiosis** cases?



Today is

‘World Animal Day’!

St Francis of Assisi saint’s day –
he is the patron saint of animals!

Friday **4** October



Prof. Domenico Otranto, DVM, PhD

Dept. Veterinary Medicine
University of Bari
Italy

Meet the Expert

My area of special interest:

**Canine and feline vector-borne diseases,
helminths transmitted by arthropods,
zoonosis and One Health**

My pets:

**2 dogs, 6 cats, 2 parrots (very intelligent),
and 4 tortoises**

My message:

<http://www.bariparasitology.it/>

Saturday
Sunday

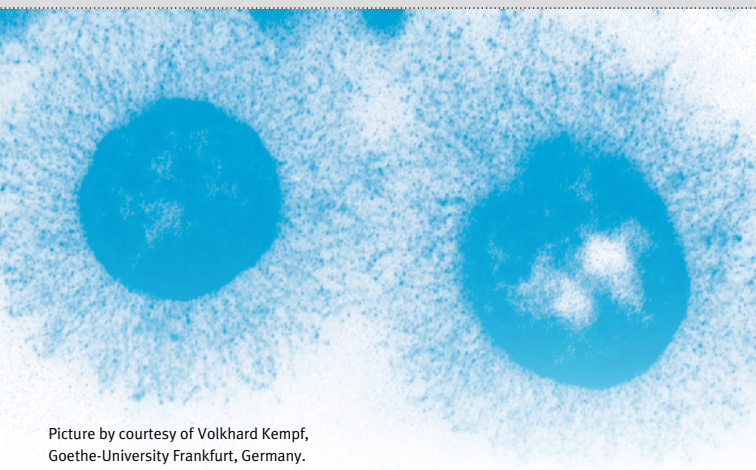
5/6

October

**Showing your clients
how to safely remove
a tick from their pet is
great customer service!**



Monday **7** October



Picture by courtesy of Volkhard Kempf,
Goethe-University Frankfurt, Germany.

Bartonella henselae can persist
in the environment in flea faeces
for up to 9 days.

Ref: Finkelstein *et al.* Studies on the growth of
Bartonella henselae in the cat flea (Siphonaptera:
Pulicidae). J Med Entomol. 2002; 39(6):915–919

Tuesday **8** October

Today is 'Pet Obesity Awareness Day'!

Today veterinarians all over the world lead events where owners are encouraged to bring their dogs and cats along to receive complimentary health examination and screening, as well as advice, tips and nutrition plans.



Wednesday **9** October



Seroprevalence for *Bartonella henselae* infection in cats varied between 8% and 53% in studies from different European countries.

Want to read more about
feline bartonellosis?
[Check out this website!](#)

Thursday **10** October

Hear, hear! Did you know there have been only two veterinarians to sit in the British Parliament's House of Lords and they were both parasitologists?

Coincidence?



Friday **11** October



Emeritus Prof. Barend (Banie) L. Penzhorn, BVSc, PhD

Dept. Veterinary Tropical Diseases
Faculty of Veterinary Science
University of Pretoria
South Africa

Meet the Expert

My area of special interest:

Babesiosis, especially of dogs and cats

My pets:

Succession of dogs and cats, and even a budgie and a goldfish, when the children were growing up


My message:

**One swallow does not make a summer!
One or two babesias on a blood smear of a healthy dog or cat is probably not important.
Relax! If the animal is not showing clinical signs, anti-parasite treatment may not be required.**

Saturday
Sunday

12 / 13

October



Avoid firehoses when
people want sips.
**Short simple questions
call for short simple
answers.**

Monday **14** October

Did you know

that antibodies may persist for a year or more following infection with ***Anaplasma phagocytophilum***, so a positive serology result doesn't necessarily indicate a current infection?



Tuesday **15** October



In recent years there's more and more evidence that **co-infections** in dogs with 2 or more vector-borne pathogens such as *Anaplasma*, *Ehrlichia*, *Babesia*, *Rickettsia*, *Bartonella* and *Hepatozoon* spp. may be **more frequent** than previously realized.



