

Citizen science in TalkToTick project



Snežana Tomanović, professor of research
Group for Medical Entomology, Centre of Excellence for Food- and Vector-
borne Zoonoses
Institute for Medical Research, National institute of Republic of Serbia
University of Belgrade



Group for Medical Entomology, Institute for Medical Research (GME IMR)

Over 75 years of research in the field of medical entomology

Over 40 years of tick research

App 15 years of citizen oriented services

Centre of excellence for food- and vector-borne diseases - 2009

Basic and applied research of ticks and tick-borne pathogens

- Dr sci biol. **Snežana Tomanović**, biologist, professor of research
- Dr sci biol. **Darko Mihaljica**, molecular biologist, senior research associate
- Dr sci med. **Ratko Sukara**, DMV, research associate
- Dr sci med. **Gorana Veinović**, pharmacist, senior research associate
- Dr sci med. **Valentina Ćirković**, biologist, research associate
- Kristina Jevremović**, molecular biologist, PhD student



GME IMR - 15 years of citizen oriented services

General public - Entomological examination of material, Detection of *Borrelia burgdorferi* s.l. in ticks

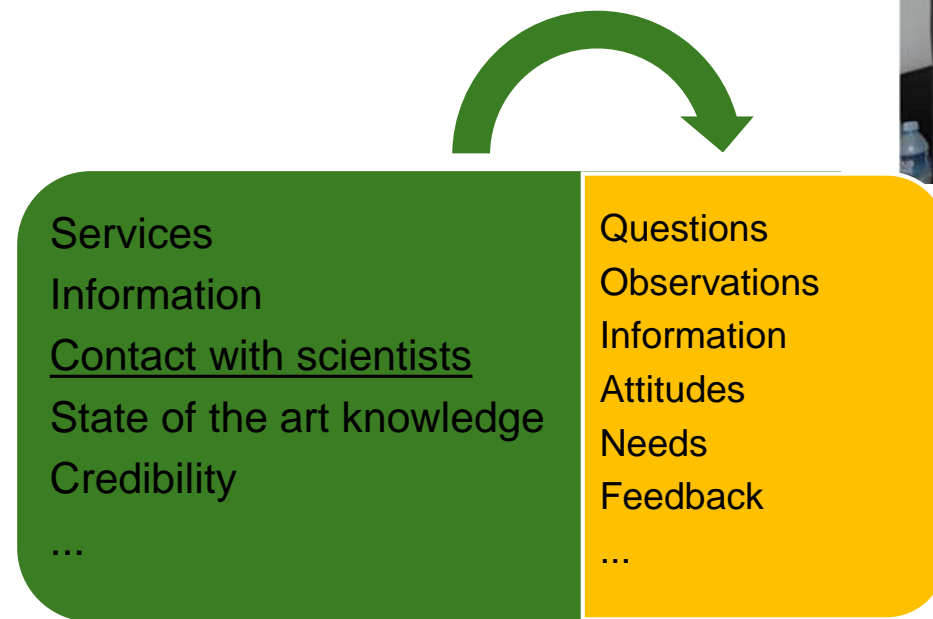
Medical doctors

Veterinarians

Pet owners

Students

Professionally exposed persons



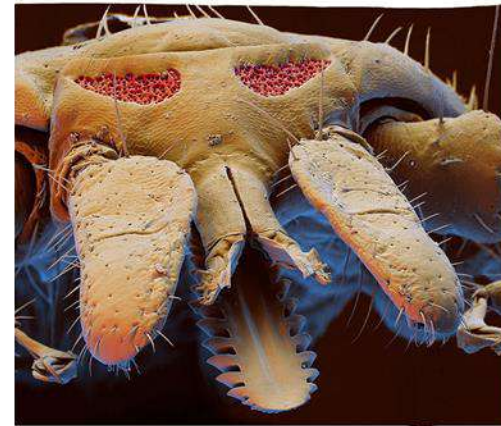
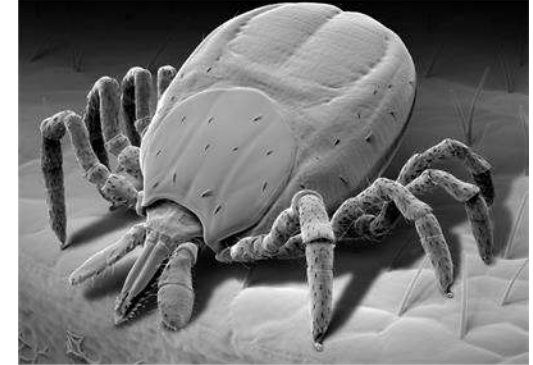
Ticks - associations

