Creating Bio-inspired Solution Ideas Using Biological Research Articles

What gives you the idea of scrutinizing leaf beetle legs when conceptualizing car tires? Questions like this are approached by a number of methods and tools developed to support the creation of solution ideas for technical problems based on biological inspiration. BIOscrabble, the approach applied here, supports drawing such inspiration from biological research articles. Due to their huge variety and novelty, these articles are expected to have a strong potential for inspiring bio-inspired technical solutions and are assumed to enhance creative thinking during solution search in bio-inspired design by the authors. This work shows that mechanical engineers lacking a biological background are able to creatively use biological research articles for the development of bio-inspired solution ideas. Moreover, during solution search in bio-inspired design, these articles are beneficial in terms of offering additional stimulation for creativity when compared to one of the most relevant bio-inspired design databases.