In dogs, clinical cases of **Lyme borreliosis**

most often

present as a migratory arthritis, with lameness episodes typically only lasting for a few days — true polyarthritis is rare.

Want to read more about
Lyme borreliosis in dogs
or download a factsheet?

Thursday **17** October



Did you know that fleas can be found **on all continents** — even in Antarctica?

Friday **18** October

Consensus statement of the CVBD® World Forum on Zoonotic Visceral Leishmaniosis

Companion animals should be protected from leishmanial infections by application of products preventing phlebotomine sand fly bites. Additional control measures, including vector control, vaccination, and prophylactic medications, may also be used where available.

The dog culling strategy in areas where zoonotic visceral leishmaniasis is endemic should be replaced with alternative non-terminal measures that can prevent the infection in dogs.

Saturday
Sunday **19/20** October



Have you considered to discuss **deworming protocols** with owners of **pregnant dogs and cats** to prevent **vertical transmission** of ***Toxocara* spp.** to their offspring?

Monday **21** October

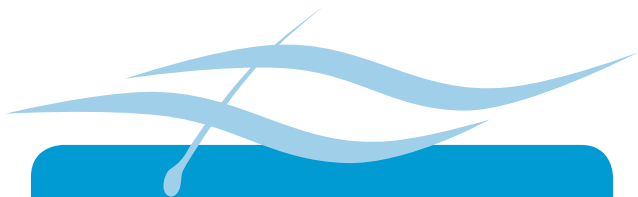


Picking up dogs' poo is not only commendable, but it also reduces the spread of ***Giardia*** and thus helps to control a **zoonosis**.

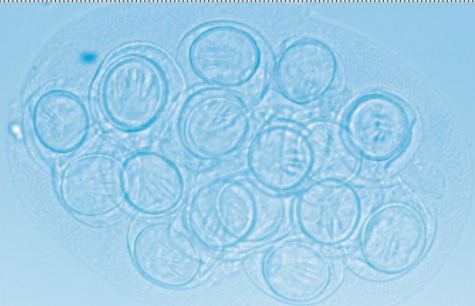


Have you ever diagnosed
heartworm in a ferret?
They can get infected too!

Watch this video to
learn '5 things you
didn't know about
heartworms'!



Cercopithifilaria spp. are tick-borne filarial nematodes transmitted via the bite of infected ***Rhipicephalus sanguineus***. Adults usually reside beneath cutaneous tissues, while microfilariae are found exclusively in the dermis.



Tapeworm eggs have been found in Egyptian mummies existing as long ago as 2,000 BC. Scientists even discovered a mummified female tapeworm in a preserved human body from 1,000 BC.

Ref: Cox. History of human parasitic diseases. Infect Dis Clin North Am. 2004; 18(2):171-188



**Assoc. Prof. Andrew S. Peregrine,
BVMS, PhD**

Dept. Pathobiology
Ontario Veterinary College
University of Guelph
Canada

Meet the Expert

My area of special interest:

**Ticks and tick-borne diseases of dogs,
heartworm, *Echinococcus multilocularis*,
gastrointestinal parasites of sheep**

My pets:

None (due to travel)

My message:

Favourite quote: It is what it is!

**... and have a look at the
Giant Kidney Worm video.**

Saturday
Sunday

26 / 27

October

Today two things are important:
Your happiness and the patients
you are seeing.



Monday **28** October

Infection does not equal disease and many infections pass by silently.

What does the development of overt clinical signs depend on?

- A** Fitness of the patient's immune system
- B** Agent's aggressiveness
- C** Dose of incorporated microorganisms
- D** All of the above

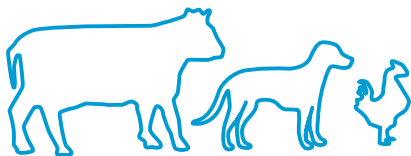
Right answer: D




**Laboratories perform diagnostic testing,
clinicians make diagnoses.
There is a difference.**

Wednesday **30** October

There are only **five tick species** in **Australia** that occur in other parts of the world – and all of these have been brought onto the continent with domestic animals (dogs, cattle and poultry) of the **European settlers** since 1788!