Outdoor activities = ticks

Risk associated with ticks = Lyme disease

Tick attached to the body = go to the doctor (preferable emergency unit)

Infected tick = antibiotic



Article

Knowledge, Attitudes, and Practices on Tick-Borne Encephalitis Virus and Tick-Borne Diseases within Professionally Tick-Exposed Persons, Health Care Workers, and General Population in Serbia: A Questionnaire-Based Study

Ana Vasić¹, Jovana Bjekić¹, Gorana Veinović¹, Darko Mihaljica¹, Ratko Sukara¹, Jasmina Poluga^{2,3}, Saša R. Filipović¹ and Snežana Tomanović^{1,*}

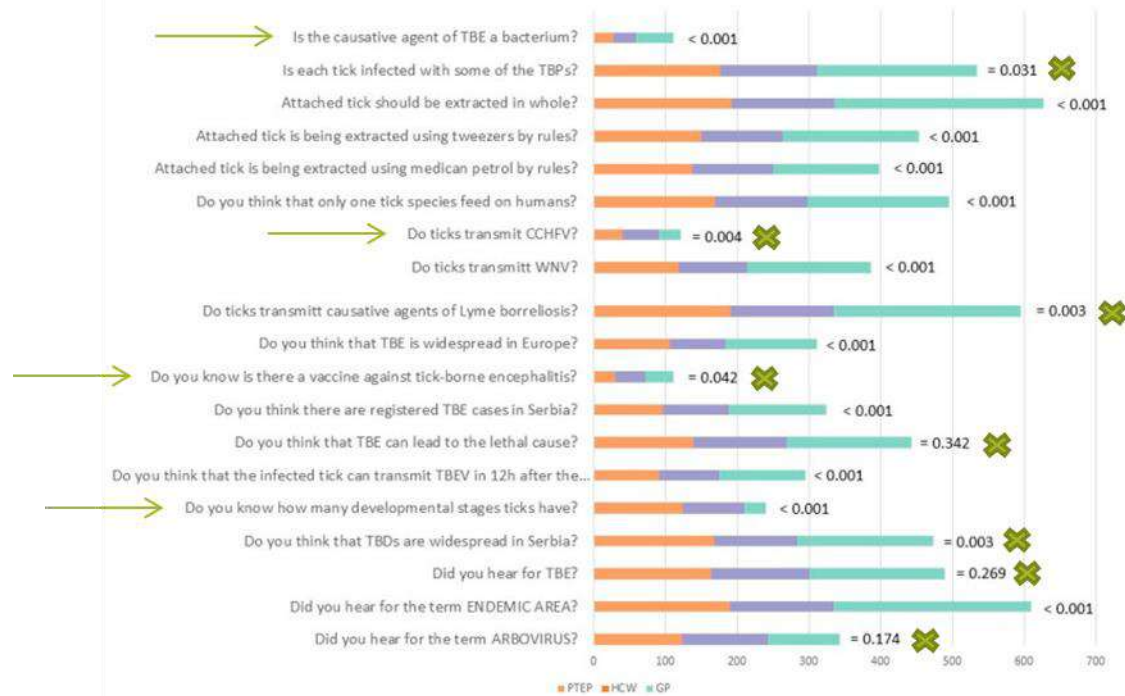


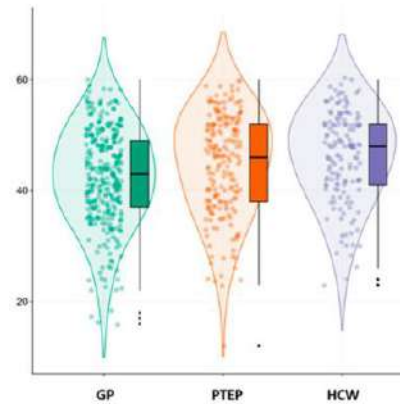
Table 1

Results of the tested parameters of the three groups of participants in terms of knowledge, attitudes, and practices in Serbia.

