

Abstract

The genus *Erythrina* is very rich in secondary metabolites particularly of the flavonoids class. A literature survey of non-alkaloidal secondary metabolites from *Erythrina* showed the presence of flavanones, flavonols, chalcones, cinnamoylphenols, stilbenoids, isoflavones, isoflavans, isoflavanones, pterocarpanes, isoflav-3-enes, 3-phenoxychromones, coumestans, 3-phenyl-coumarins, lignans, cinnamate esters, simple phenolics, triterpenes, sesquiterpenes, long-chain carboxylic acids, and long-chain alcohols. The documented bioactivities of some of the isolated metabolites range from antimicrobial, anti-inflammatory, inhibition of platelet aggregation, tyrosinase inhibition, phospholipase A₂ (PLA₂) inhibitors, cyclooxygenase inhibitors, antioxidant, inhibitors of NA⁺/H⁺ exchange system, phospholipase C inhibitors, behavioural depression, muscle relaxation, β-adrenergic inhibition, diuretic, anticancer, cytotoxic, DNA-repair properties, oestrogenic or proestrogenic activities, antitrypanosomal, antiplasmodial, and anti-HIV activities. The bioactivity profile represented the various classes fairly reasonably but it became apparent that a number of these isolates have not yet been tested for biological activity. A very close agreement between ethno-medical use of the various *Erythrina* extract preparations (Table 1) and the results of biological activity (Table 2) was found, with the reported activities of pure isolates strongly supporting the documented ethno-medical uses and reported pharmacological activity. The most common activity exhibited by extracts and pure isolates was mostly microbial related. It was also interesting to note that some compounds showed high efficacy against resistant organisms, a very important aspect, since most used drugs especially antibiotics tend to produce resistance to certain strains of organisms. The survey showed furthermore that certain structural features were essential for certain activities and also that compounds that were found active were usually effective against not just one but several disease functions. One cannot help but surmise that more activities are yet to be reported for these same isolates. The challenge remains for researchers in the various pertinent disciplines to carry out more work on these to fill in the knowledge gaps that still exist.