Thursday **31** October



Historically, **flea-borne diseases** have been responsible for some of the most significant medical diseases that **impact human health**. Plague and murine typhus are known for centuries while the last years brought some new flea-transmitted pathogens, like *Rickettsia felis* and *Bartonella henselae*.

Ref: Dobler & Pfeffer. Fleas as parasites of the family Canidae. Parasit Vectors. 2011; 4:139



Prof. Dr. Martin Pfeffer, DVM

Inst. Animal Hygiene and Veterinary
Public Health
Faculty of Veterinary Medicine
Leipzig University
Germany

Meet the Expert

My area of special interest:

Epidemiology, tick- and mosquito-borne diseases, rodents

My pets:

A very shy cat, dragonflies and newts in the pond, and butterflies in the garden. Yes, there are some guppies in the house as well ...

My message:

Working with vector-borne pathogens is among the most thrilling, fascinating and challenging topics for a scientist, and most of the time: that is fun! But that is not the case for our infected pets!

Have a look to
learn more about our research.

Saturday
Sunday

2/3

November

**Whenever you see
a successful clinic,
somebody once stepped
out of his comfort zone
and made a courageous
decision.**

Monday **4** November

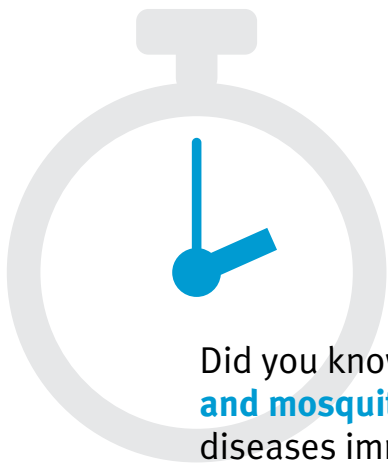
Kiss of death!



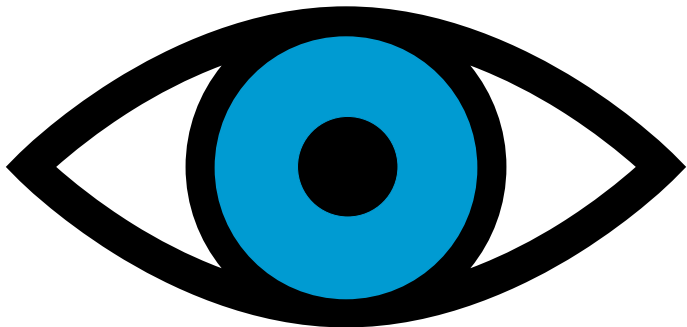
In the Americas, kissing bugs transmit *Trypanosoma cruzi*, a potentially deadly protozoa, to both pets and people. Some surveys in the United States estimate more than 50% of kissing bugs are infected with the parasite.

Want to read more about kissing bugs and Chagas disease in the US?

Tuesday **5** November



Did you know **fleas, sand flies and mosquitoes** transmit diseases immediately, while for **ticks** the transmission time varies between a few seconds and a few days?



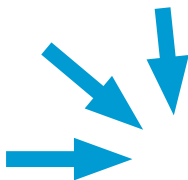
***Larva migrans
ocularis!***

After oral infection
Toxocara canis can migrate into
the human eye, which may cause
irreversible blindness.

Thursday **7** November

Simon's Cat — “Let Me In!”

Check out this video to see what a hungry cat will do to get inside a house!



Friday **8** November

OIE – World Organisation for Animal Health (OIE)

The OIE (historical acronym of the Office International des Epizooties) is the intergovernmental organisation responsible for improving animal health worldwide. It was founded out of the need to fight animal diseases at global level.

