***Publications Template***

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| **#** | **Research Title** | **Field** | **Abstract** | **Year of Publication Publishing**  | **Publishing Link “URL”** |
| **6** | Dissecting grilled red and white meat flavor: Its characteristics, production mechanisms, influencing factors and chemical hazards. | Food Chemistry | Meat flavor is composed of a complex mixture of volatile compounds developed as a result of heat driven multi-directional reactions. Typical reactions include Maillard reaction, lipid oxidation, as well as nitrogenous compounds degradation. Such complex flavor is characterized by a rich variety of volatile species, and to strongly influence consumer’s preference. The objective of this review is to holistically dissect the flavor characteristic for cooked meat products with special emphasis on grilling and the factors that affect their production to ensure best quality and or safety levels. The review also highlights different analytical techniques used for the detection of flavor compounds in grilled meat. This comprehensive literature research critically analyze grilled flavor derived from heat mediated reactions, with a special emphasis on key flavors or hazard chemicals and their production mechanism. The various influencing factors i.e., grilling temperature, meat, food components, animal ante-mortem factors and food additives are summarized. | 2022 | <https://doi.org/10.1016/j.foodchem.2021.131139> |
| **5** | THE ANTIBACTERIAL EFFECT OF AQUEOUS THYME EXTRACT ON MULTIDRUG RESISTANT ISOLATES OF DIFFERENT CLINICAL SAMPLES | Microbiology & natural products |  *The increased emergence of Multidrug resistant (MDR) bacteria together with the decreased new antibacterial agent makes an urgent call for research to find new strategies to fight bacterial infections. One of these strategies is to use combination of phytochemicals or plant extracts and antibiotics to act as potentiators for the antibiotics. Thyme essential oil has strong antimicrobial activities due to its phenolic components. The aim of this work is to estimate the effect of aqueous extract of thyme as antibacterial agent on MDR isolates and also to test its effect on the levofloxacin LE antibacterial activity against MDR isolates. This study included 36 isolates that were collected from different clinical sources. Four different commercial thyme samples were collected from different sources and each undergone microscopical examination. For each MDR isolate Minimal Inhibitory Concentration (MIC) of each of levofloxacin LE and thyme aqueous extract alone and then the combination of both was determined using broth microdilution test. The results of this study revealed that aqueous extract of thyme sample 1 showed MIC less than 150 mg/ml in 38.5% of MDR isolates compared to sample 4 that showed MIC less than 150 mg/ml in 53.8% of MDR isolates. MIC of LE to MDR isolates was with median 125μg/ml compared to 62.5μg/ml when was estimated in combination with aqueous extract of thyme sample 4. The thyme aqueous extract of sample 4 caused 2 fold, 4 fold, & 83.3 fold decreases of LE MIC in 30.7%, 23.08% & 7.69% of MDR isolates respectively. From this study we concluded that thyme aqueous extract corresponded different antimicrobial activity depended on degree of contamination of the herb and it had antibacterial effect against both MDR and non MDR isolates. Moreover, thyme aqueous extract is mainly synergistic when used with LE against MDR bacteria.* | 2020 | Printed |
| **4** | LC–MS/MS and GC–MS profiling as well as the antimicrobial effect of leaves of selected Yucca species introduced to Egypt | Natural Products | Few studies thoroughly investigated different Yucca species introduced to Egypt. As a part of our ongoing investigation of the Yucca species; *Yucca aloifolia* and its variety *Yucca aloifolia variegata*, *Yucca filamentosa*, and *Yucca elephantipes* (Asparagaceae) were extensively subjected to phytochemical and antimicrobial investigation. Yucca species cultivated in Egypt showed no antimicrobial effect. GC/MS of the lipoid contents *of Y. Aloifolia variegata* was carried out. Twenty-six fatty acids were identified. Saturated fatty acids established almost twice the unsaturated ones and constituted 64.64% of which palmitic acid and palmitoleic acid signifying 58.28% and 30.98%, respectively. Hydrocarbons were 21 constituting 39.64% of the unsaponifiable fraction. Only three sterols 42.36% were detected, major was *γ*-sitosterol. LC–MS/MS comparison of the 4 plant extracts imply that *Y.aloifolia variegata* L extract was the richest, which was apparent through its superior biological activity. LC–MS/MS analysis of the total alcoholic extract (Alc) of the leaves of *Y.aloifolia variegata* L. Was performed using MS-techniques at different voltages; equal to 35 and 135 ev. Negative and positive-ion modes analyses at low fragmentation energy allowed the tentative identification of 41 and 34 compounds, respectively. The LC–ESI–MS/MS analysis in the positive mode proved to be better in the identification of saponins. | 2020 | Https://www.nature.com/articles/s41598-020-74440-y |
