

Small Animal Database: New set of invertebrates photos for human-animal studies

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Aims

- To create a database of own photographs of invertebrate animals for further research on human-animal interaction.
- To collect ratings of photos according to 5 dimensions
- To analyze the characteristics of species (morphology, colors) that most influence the evaluation

Methods

- Our own photographs of 62 species (spiders, scorpions, other arachnids, cockroaches, centipedes, milipedes, crustaceans, beetles and other insect)
- Special web application, 5 dimension 7-point Likert scale, 217 respondents
- Characteristics of species – morphology (body length, body width, length of legs, area, perimeter) and colors (special program Barvocuc)

I'm the scariest!

- The scariest species: complex body contour, longer legs - scorpions, spiders and arachnids
- The least scary species: compact body → beetles and cockroaches
- The transition group: long body - centipede and milipede

→ The perception of fear is mostly influenced by morphotype, colors have no effect.←

- In invertebrates, fear is positively correlated with disgust (Spearman $r = 0.591$, $p < 0.0001$)
- In contrast, fear doesn't correlate with beauty ($r = 0.112$, $p = 0.3859$)

Fear

Disgust

I'm the most beautiful!

- The most beautiful species: green color, longer legs, complex body contour
- The least beautiful species: longer body, shine (evoke sliminess)
- Beetles and crustaceans tend to be beautiful

→ Beauty is not tied to a specific morphotype, colors are also important ←

I'm the most disgusting!

- The most disgusting: longer body – centipedes and milipedes, or complex body contour – spiders and arachnids
- The least disgusting: compact body – beetles and cockroaches
- The transition group: scorpions

→ The perception of disgust is mostly influenced by morphotype, colors have no effect.←

- In invertebrates, disgust is negatively correlated with beauty ($r = -0.553$, $p < 0.0001$)
- The correlation of disgust and beauty is not as close as, for example, in snakes

Beauty

Arousal

- Arousal is most influenced by the morphotype of the species
- High level of arousal: spider and scorpions, next centipedes and milipedes
- Low level of arousal: insect, crustaceans

→ The level of arousal is tied to the morphotype and is closely related to negative emotions ←

I'm the most exciting!

- Arousal is positively correlated with fear ($r = 0.853$, $p < 0.0001$) and also with disgust ($r = 0.512$, $p < 0.0001$)
- In contrast, arousal doesn't correlate with beauty ($r = 0.2245$, $p = 0.0749$)
- Arousal best explains negative emotions (fear and disgust)

Valence

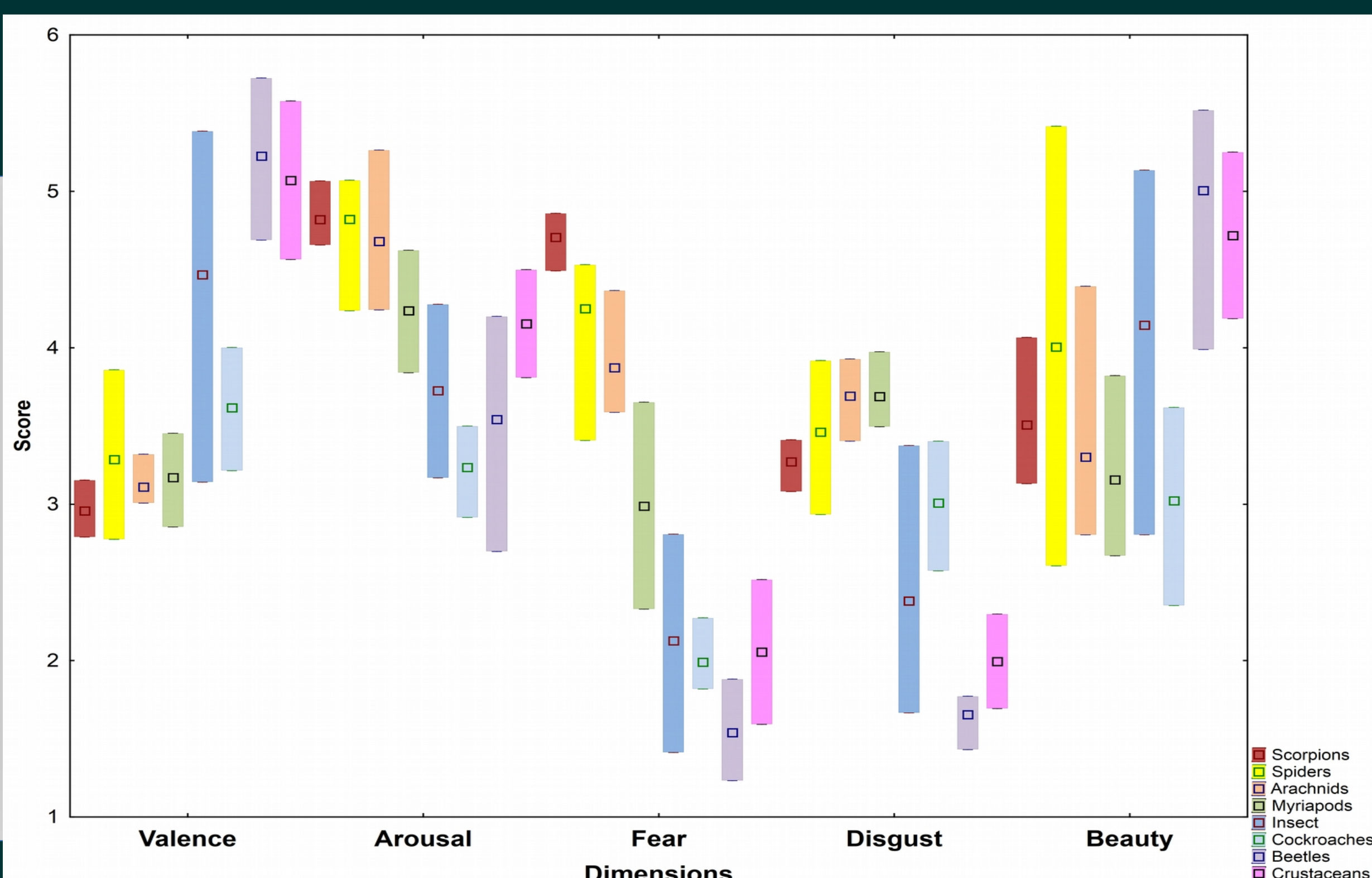
Be positive!

- Positive valence correlate with perceived beauty ($r = 0.712$, $p < 0.0001$)
- Positively perceived species: green color, compact body

→ Valence is well described by other dimension (disgust, fear, beauty)←

- Negative valence correlate with disgust ($r = 0.811$, $p < 0.0001$) and fear ($r = 0.772$, $p < 0.001$)
- Negative perceived species: complex body contour, longer legs

Be negative!



Summary

- The morphotype of the species influences the evaluation of fear, disgust, arousal and partially also valence
- Negative emotions are evoked by spiders, scorpions and myriapods; conversely people perceive beetles and crustaceans positively
- Certain colors contribute to species' perceived beauty and positive valence
- Valence and arousal can be derived from other dimension
- Fear and disgust partially overlap in invertebrates