Ensuring transparency in the global animal disease situation, collecting, analysing and disseminating veterinary scientific information, providing a better guarantee of food of animal origin and promoting animal welfare are only some of their objectives.

Want to read more about the OIE?
Check out their website!

Saturday
Sunday

9/10

November

Have you noticed that in the English language the words **'listen'** and **'silent'** use the same letters?

Remember this when you're speaking with pet owners **listening to them by being silent** and allowing them to speak.



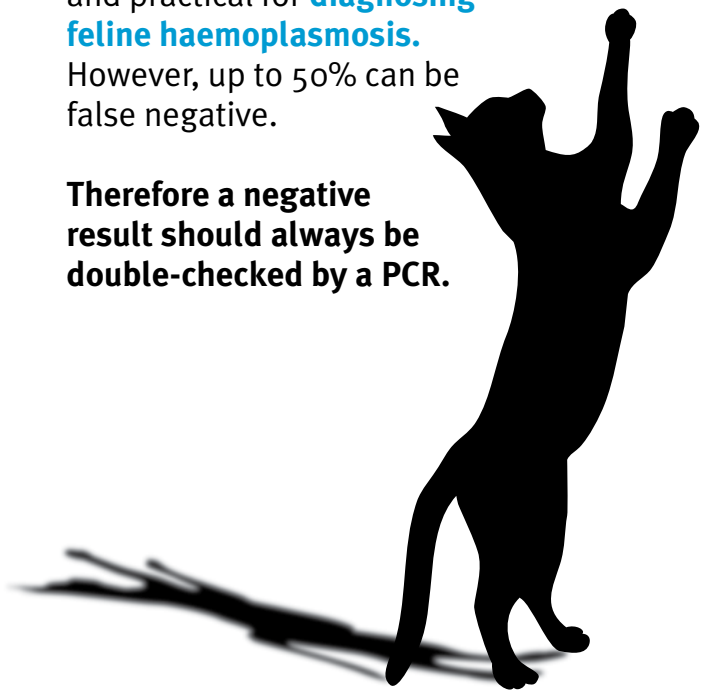
Did you know some dog breeds are predisposed to **canine leishmaniosis**, e.g. the **Boxer**, **German Shepherd** and **Rottweiler**?

In the US this disease is most commonly identified in **Foxhounds**.

Blood smears are quick and practical for **diagnosing feline haemoplasmosis**.

However, up to 50% can be false negative.

Therefore a negative result should always be double-checked by a PCR.





Which **vector-borne disease** might an indoor cat be at risk of contracting?

- A** Dirofilariasis
- B** Leishmaniosis
- C** Feline haemotropic mycoplasmosis
- D** Bartonellosis
- E** All of the above

Right answer: E



Did you know that
amastigotes of
Leishmania

were first
described in
1901 in a British

soldier serving in Dum Dum,
India, by William Leishman, a
British Medical Officer.

These findings were published
in 1903, at which point
leishmaniosis was referred to
as Dum Dum fever.



Dr. Xavier Roura, DVM

Hospital Clínic Veterinari
Universitat Autònoma de Barcelona
Spain

Meet the Expert

My area of special interest:

**Internal medicine, canine and feline
vector-borne diseases, leishmaniosis**

My pets:

2 cats – Ahna and Kowalski

My message:

Impossible is nothing.

Saturday
Sunday

16 / 17

November

There is one major rule to
become a good communicator

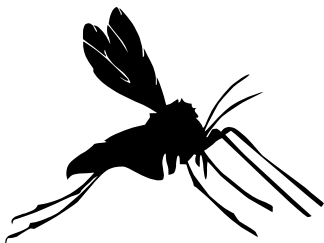
➔ **LEARN TO LISTEN**



Monday **18** November



Did you know that a **sand fly's bloodmeal** on a reptile takes up to 78 minutes? The reptile gives sand flies a piggyback ride.





