



This occasional section within the journal surveys visions and achievements, often not on the main track of the developing biomedical sciences, but all relating to discoveries and developments of medicinal – both ancient and modern. What they have in common, in one way or another, is providing further background and glances around the edges of the core discipline of pharmacognosy, as it has been and continues to evolve within our times.

## Regular Consumption of Goji Berries Reduces and Prevents the Development of Age-Related Macular Degeneration

I E Cock<sup>1,2,\*</sup>

<sup>1</sup>School of Environment and Science, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

<sup>2</sup>Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

### Correspondence:

Dr. I E Cock

<sup>1</sup>School of Environment and Science, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

<sup>2</sup>Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

Email id: i.cock@griffith.edu.au

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Age-related macula degeneration (AMD) is the leading cause of vision loss in aging people, with 170 million people globally estimated to suffer from AMD (as reviewed in).<sup>1</sup> A recent study published in the journal *Nutrients* examined the effects of consumption of 28 g of goji berries five times a week on macular optical density (MOPD) and on the levels of skin carotenoids in participants aged 45-65 years old in a randomised trial.<sup>2</sup> Notably, goji berry consumption was associated with significant increases in MOPD following the 90 day study period. Furthermore, goji berry consumption also resulted in significant increases in skin carotenoid levels. The authors deduced that regular goji berry consumption in healthy middle-aged people without other evident morbidities may prevent or delay the development of AMD. However, this study measured carotenoids in the skin and it was not demonstrated

that the increases in the skin correlate to similar increases in the eyes. Similarly, whilst this study reports noteworthy increases in MOPD, the study did not conclusively show that this delayed AMD, although it may be reasonable to assume that it does. Further studies are required to confirm these effects and to determine the molecular mechanism(s) responsible for these effects.

### REFERENCE

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## Snail Slime may Provide Effective Treatments for wound Repair and have Antibiotic Effects

IE Cock<sup>1,2,\*</sup>

<sup>1</sup>School of Environment and Science, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

<sup>2</sup>Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

### Correspondence:

Dr. I E Cock

<sup>1</sup>School of Environment and Science, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

<sup>2</sup>Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

Email id: i.cock@griffith.edu.au

Snails have been used for centuries as a natural cure for multiple bacterial infections, including several serious human pathogens. Indeed, a recommended treatment for anthrax in 18<sup>th</sup> century Europe was to consume snails. Similarly, snails were also consumed in the 19<sup>th</sup> century for the treatment of tuberculosis, and has been used to treat skin inflammation and to aid in dermal wound repair in the 20<sup>th</sup> century. More recently, several topical gels, creams and face masks have incorporated slime from *Helix aspera* (European edible snails) for use as beauty treatments. Despite the traditional uses of snails and snail slime, few studies have examined the therapeutic properties of snail slime. A recent study published in Scientific Reports found that exposure of cells in culture to *H. aspera* slime induced significant cell proliferation and cell migration, whilst itself being non-toxic to fibroblasts.<sup>3</sup> Another study has also reported that *H. aspera* slime is effective at inhibiting the growth

of a panel of 20 bacteria, including *Pseudomonas aeruginosa*, which is resistant to many antibiotics.<sup>4</sup> Whilst both of these studies are interesting, substantially more work is required to study these effects and to examine the therapeutic mechanism, and to identify active compounds in the snail slime.

### REFERENCE

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