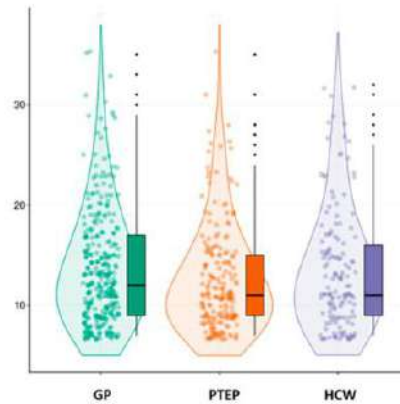
Group	Participants (No.)	Mean Age of Participants (Years (CI)/Minimum-Maximum)	Sex (Male/Female/Other)	Having Children under 18 Years	Having Dogs	Tick Bite during the Lifetime	TBDs	TBDs—Family Members
PTEPs	199	42.9 (30.3–55.5)/20–74	101/97/1	72	97	146	8	14
HCWs	147	43.2 (30.6–55.7)/19–75	59/88/0	66	79	82	6	12
GP	296	39.7 (28.4–50.9)/18–76	80/215/1	129	108	165	3	24
Total	642	41.9/18–76	240/400/2	267	284	393	17	50

TBD—tick-borne diseases; PTEPs—professionally tick-exposed persons; HCWs—health care workers; GP—general population.

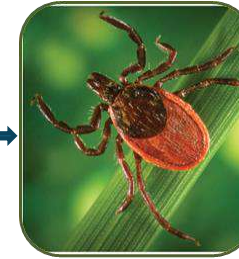
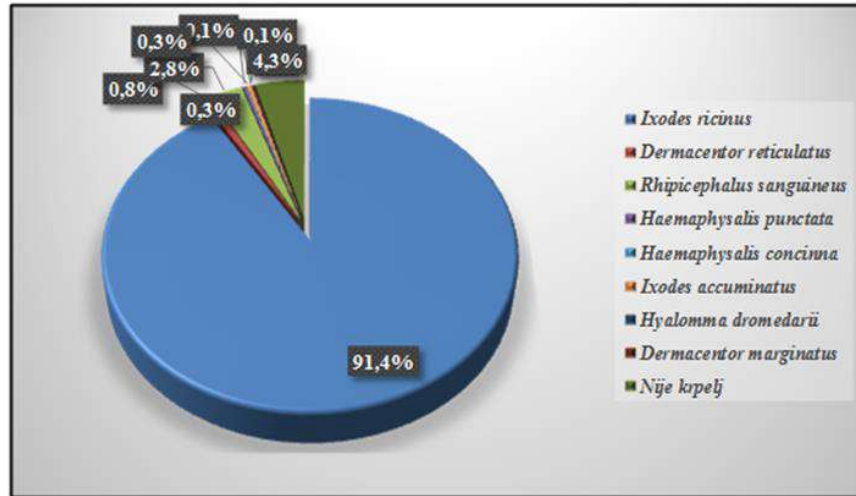
A Risk perception