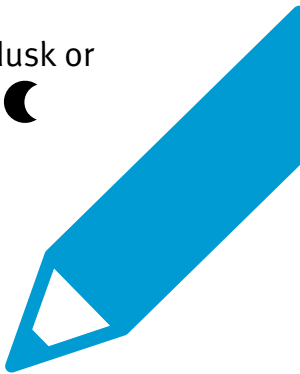
Heartworm affects both dogs and cats, so in areas endemic for canine heartworm it's good practice to recommend a monthly heartworm preventive to both cat and dog owners.



When **conditions** are right, **sand flies attack**. But when and where are pets most at risk of being bitten?

Circle the correct answer from each of alternative scenarios below.

- a)  From dawn till dusk or
- b) from dusk till dawn? 
- c) In the bush or
- d) on the beach?
- e) On the head or
- f) the tail?



Right answers: b, c, e

Illustration by
Wang Cheng,
courtesy of Oregon
State University.



Pseudopulex magnus, the parasite which lived 125 million years ago, is the dinosaur of the parasite world, measuring almost 2.5 cm long and 0.5 cm wide.

Want to read more about
dinosaur parasites like
Pseudopulex magnus and
Pseudopulex jurassicus?





Laia Solano-Gallego, DVM, PhD

Dept. Animal Medicine and Surgery
Veterinary School
Universitat Autònoma de Barcelona
Spain

Meet the Expert

My area of special interest:

Animal leishmaniosis and other vector-borne diseases of dogs and cats

My pets:

Rot and Pumpkin, a large dark Shepherd Dog and a lovely orange American Domestic cat

My message:

I love dogs and cats and I love investigating on infectious disease to make them better.

Saturday
Sunday

23 / 24

November

One-liner in client
communication:

**Parasite control in pets:
what they get is more than
you can see!**



Monday **25** November



Dogs and cats that are repeatedly bitten by the eastern Australian paralysis tick, ***Ixodes holocyclus***, and survive, will develop immunity against the toxin, just like native marsupials.

Did you know?

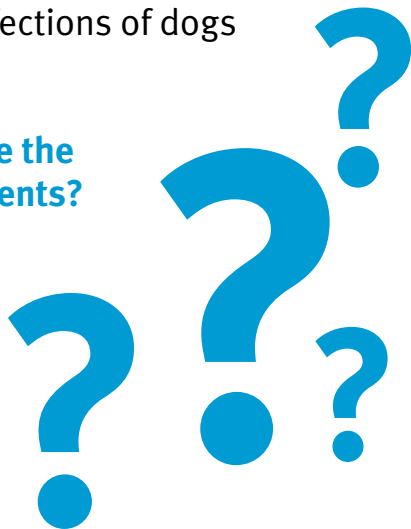
Heartworm antigen tests detect infections that happened 6 months or more ago. More recent infections are unlikely to be detected.



Wednesday **27** November

There are only **three** known tick-borne infections of dogs in Australia.

Can you name the infectious agents?



Right answer: *Babesia vogeli*, *Babesia gibsoni* and *Anaplasma platys*

Thursday **28** November



Did you know
that the strong
hind legs of
fleas enable
them to **jump**
up to 150 times

their own body length?

That's the equivalent of a human
jumping over the Eiffel Tower!

Watch the stunning
video of a flea jump
and its mystery!

Friday

29

November



Prof. Rebecca J. Traub, BVMS, PhD

Founding Director of TroCCAP (Tropical Council for Companion Animal Parasites)
Melbourne Veterinary School
Faculty of Veterinary Sciences
University of Melbourne
Australia

Meet the Expert

My area of special interest:

Epidemiology and One Health approaches to controlling zoonotic ancylostomiasis (*Ancylostoma ceylanicum*), emerging canine and feline vector-borne zoonoses

My pets:

Ruby Roo, a Miniature Schnauzer, and Missy Moo, a Domestic Short-Haired rescue cat – they both LOVE cuddles.

My message:

The tropics and their parasites are unique, as are recommendations for their prevention and control.

Go to www.troccap.com to learn more.

