The ability to interpret canine facial expressions could facilitate greater ease and safety when working closely with dogs. This study was performed to determine whether humans could identify canine facial displays from photographs.

One well-trained police dog served as the model, and 10 photographs were produced for each of 6 human-associated emotions (ie, happy, sad, surprise, disgust, anger, fear, neutrality) evoked by stimuli (eg, ball, verbal reprimand, bitter medication). In the study’s first phase, 3 behavior experts confirmed the accuracy of the emotion displayed in the photographs by ranking them. The top-ranked photographs were used in the second phase, examining whether experienced and inexperienced subjects could judge the expected emotional states and identify the conditions under which the photographs were taken.

Results indicated that human ability to identify communicative signaling in canine facial expressions was above chance responding, with little difference between experience levels. Most subjects consistently identified happiness, sadness, anger, and fear in the appropriate photos; surprise and disgust proved more difficult. Experienced individuals performed well in identifying the behaviorally defined situations but were worse than inexperienced individuals at identifying anger.

**Commentary**

Although at first glance this article might seem esoteric to day-to-day practice, it actually offers us worthwhile first insights into how we assess and interpret our patients. While the emotions researchers assigned to the contexts may not accurately describe the dog’s motivation, both experienced and inexperienced subjects interpreted most emotions consistently. Drawing from other facial communication studies with humans and primates, it is likely we are noticing nuances in a dog’s facial muscle tension when we interpret their facial expressions. When working with dogs, we take in other signals, body movements, and postures. Nonetheless, what we focus on as we observe animals reveals our similarities to other species in how we interpret and communicate emotions.—Vint Virga, DVM, DACVB

**Source**


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**Can We Identify Canine Facial Expressions?**

In 2009, 2 humans in Missouri were admitted to a regional hospital with ehrlichiosis-like symptoms. A pathogenic Phlebovirus was isolated from both patients during blood culture for Ehrlichia chaffeensis and named Heartland virus (HRTV). In 2012, 56,428 ticks representing 3 species were collected from 12 sites in Missouri, including both patients’ farms. Project goals included testing arthropods (ie, ticks, mosquitos) to determine if HRTV persisted at the 2 case patients’ residences, to describe its potential arthropod vectors, and to determine its geographic distribution and prevalence in potential vector species.

Amblyomma americanum (Lone Star tick) represented 97.5% of ticks collected. Dermacentor variabilis (American dog tick) was the second most commonly collected tick at 2.5% of ticks collected. Ten pools of deplete A americanum nymphs tested positive for HRTV; 8 pools yielded viable viruses. Sequence data indicated more than 97.6% sequence similarity between tick and human strains. A americanum likely feeds on viremic hosts during the larval stage, and transmission to humans occurs during the spring or early summer when nymphs are actively host seeking.

**Commentary**

The novel Phlebovirus HRTV is closely related to a sister Phlebovirus, severe fever with thrombocytopenia syndrome virus (SFTSV), and with a putative tick vector. Despite the geographic disparity and few identified clinical cases, this attests to the plasticity of ticks and tick species as disease vectors and the enormous adaptability of their viruses. It is likely that more HRTV and SFTSV cases are forthcoming and possible that affected individuals might harbor subclinical infection. Large-scale studies may better characterize the viral epidemiology of many of these novel emergent viruses.—Indu Mani, DVM, DSc, FNAP

**Source**


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One Health Initiative

**Meet the Heartland Virus**

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