B Fear of ticks



Anthropophilic tick species - our experience



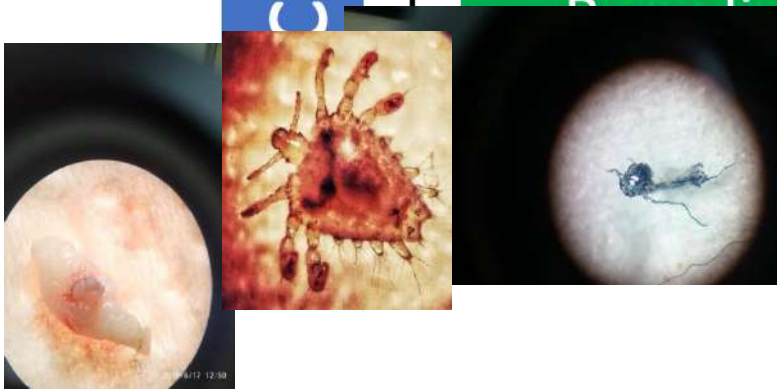
Ixodes ricinus



Rhipicephalus sp.



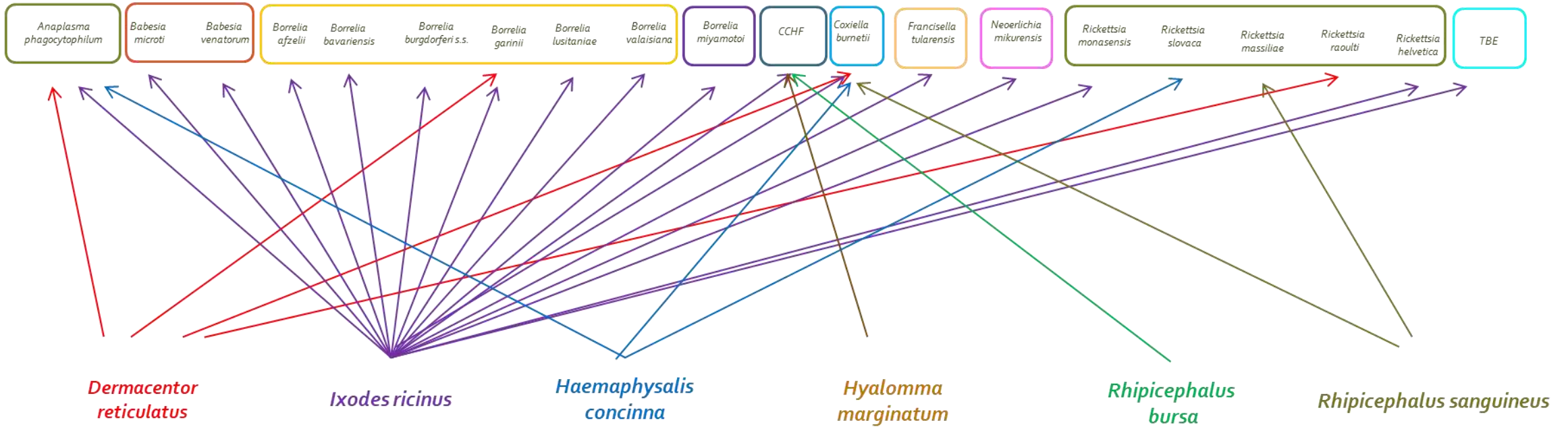
Dermacentor sp.