Sat
Sun

30/1

Nov/Dec

“

**Nobody cares how much
you know, until they know
how much you care.**

”



Did you know *Leishmania infantum* may have been **introduced to the New World by the Europeans** when they discovered America?

Tuesday **3** December

Did you know

that the combination of ...

- hypoalbuminaemia,
- hyperglobulinaemia,
- non-regenerative anaemia

is suggestive of chronic,
inflammatory disease,
and vector-borne infections
should be considered?



Demonstrating the presence of ***Borrelia burgdorferi*** is more than challenging!

This is because the organism is only transiently present in blood and in other tissues, such as synovial fluid, the number of organisms is so low that finding them is very difficult.





This is an historic ivory flea trap!

They were common in Europe
in the 18th century.

**Want to read more
about historic flea
traps?**

Friday **6** December

ISFM – International Society of Feline Medicine

If you are in need of any information or resources about feline health and disease, the International Society of Feline Medicine (ISFM) can help. It aims to provide a worldwide database for veterinarians, specialising in feline medicine, surgery and general cat healthcare.

Want to get more information on
'International Cat Care'?
Check out this website!

Saturday
Sunday

7/8

December



Today is the
**‘International Day
of Veterinary Medicine’!**

This day is recognised on December 9th as a thank you to the hard work of veterinarians and veterinary scientists throughout the world.

Monday **9** December

Canine babesiosis

causes haemolytic anaemia via several mechanisms, including direct destruction of red blood cells by the parasite, increased osmotic fragility of the cells, and the activity of secondary immune-mediated processes.

Ref: Solano-Gallego *et al.* A review of canine babesiosis: the European perspective. *Parasit Vectors*. 2016; 9:336

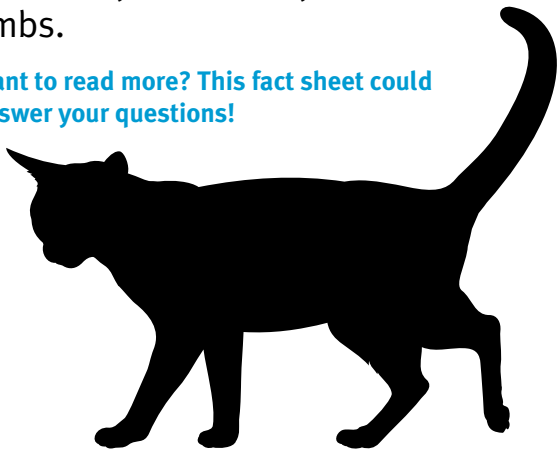


Proteinuria, suggesting **glomerulonephritis**, can be a marker for **chronic inflammatory diseases**, including vector-borne infections.

Remember to examine the urine sediment in order to rule out lower urinary tract inflammation first!

Did you know that muco-cutaneous lesions such as nodular and ulcerative dermatitis are the most common signs of feline leishmaniosis? Usually you can find them on the head or symmetrically on distal limbs.

Want to read more? This fact sheet could answer your questions!



5 WAYS PET OWNERS MAKE VETERINARY MEDICINE HARD

Check out this
hilarious video
about the daily
vet life!



Friday **13** December



Prof. SungShik Shin, DVM, PhD

College of Veterinary Medicine
Chonnam National University
South Korea

Meet the Expert

My area of special interest:

**General helminthiasis, canine and feline
vectors and vector-borne diseases**

My pets:

2 Siamese cats

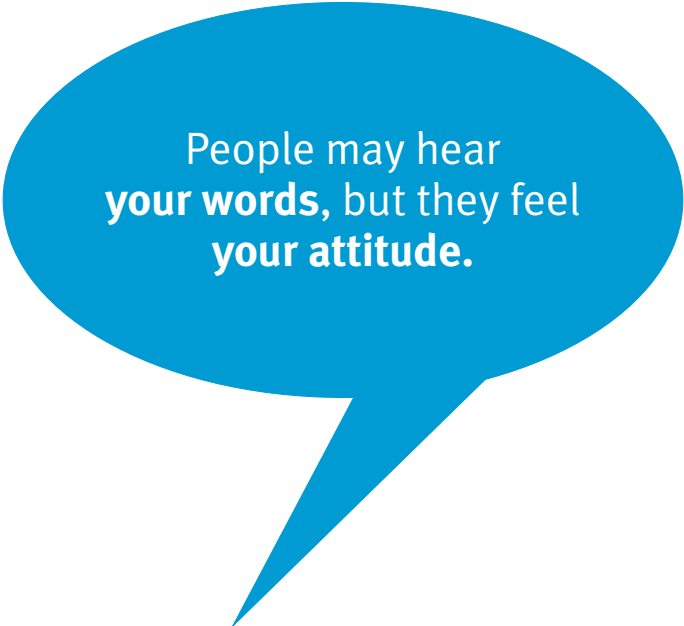
My message:

**Life is full of wonders and so are tiny
creatures in our body.**

Saturday
Sunday

14/15

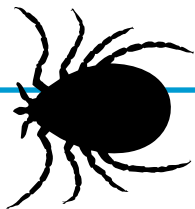
December



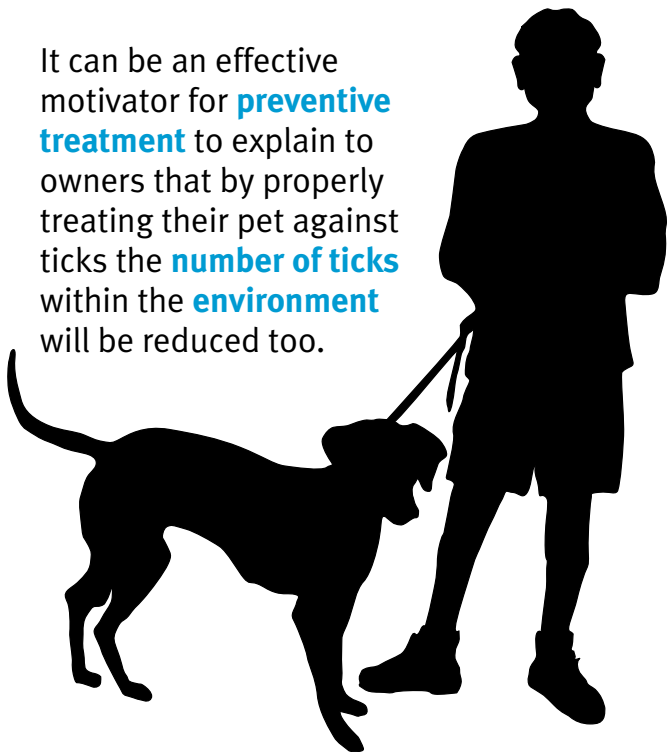
People may hear
your words, but they feel
your attitude.


Monday **16** December

Vaccines against ***Borrelia burgdorferi*** based on the outer surface protein A (OspA) antigen, unfold their protective effects in the tick when it sucks blood. Antibodies against OspA immobilize the *Borrelia* in the tick and prevent their transmission.



It can be an effective motivator for **preventive treatment** to explain to owners that by properly treating their pet against ticks the **number of ticks** within the **environment** will be reduced too.





Did you know that *Giardia* are categorized into different ‘assemblages’?

Assemblages vary in their infectivity for animals and humans, and assemblages A-I and B are thought to have the biggest zoonotic potential.



***Dipylidium
caninum,***

which mainly infects
dogs and cats, is
occasionally found in
humans and can grow
almost a metre long!



**Prof. Dr. Reinhard K. Straubinger,
DVM, PhD**

Inst. Infectious Diseases and Zoonoses
Faculty of Veterinary Medicine
Ludwig-Maximilians-University of Munich
Germany

Meet the Expert

My area of special interest:

***Borrelia* spp. infections (Lyme borreliosis and relapsing fever), *Anaplasma* spp. infections, vaccination guidelines for veterinary practitioners**

My pets:

Cats and rabbits

My message:

Bacteria are smart: they have learned to deal with antimicrobials (antibiotics) and unfavorable conditions for millions of years. So, be aware!

