
reptiles-our friends
from very ancient time
ARAV conference 2005 Tucson, Az
compatibility and effectiveness of PIND-AVI in import reptiles
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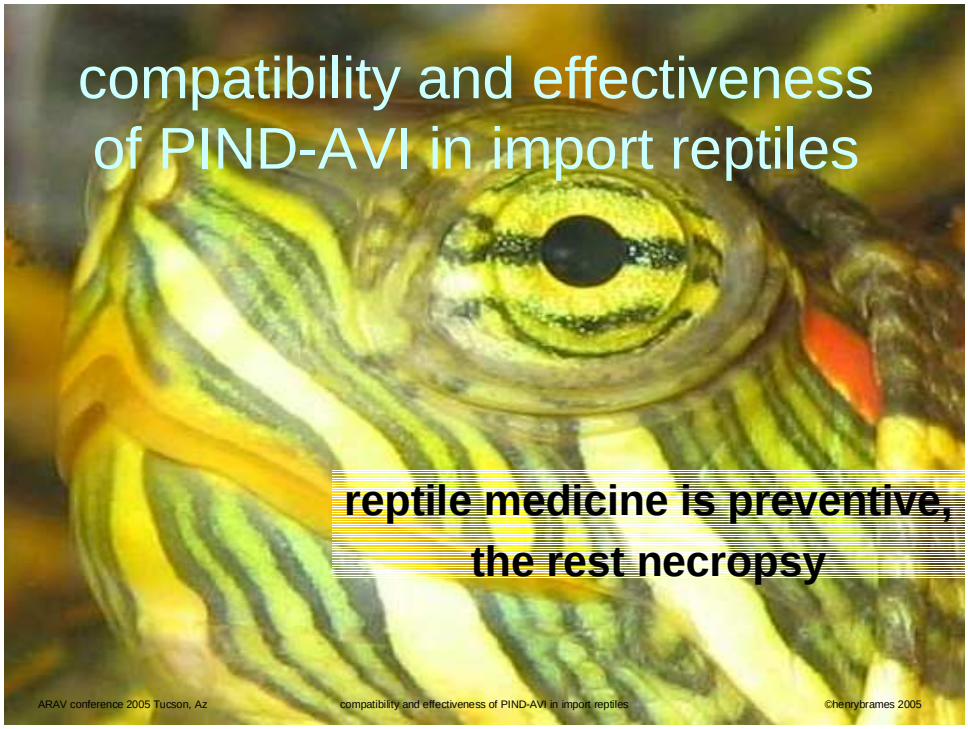
compatibility and effectiveness
of PIND-AVI in import reptiles
reptile medicine is preventive,
the rest necropsy
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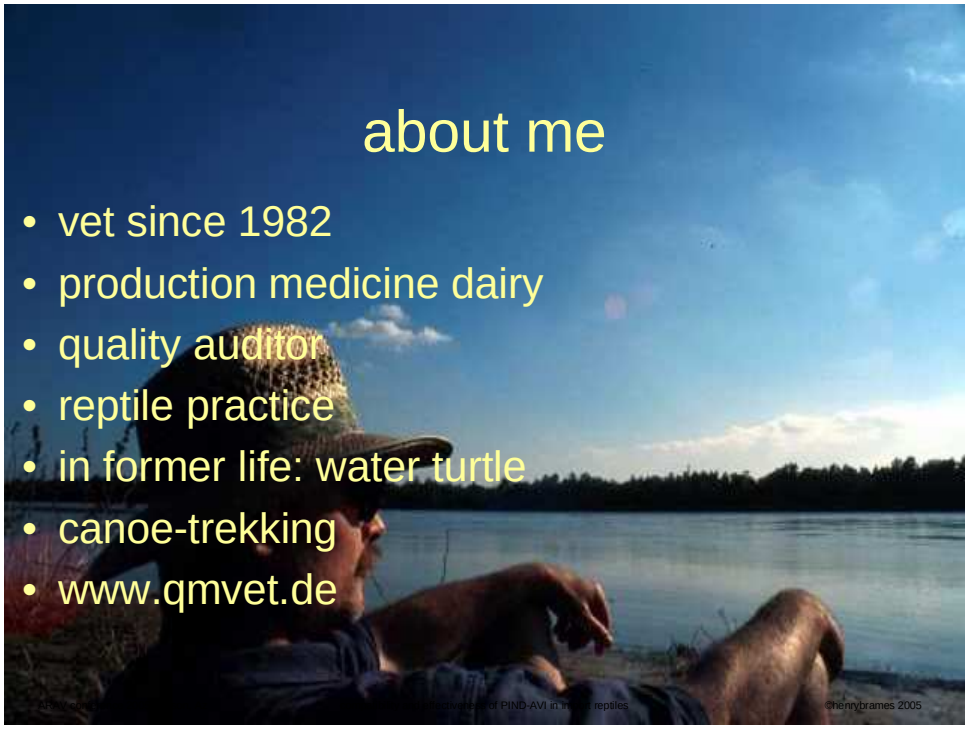
what you get

