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THEMED ISSUE: CANNABINOIDS

EDITORIAL

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The cannabis plant has been man's companion in various parts of the world for millennia. For some of that period, British exploitation of the plant derived from the usefulness of hemp fibre from the plant for making rope and sailcloth. Hemp for this purpose was grown in Britain under Henry VIII and Elizabeth I, who made it a legal requirement for landowners to provide a proportion of their holdings for its cultivation.

It was also grown in the New World, including by some future Presidents of the United States; although there are sources that suggest that chronic tooth-ache may have led the first President of the United States, George Washington, to grow the plant for medicinal purposes.

In the following century, Queen Victoria, during whose reign the British Empire expanded greatly, is also reported to have made use of an alcoholic extract of the cannabis plant. Whether the tincture of cannabis was taken to relieve her pre-menstrual syndrome or the pain of childbirth (Victoria had nine children between 1840 and 1857), it was widely used in Victorian England, added to tea, for example, as a source of pain relief.

The structural identification of the principal psychoactive component, Δ^9-tetrahydrocannabinol (in the mid-1960s), from amongst the 60-70 apparently unique, structurally-related compounds found in the cannabis plant only occurred after legislation restricted the availability of extracts, both 'herbal' and resin-based. Whatever the legal issues concerning the availability of the cannabis plant, for the British Journal of Pharmacology, cannabis and the cannabinoids are a frequent subject for publications.

In this Themed Issue, we have brought together a number of reviews describing a range of topics in the cannabinoid arena.

Some of them focus on the molecular level, from determination of brain endocannabinoid levels (Buczynski and Parsons, 2010); heteromultimers of CB_1 cannabinoid receptors (Ferré *et al.*, 2010); protein partners of CB_1 cannabinoid receptors (Smith *et al.*, 2010); and an assessment of the evidence for CNS expression of CB_2 cannabinoid receptors (Atwood and Mackie, 2010).

Other reviews focus on therapeutic aspects of cannabinoids: their role in neurodegenerative diseases (Scotter *et al.*, 2010); animal models of cannabinoid reward (Panlilio *et al.*, 2010); and the impact of adolescent cannabis use and psychosis (Malone *et al.*, 2010).

In addition, there are three general, but diverse, reviews on topics dealing with phytocannabinoids beyond the cannabis plant (Gertsch *et al.*, 2010); the rhythmicity of the endocannabinoid system (Vaughn *et al.*, 2010) and the importance of sex differences in cannabinoid action (Fattore and Fratta, 2010).

In addition to these reviews, this Themed Issue presents a number of exciting original articles dealing with the actions of cannabinoids from the molecular level, through cellular and tissue levels to the whole animal level. The 20 research papers in this Themed issue illustrate the broad range of actions of cannabinoids, from vascular regulation through cancer and pain to reward and drug consumption, as well as effects of the cannabinoid-like receptor GPR55 and the cannabinoid-like substances *N*-arachidonoylglycine and *N*-oleoylethanolamine.

We believe this issue contributes significantly to our current understanding of the huge sphere of influence that cannabinoids have on patho/physiological functions. Clearly, this sphere is expanding and appears likely to continue to expand. Watch this space!

We wish to acknowledge the contribution to cannabinoid pharmacology over many years of Ester Fride and Mike Parsons, who died during the course of collating this Themed Issue.

Steve Alexander, Ken Mackie and Ruth Ross
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Conflict of Interest

The authors state no conflict of interest.

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