Saturday
Sunday

21 / 22

December



Did you know that certain tick species are still active in winter and able to transmit diseases? Don't assume ticks in your practice area take the winter off.



Monday

23

December



**A smile is the shortest distance
between two people.**

Tuesday **24** December



**If you diagnose a CVBD,
don't stop! Keep in mind that
co-infections are very common.**



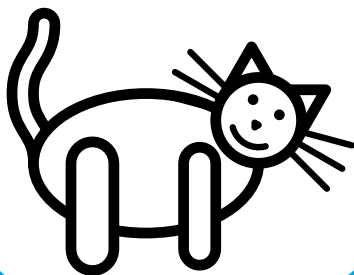
CVBD



Wednesday **25** December

Flea allergy dermatitis

is the number 1
vector-borne skin issue
among indoor cats.



Thursday **26** December

Parasites in arts: Painting **'The poor poet'**
annoyed by fleas, by Carl Spitzweg
(1808–1885, German painter)



Friday

27

December

WAAVP – The World Association for the Advancement of Veterinary Parasitology

The World Association for the Advancement of Veterinary Parasitology (WAAVP) is a non-profit organization for scientists who study helminthology, protozoology and entomology. The association is the largest international veterinary parasitology organization in the world consisting of veterinarians, parasitologists and others interested in the area.

Want to read more or even join the WAAVP?
Check out this website!

Saturday
Sunday **28 / 29** December

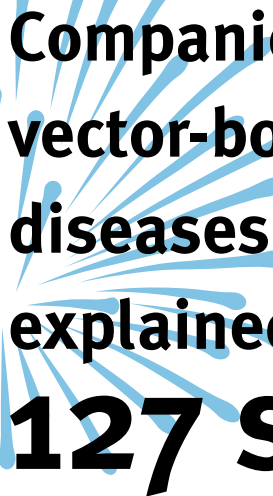
People communicate



with more than just words. Give yourself time to consider what they're saying and how they're saying it before offering a reply.



Monday **30** December



Companion vector-borne diseases (CVBD) explained in **127 sec.!**

Check out this video!

Tuesday **31** December

**Happy
New
Year ...**

... see you in ...

2020

Trademarks and Copyright

All trademarks in this calendar are the property of BAYER, unless otherwise noted or in any other way perceivable as third party rights. Any unauthorized use of these trademarks or other materials is expressly prohibited and constitutes a violation of copyright, trademark law or other industrial property rights.

Limited Liability

BAYER has compiled the detailed information provided in this calendar from internal and external sources to the best of its knowledge and belief, using professional diligence. However, no representation is made or warranty given, either expressly or tacitly, for the completeness or correctness of the information in this calendar. Please be aware that this information although accurate on the day it was published may no longer be up to date. We therefore recommend that you check any information you obtain from this calendar prior to using it in whatever form. Advice given in this calendar does not exempt you from conducting your own checks on our latest advice — particularly our safety datasheets and technical specifications — and on our products, with a view to their suitability for the intended processes and purposes. Should you require any advice or instructions concerning our products or services, please contact us directly. Neither BAYER nor third parties involved in the writing, production or transmission of this calendar can be held liable for damage or injury resulting from the fact that you have relied on information given in this calendar.

Websites of Third-Party Vendors/Links

This calendar contains links/references to third-party websites. By providing such links, BAYER does not give its approval to their content. Neither does BAYER accept any responsibility for the availability or the content of such websites or any liability for damage or injury resulting from the use of such content, of whatever form. BAYER offers no guarantee that pages linked to provide information are of consistent quality. Links to other websites are provided to users merely for the sake of convenience. Users access such websites at their own risk. The choice of links should in no way restrict users to the linked pages.

Disclaimer