- about me
- sidestep
- context
- reptimun
- PIND-AVI
- methods
- results
- future



sidestep:
preventive reptile medicine
prm [:prɛm]

process model: prm-practice

monitoring+teaching+preventive drugs

>90% of reptile disease is man made - lets care about that point!

context:
use+exploitation of reptiles

- vivaristic
- labs
- food
- raw material
- trade
- conservation
- tourism

context:
virus detected from reptiles

DNA Viren	Eidechsen	Schlangen	Schildkröten	Krokodile
Parvoviridae	+	+		
Iridoviridae	+	+	+	
Poxviridae	+	●	●	+
Herpesviridae	+	+	+	
Adenoviridae	+	+		+
Polyomaviridae	+		+	
RNA Viren	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX
Orthomyxoviridae				
Paramyxoviridae	+	+	+	
Rhabdoviridae	+			
Bunyaviridae			+	
Retroviridae		+	+	+
Coronaviridae				
Caliciviridae		+		
Togaviridae	+	+	+	
Picornaviridae		+		
Nodaviridae				
Flaviviridae	+	+	+	+
Reoviridae	+	+		

reptimunsystem:

- barriers
- resistence
- defending flora
- complex immune system:
- paraspecific (innate)
- specific
- social defense

immuno-
neuro-
endocrine-
network

reptimunsystem:

- a communication system to monitor self and danger
- a mobile brain: balances symbiosis of foreign and own dna
- more an intelligence service than army

reptimunsystem strengths and weaknesses

- paraspecific + specific IS
- **+ ectothermal dynamics**
- **+ weakness of specific IS**
- **==> heavy on the paraspecific IS**

paraspecific IS

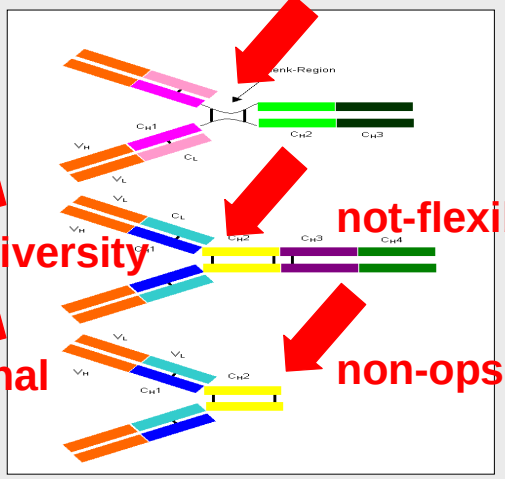
- toll-like-(pr)- receptors
- cells: apcs, macrophages, neutrophils, nk cells
- complement, cytokines: interferone

- >10 times older than specific IS
- „life without a parasp IS is impossible“

specific IS

- Ig superfamily- receptors
- cells: lymphocytes
- immunglobulins: igM igY, igY(ΔFc)

reptile igY+igY(ΔFc) versus mammal IgG



ectothermal dynamics + phylogenetic weakness of specific IS

- life on the sunny side - solar powered - behavioral isothermy
- but adaptive borders ==>
- diurnal + seasonal stasis = ectothermal stress = cort-reaction
- → ps IS ▲▼, spec IS ▼

questions reptimunsystem

- IS+hibernation
- IS+aestivation
- IS+light quality
- IS+light dynamics
- IS+energy

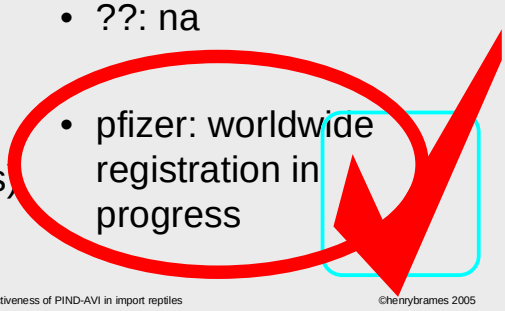
???