otic

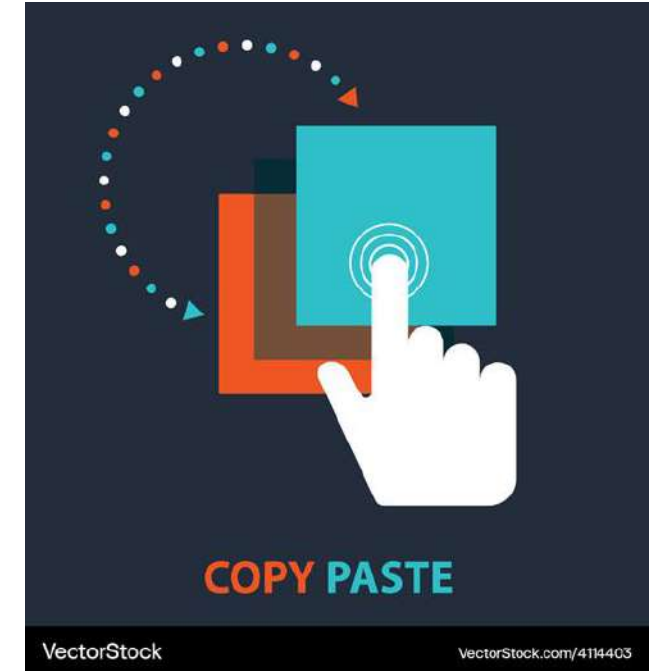
Everything is OK

Ticks – pathogens interactions – Serbian interplay



No copy – paste solutions → locally tailored prevention, control, diagnostic and therapeutic approaches are essential

Well founded diagnosis, treatment, and effective prevention of TBDs rely on knowledge of pathogens' presence, genetic variability and virulence in a particular area





6
ПРИ.
Затв

97
пројеката одобрено
за финансирање
Програм ПРИЗМА

2019 - Working group of the Ministry of Health of the Republic of Serbia, for tailoring recommendations for treatment of persons after tick-bite, identified gaps in knowledge and needs for further research

 Фонд за науку
Републике Србије

 Република Србија
Министарство Здравља

 THE WORLD BANK

 #EY
ЗА ТЕБЕ

 PRISMA

 Фонд за науку
Републике Србије

 Република Србија
Министарство Здравља

 THE WORLD BANK

 #EY
ЗА ТЕБЕ

Tailoring management of tick-borne diseases based on diversity of ticks and tick-borne, pathogens (TalkToTick)

PROJECT ID

Sub-program: Biomedicine

Budget: app 280000 euro

Duration: **3.1.2024. – 3.1.2027**

Participating Scientific and Research Organization (SRO) :

Leading SRO - Institute for Medical Research, National Institute of Republic of Serbia, University of Belgrade, Serbia (IMI)– 5 participants, PI, 3 WP leaders

Principal Investigator (PI) (Name and contact details): Dr. Snežana Tomanović, snezanat@imi.bg.ac.rs

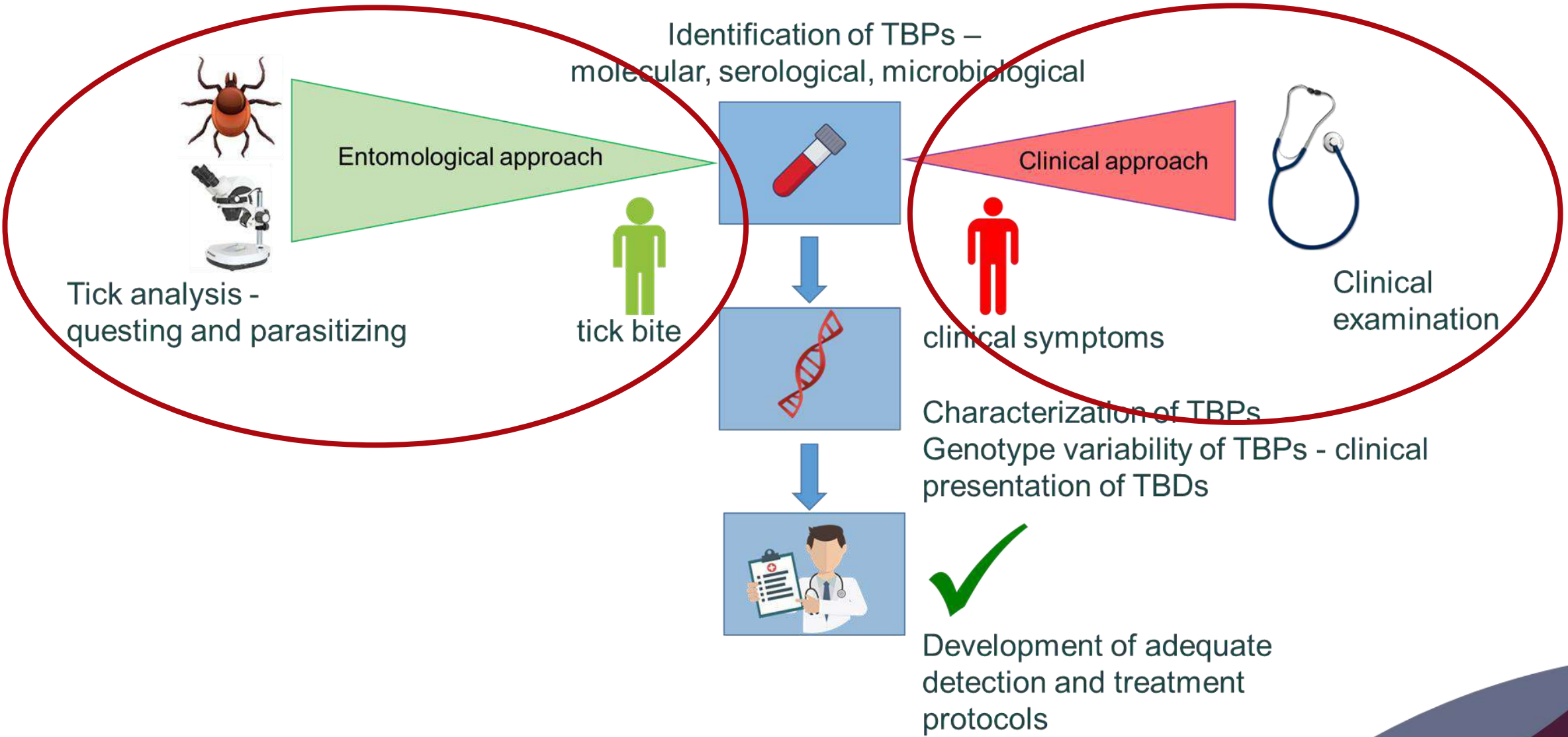
Partner organizations on the project:

Faculty of Medicine, University of Belgrade (MFUB) – 2 participants, 1 WP leader

Faculty of Medicine, Military Medical Academy, University of Defense (MFVMAUO) – 1 participant

Faculty of Biology, University of Belgrade (FBUB) – 1 participant

Faculty of Philosophy, University of Belgrade (UBFZF) – 1 participant





ANALIZA KRPELJA I PRAĆENJE ZDRAVSTVENOG STANJA

TALK TO TICK

NASLOVNA UKLJUČITE SE O PROJEKTU O NAMA KONTAKT

ZNAČAJ KRPELJA NOVOSTI NAJČEŠĆA PITANJA LATINICA ČIBLIKA

TalkToTick

TalkToTick donosi odgovor na pitanje u kojoj meri krpelji i uzročnici bolesti (patogeni) prisutni u njima zaista predstavljaju rizik po zdravlje ljudi.

Zajedno stvaramo nauku koja služi boljem i zdravijem životu!

UKLJUČITE SE

TALK TO TICK

30 članova • prate ih ljudi: 50

Objave

Uvod

Projekt TalkToTick

Razvoj pristupa upravljanja bolestima prenosivih krpeljima

Objave

Talk To Tick

13. avg 13:57

- Home
 - Explore
 - Notifications
 - Messages
 - Grok
 - Lists
 - Bookmarks
 - Communities
 - Premium
 - Profile
 - More
- Post

TalkToTick

6 posts

TalkToTick

@talktotick

Joined February 2024

1 Following • 2 Followers

Not followed by anyone you're following

Posts Replies Media Likes

TalkToTick @talktotick - Apr 12

Prof. dr. Dušan Škrljević u podcastu „Derma priča“

youtube.com
Krpelji | Derma priča, ep. 37
U ovoj epizodi, dr. Nevena Nešković i dr. Milena Račković pričaju sa prof. dr. Dušanom Škrljevićem...

TALK TO TICK

Novosti TIM

talktotick Following Message

31 posts 209 followers 171 following

TalkToTick
Medical & health
Projekt TalkToTick finansira Fond za nauku Republike Srbije
@fondzanauka_rs u okviru programa PRIZMA #prisma

Followed by uros.0.0.2, panter1972, + 24 more

POSTS REELS TAGGED

Šta radiš i kako ukloniti krpelja ukoliko se zakačio?