| **3** | El Hawary, Seham, Abeer El Sayed, Maged W. Helmy, El Moataz bellah El Naggar, Hanan S. Marzouk, and Samar M. Bassam. "DNA fingerprinting, biological and chemical investigation of certain Yucca species." *Natural product research* 32, no. 21 (2018): 2617-2620. | Natural Products | *Yucca aloifolia*, *Y. Aloifolia variegata, Y. Elephantipes* and *Y. Filamentosa* were investigated. DNA sequencing was performed for the four plants and a genomic DNA fingerprint was obtained and provided. The cytotoxic activities against four human cancer cell lines were investigated. The ethanolic extracts of leaves of *Y. Aloifolia variegata* prevailed, especially against liver cancer hepg-2 and breast cancer MCF-7. *In vivo* assessment of hepatoprotective activity in rats also revealed the hepatoprotective potential of the ethanolic extracts of the four plants against ccl4- induced rats’ liver damage. Qualitative and quantitative analysis of the flavonoid and phenolic content of the promising species was performed using HPLC. The analysis identified and quantified 18 flavonoids and 19 phenolic acids in the different fractions of *Y. Aloifolia variegat*a, among which the major flavonoids were hesperidin and kaemp-3-(2-*p*-coumaroyl) glucose and the major phenolic acids were gallic acid and protocatechuic acid. | 2018 | [Https://www.tandfonline.com/doi/abs/10.1080/14786419.2017.1423311](https://www.tandfonline.com/doi/abs/10.1080/14786419.2017.1423311) |
| **2** | Harraz, Fathalla M., Hala M. Hammoda, Maged G. El Ghazouly, Mohamed A. Farag, Ahmed F. El-Aswad, and **Samar M. Bassam**. "Chemical composition, antimicrobial and insecticidal activities of the essential oils of *Conyza linifolia* and *Chenopodium ambrosioides*." *Natural product research* 29, no. 9 (2015): 879-882.A poster of this paper was exhibited in Conference: 23º SILAE Congress of Ethnomedicine, 7-12 September, 2014, Marsala, Italy. | Natural Products | Two essential oil-containing plants growing wildly in Egypt: *Conyza linifolia* (Willd.) Täckh. (Asteraceae) and *Chenopodium ambrosioides* L. (Chenopodiaceae) were subjected to essential oil analysis and biological investigation. The essential oils from both plants were prepared by hydrodistillation, and GC/MS was employed for volatiles profiling. This study is the first to perform GC/MS analysis of *C. Linifolia* essential oil growing in Egypt. *C. Linifolia* essential oil contained mainly sesquiterpenes, while that of *C. Ambrosioides* was rich in monoterpenes. Ascaridole, previously identified as the major component of the latter, was found at much lower levels. In addition, the oils were investigated for their antimicrobial activity against two Gram positive and two Gram negative bacteria, and one fungus. The insecticidal activities of both oils, including mosquitocidal and pesticidal potentials, were also evaluated. The results of biological activities encourage further investigation of the two oils as antimicrobial and insecticidal agents of natural origin. | 2015 | [Https://www.tandfonline.com/doi/abs/10.1080/14786419.2014.988714](https://www.tandfonline.com/doi/abs/10.1080/14786419.2014.988714) |
| **1** | Hammoda, Hala M., Fathalla M. Harraz, Maged G. El Ghazouly, Mohamed M. Radwan, Mahmoud A. Elsohly, Amira S. Wanas, and **Samar M. Bassam**. "Two New Flavone Glycosides from *Chenopodium ambrosioides* Growing Wildly in Egypt." *Records of Natural Products* 9, no. 4 (2015): 609-613. | Natural Products | Chenopodium ambrosioides (Chenopodiaceae) growing wildly in Egypt was subjected to antioxidant –guided phytochemical investigation and the etoac fraction afforded the two new flavone glycosides; scutellarein-7-O-α-rhamnopyranosyl-(1→2)-α-rhamnopyranosyl-(1→2)-α-rhamnopyranoside (1) and scutellarein-7-O-α-rhamnopyranosyl-(1→2)-α-rhamnopyranoside (2). In addition, the in vitro antioxidant activities of the plant alcohol extract, chcl3 fraction, etoac fraction and isolates were studied. | 2015 | [Http://www.acgpubs.org/doc/2018080808475178-RNP-1405-083.pdf](http://www.acgpubs.org/doc/2018080808475178-RNP-1405-083.pdf) |