PIND-AVI

- animal pox virus derived
- lack of specific epitopes
- conserved paraspecific epitopes
- strictly paraspecific not specific
- safe inactivated
- nonimmunizing immune-regulating novel drug

availability of paramunity inducers

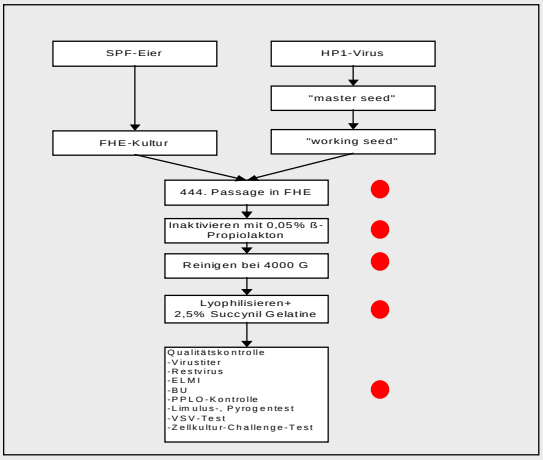
- pind-avi
- duphamun
- conpind
- baypamune (zylexis)
- lab product: na
- duphar: na
- ??: na
- pfizer: worldwide registration in progress



difference: vaccine versus paramunity inducer

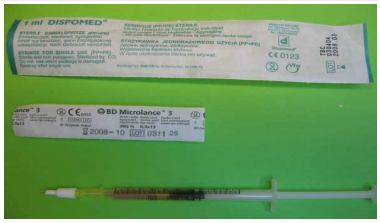
type	active agents	protective agents	effect	time	postvaccinal damage	definition
conventional specific vaccine immunizing	specific immunizing epitopes	antibodies immunecells	specific protecting vaccination specific immunization	begins within 5-8d lasts months-years	vaccination disease allergies, autoimmune disease, immune complex disease	active vaccination
paramunity inducer regulating	non immunizing regulating proteins	macrophages lymphoreticular cells, cytokines	paramunity, unspecific protection	begins instantly lasts 10 - 12 d	**none**	**paramunization**

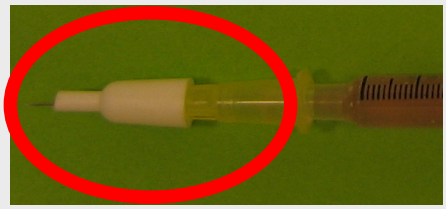
PIND-AVI lab processing



methods

- import enterprise
- labile groups
- RFS-groups
- skin ulcer-groups of *A. capra*





rfs - **r**eptile **f**itness **s**core

RFS	Merkmale
5	agility, eyes, skin, abdomen, tail base species typical **very good**, pelvis **very good** tissued; the reptile is **ideal**.
4	agility, eyes, skin, abdomen, tail base species typical **good**, pelvis **good** tissued; the reptile is **nearly ideal**.
3	agility, eyes, skin, abdomen, tail base species typical **medium**, pelvis slightly concave; the reptile is not ideal but not dangered, needs care
2	agility, eyes, skin, abdomen, tail base species typical **bad**, pelvis visible concave; the repile seems ill, dangered, needs intensive care.
1	agility, eyes, skin, abdomen, tail base species typical **very bad**, pelvis very visible concave; the reptile is very ill, very dangered and probably wont survive despite intensive care

results

- PIND-AVI is safe +
- PIND-AVI is effective

- PIND-AVI groups within the short observation periods (7 to 18 days) showed **significant advantages** concerning **mortality, reptile fitness score (RFS) and skin ulcers** of yet unknown genesis. Total mortality (unstable groups), day7 RFS and percentage of day7 skin ulcers (*Acanthosaura capra*) for PIND-AVI and control groups added up to 9% and 30%, 3.58 and 2.87, 5% and 52%, respectively.

additional information

- MAYR A., MAYR B. (1999)
- A new concept in prophylaxis and therapy: paramunization by poxvirus inducers
- Pesq. Vet. Bras. vol.19 n.3-4 Rio de Janeiro July/Dec. 1999

potential use of PIND-AVI in reptile practice

preventive indications for reptiles	therapeutic indications for reptiles
fast activating the paraspecific IS hatchlings/newborns, adult and geriatric reptile patients	infectious disease and infectious factoral disease, parasitosis, intoxication, endotoxicosis
generally before expectable stress situations	immune deficiency and traumas
after catching; before and after transport, sale, regrouping, exhibition	chronic, recidivating disease
before acute infection danger, uncomfortable circumstances, after technical defects	supporting tumor therapy
before and after hibernation, aestivation, egg depositing, hedging, food changing	reconvalescence
with vaccination	insecticide-, desinfection- and antibiotic therapy
before and under difficult feeding supply	metabolic disease of different etiology
to enhance lifespan	chronic skin diseases
before and with surgical interfere and iatrogen manipulation	with technopathies and wound infection; to avoid heelin complications

future of paramunity inducers context: actual herp problems

- **herpes** chelonians + iguana
- **mycoplasma** chelonians + crocodilia
- **fibropapilloma** sea turtles
- **distress** associated disease

future of paramunity inducers context: preventive reptile medicine

- use paramunity inducers
- combine with specific vaccines or drugs
- develop monitoring systems
- emphasize studying how to teach
- emphasize teaching as part of prm

lets constitute a

prm-working group

interested herpvets are invited to contact me after the session

herps are easy-
people are tough

thank you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