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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.

Croton olifgandrus Pierre and Hutch Compounds Reverse HIV-1 Viral Latency

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Human Immunodeficiency Virus (HIV) infections are nowadays managed effectively using modern antiretroviral therapies (ART). Notably, these therapies are do not cure the infection, and the virus may remain latent in reservoirs throughout the body. The latent virus can reactivate at any time, and disease progression may proceed. ART treatment must be ongoing, generally for the lifetime of the patient. However, even with correct treatment, the virus may still reactivate. Additionally, the latent virus in these reservoirs may cause chronic inflammation, as well as other comorbidities in some patients. Therefore, there is still no effective and readily accessible cure for HIV, and much research is still required in this field. Medicinal plants have potential for the treatment of viral diseases. Recently, substantial research has focussed on respiratory viruses due to covid-19 global pandemic,[1-5] with hundreds of African plants identified to be effective against multiple viral respiratory infections.[6,7]

A recent study by Cameroon researchers published in the Journal of Experimental Pharmacology investigated compounds isolated from *Croton oligandrus* Pierre and Hutch as potential latency-reversing drugs (LRD), which would allow the virus to be actively targeted and eliminated.[8] Four of the isolated compounds displayed substantial reversal of viral latency. In particular, the authors highlighted β-stigmasterol and lupeol as particularly promising. Furthermore, some of the isolated compounds synergised the latency reversal effects of other existing latency reversing compounds when administered as combinations. The authors also reported that the compounds reversed latency by mechanisms distinct from the current protein kinase C activation and histone deacetylase inhibition target mechanism. Whilst this research is promising, the study examined the effects *in vitro*, and other issues such as bioavailability and toxicity need to be evaluated before these compounds can be considered for therapeutic use.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

REFERENCES

1. Alcorn SR. The 2020 coronavirus (COVID-19) global pandemic, a call to arms to pharmacognosy researchers-plant-based antiviral approaches. Pharmacognosy Communications 2021;11(1):2-8.
2. Cock IE. A recent study identified three marine natural products with potent SARS-CoV-2 inhibitory activity. Pharmacognosy Communications 2022;12(4):154.
3. Cock IE. South African researchers are screening traditional southern African medicinal plants as leads for COVID-19 treatments. Pharmacognosy Communications 2022;12(3):120-1.
4. Cock IE. An opinion: Herbal medicines may provide a means of controlling the COVID-19 pandemic. Pharmacognosy Communications 2020;10(3):140-2.
5. van Breemen RB, Muchiri RN, Bates TA, Weinstein JB, Leier HC, Farley S, Tafesse FG. Cannabinoids block cellular entry of SARS-CoV-2 and the emerging variants. Journal of Natural Products 2022;85(1):176-84.
6. Cock IE, Van Vuuren SF. The traditional use of southern African medicinal plants in the treatment of viral respiratory diseases: A review of the ethnobotany and scientific evaluations. Journal of ethnopharmacology. 2020;262:113194.
7. Lawal IO, Olufade II, Rafiu BO, Aremu AO. Ethnobotanical survey of plants used for treating cough associated with respiratory conditions in Ede South local government area of Osun State, Nigeria. Plants 2020;9(5):647.
8. Emade Nkwelle C, Babiaka SB, Metuge CS, Liang K, Stephens U, Esemu SN, Zuzga DS, Shuda McGuire K, Montaner LJ, Ndip RN, Tietjen I. *Croton oligandrus* Pierre and Hutch (Euphorbiaceae) Extracts and Isolated Compounds Reverse HIV-1 Latency. Journal of Experimental Pharmacology 2024;413-25.