Najvažnije je ukloniti krpelja pravilno i što pre kako bi se smanjio rizik od prenošenja infekcije. Krpelji se pravilno uklanjaju mehanički, prstom ili nožem, bez upotrebe bez prethodne upotrebe bilo kakvih hemijskih sredstava (ulje, aceton, alkohol, lak za nožice, kreme, ulazi sapun i t.d.). Uklonivši krpelja škrtačkom, sigurno neposredno uz poručenu kabe i agencijom poručeni su krpelji. Nakon toga treba odmah napraviti snimke sa 70% staniolom a lovačnog krpelja možete sačuvati u epr. plastičnoj ili staklenoj bočici za analizu krpelja.



Dr. Kaja Damjanović – psychologist
Professor at Faculty of philosophy UB



O projektu talk to tick danas u Politici

Бесплатне анализе крпеља



На Институт за медицинска истраживања у Булевару ослобођења може се донети извађени крпељ да би се утврдило да ли је заражен. – Испитивање се односи на десет различитих узрочника болести које преносе ови паразити



Gostovanje prof. dr Dušana Škiljevića u podcastu „Derma priče“. O krpeljima, potencijalnim rizicima od njihovog boda, o prevenciji kao i projektu TalkToTick.

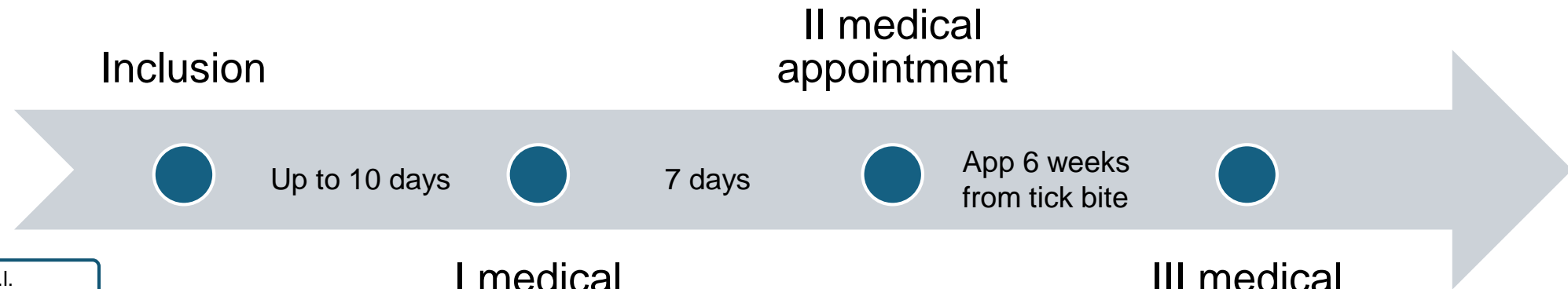




Inclusion criteria 1.4. – 26.9.2024.

18 +
No pregnant
No antibiotic treatment last 30 days
No antiparasitic or immunomodulators treatment
Motivated to participate and follow protocol

148
participants



Borrelia burgdorferi s.l.

Borrelia miyamotoi

Anaplasma phagocytophilum

Rickettsia sp.

Neoehrlichia mikurensis

Babesia sp.

Ehrlichia canis

TBE

CCHF

Francisella tularensis

I medical
appointment
(tick analysis results)

III medical
appointment

Training school for medical doctors, Beograde, June 19th 2024.



THANK YOU!



This research was supported by the Science Fund of the Republic of Serbia, #GRANT No 7339, Tailoring management of tick-borne diseases based on diversity of ticks and tick-borne pathogens (TalkToTick)



PRAGMATICK TRAINING SCHOOL – “Citizen Science as a research tool for tick and tick-borne disease risk prevention” (September 26-27, Novi Sad, Serbia)