Ecosystems are currently breaking down world-wide, especially insect species are dramatically disappearing. In order to protect our society, which depends on the ecosystems it is a part of, we have to prevent further decline of bio-diversity. However, damages are already present and crucial "key-stone species" are threatened. We studied the collective swarm-behavior of two highly threatened animal groups (honeybees and fish) and, as a proof-of-principle demonstration, we have designed two robot species that can infiltrate those ecosystems and even coordinate these very different animals with respect to each other. This way we have created, for the first time in history, a novel ecological link between them by embedding autonomous robots in a small living ecosystem. This was the first time that such an ecological link was mediated by autonomous robots, showing that this is a viable option to externally stabilize fragile, or even already broken, ecosystems. In recent research, I try to use robotic devices to turn whole honeybee colonies into bio-hybrid robotic systems to use them as a novel ecological agent.