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**Behavior Ecology: from “Male mating strategies of *Pisaura mirabilis*”, till “Using sex pheromones and sex attractants towards detecting the vine bud pest *Theresimima ampellophaga*”**

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**Abstract**

**Albania** has a favourite geographical position in the Balkan Peninsula, bordering by Montenegro to the northwest, Kosovo to the northeast, the Former Yugoslav Republic of Macedonia to the east and Greece to the south. It has a coast on the Adriatic Sea to the west and on the Ionian Sea to the west and southwest. Albania boast a large diversity of landscape, including many terrestrial habitats with altitude from 0 – 2764m including fields, hills and mountains; and many aquatic habitats including rivers, lakes and lagoons. **Higher education** in Albania includes 15 public and 26 nonpublic institutions. The University of Tirana (UT) was established in 1957 and is the biggest and oldest public university in Albania. UT counts 6 faculties, 2 institutes, and 174 study programs in all the education levels. UT counts many exchange programs of university staff and students, included in the ERASMUS+ KA1, where UT has agreements with 100 Universities, and also UT is part of the network of the universities in Turkey via the Mevlana Program.

Males of the polyandrous spider *Pisaura mirabilis* have a spectacular mating behaviour, which includes the use of nuptial gifts and performance of thanatosis. The male offers a nuptial gift consisting of a prey item wrapped in silk and completes sperm transfer while the female consumes the gift. Males are able to wrap worthless gifts such as empty exoskeletons and females are unable to differentiate genuine and fake gifts prior to mating. If the female interrupts copulation, the male may perform thanatosis where he ‘plays dead’ and hangs on to the gift, which allows the male to later continue copulation. Our results show that males were more inclined to produce genuine than fake gifts, and genuine gifts confer longer copulations.

*Theresimima ampellophaga*, the vine bud moth, is a species occurring in the Mediterranean region and it has become partly harmful in vineyards. Albania, as a Mediterranean country, has the proper climatic conditions and geographic position for having vineyards, which are found mostly in the western lowland. The research field work in the southern Albania, using for the first time the traps baited with the sex pheromone of *Th. ampellophaga*, and the sex attractant EFETOV-2, revealed this species as new for Albania. Low numbers of males were captured in four vineyards for the first generation using sex pheromones, meanwhile the specimens of the second generation were attracted only by the sex attractant.

**Higher education** is facing a new experience of online teaching in many countries due to the COVID-19 pandemic situation during 2020. This study aims to evaluate the perceptions



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regarding remote teaching and the interaction between professors and students in some of the Western Balkans universities during this period. Regarding previous online teaching experience, there was a significant difference between the universities included in this study. Moreover, universities were evaluated for their future teaching approaches during the COVID-19 pandemic, and blended learning is considered a proper and safe method by the majority of professors in all universities. When asked if they would prefer, in general, online teaching compared to face-to-face, the latter resulted in the best teaching approach. A significant relationship was also found between the teaching preferences either during COVID-19 or further continuing for online teaching, and professors' specific feelings during online teaching such as attraction, monotony/annoyance, loss of concentration, feeling free and wasting time.

**Keywords:** Albania, University of Tirana, Pisauridae, fake and genuine nuptial gifts, thanatosis, semiochemicals, the vine bud moth, pest, online learning, heigher education