Abstract 31:

Where are they now? Tracking the Mediterranean Lionfish Invasion via Local Dive Centers

Elizabeth W Phillips[1]*, Alexander Kotrschal[1]

[1] Behavioural Ecology Group, Wageningen University & Research, The Netherlands
* Corresponding author. E-mail: elizabeth.phillips@wur.nl

Invasive species are globally on the rise and often cause harm to their new ecosystems. Tracking the spread of invaders is crucial to better management of invasive species, and citizen science is commonly used to gather such data. While valuable, this method can be unreliable due to the general public's limited expertise in accurate species identification. We introduce a refined method of citizen science by tracking the spread of the invasive lionfish (*Pterois miles*) in the Mediterranean Sea using dive centers' expertise on local marine wildlife. We found that lionfish are observed in the eastern half of the Mediterranean, though there are recent sightings as far west as Corfu, Greece. In 2020, the invasion also expanded north on the Turkish Aegean coast to Karaburun, showing that the invasion is ongoing. The invasive range now exceeds previous invasion models, highlighting the need for additional research on lionfish to more accurately predict their potential expansion. Cognitive aspects may play a role, as we recently showed that the morphologically and ecologically similar red lionfish (*P. volitans*) possesses color vision. Color vision can aid in hunting ability, opening up opportunity for lionfish to adapt and hunt diurnally in invasive ranges rather than being restricted to crepuscular hunting typical in their native range. Continuous monitoring of invasive fronts based on dive center reports and a better understanding of what makes lionfish so invasive is crucial to mitigating their negative impact on native ecosystems.