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## Spider parasitic fungi as alternative sources of novel secondary metabolites

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**Purpose:** Since hypocrealean arthropod-parasitic fungi are revealed to be capable of producing a diverse array of secondary metabolites with various biological properties, a number of species have been intensively studied. Remarkably, some certain species, in particular the parasites of spiders, *Gibellula* and *Hevansia* appear neglected. Although there has been an increasing interest toward them in the past years, it is nevertheless limited to specific research groups. According to the fact that their production of secondary metabolites remains largely unexplored, the attempt to investigate and explore them was herein made.

**Methods:** As Thailand is one of the global biodiversity hotspots, many species of spider-parasitic fungi from various parts of the country were studied for production of secondary metabolites where they were examined using analytical HPLC coupled with diode array and mass spectrometric detection (HPLC-DAD/MS) and compared within and across species according to the multigene phylogenetic tree.

**Results and conclusions:** So far this has led to the discovery of more than ten unprecedented molecules from three different species and the recognition of their unique patterns of secondary metabolite production. Our findings demonstrate that spider-parasitic fungi constitute a rich, hitherto untapped source for novel metabolites that might eventually turn out to be useful in medicine, agriculture or other applications. We hope that these can also help to raise the general scientific interest in this group of fungi and in particular in the taxonomy and secondary metabolism of the spider pathogens.