



Rosa Centifolia Extract And Oil, Their Properties And Their Effect On Bacteria, Fungi And The Environment



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ABSTRACT

Rosa centifolia, also known as cabbage rose or rose de Provence, is a fragrant flower with antibacterial and antifungal properties. Its extracts and essential oils are rich in phytochemicals and have therapeutic potential. Farming improves soil quality and uses environmentally friendly extraction methods

AIM OF THE RESEARCH

In this study, the extract and oil of Rosa Centifolia were studied and its effect on bacteria, fungi and plants and whether it is safe or not.

INTRODUCTION

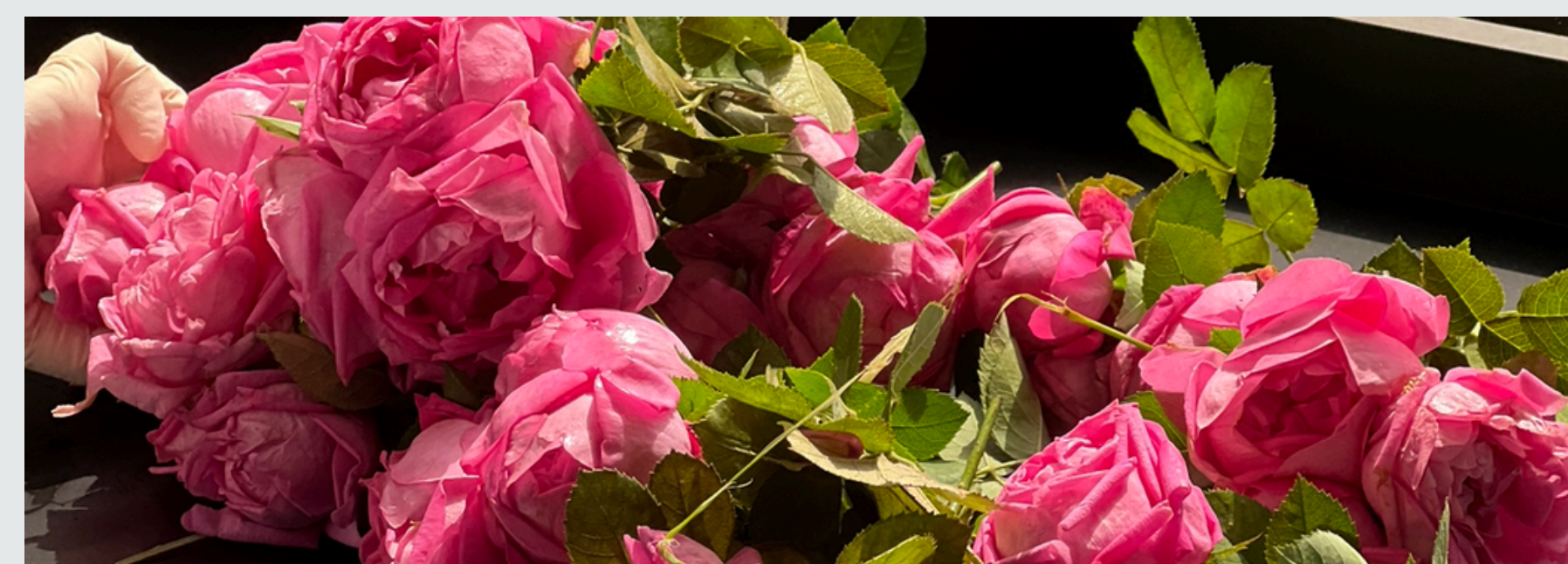
Rosa centifolia, also known as the Provence rose or cabbage rose, is a plant known for its attractive scent and numerous health benefits when extracted. Its primary methods include steam distillation, high-pressure CO2 extraction, and solvent extraction. A single Rosa centifolia plant yields 1000g of blooms annually, and it can provide 30g of concrete oil (0.15% on a petal weight basis) via solvent extraction. The oil and extract from Rosa centifolia are generally safe, but they may react allergically to certain people, particularly those with sensitive skin or allergies to plants in the Rosaceae family. Rosa centifolia has been used in many products and has demonstrated positive results, but full data on its subchronic toxicity has not been reported or discovered in the published literature.

The extract's antibacterial properties are susceptible to various bacteria, including those known to cause food-borne diseases like Staphylococcus aureus and Bacillus cereus. These properties do not confine themselves to bacteria but also encompass fungus, providing a non-chemical way of managing fungal diseases. An extract from Rosa centifolia has demonstrated inhibitory effects on Staphylococcus aureus. Several extracts from Rosa centifolia, a closely related plant, have shown antibacterial efficacy against E. coli. Rosa centifolia ethanolic extract significantly inhibited E. coli growth, while extracts from rose petals and leaves had antibacterial action against E. coli. Rosa centifolia's anti-inflammatory and analgesic properties have been used in traditional medicine and skin care. Its antibacterial qualities make it a natural pest management method and a beneficial addition to gardens and landscapes.

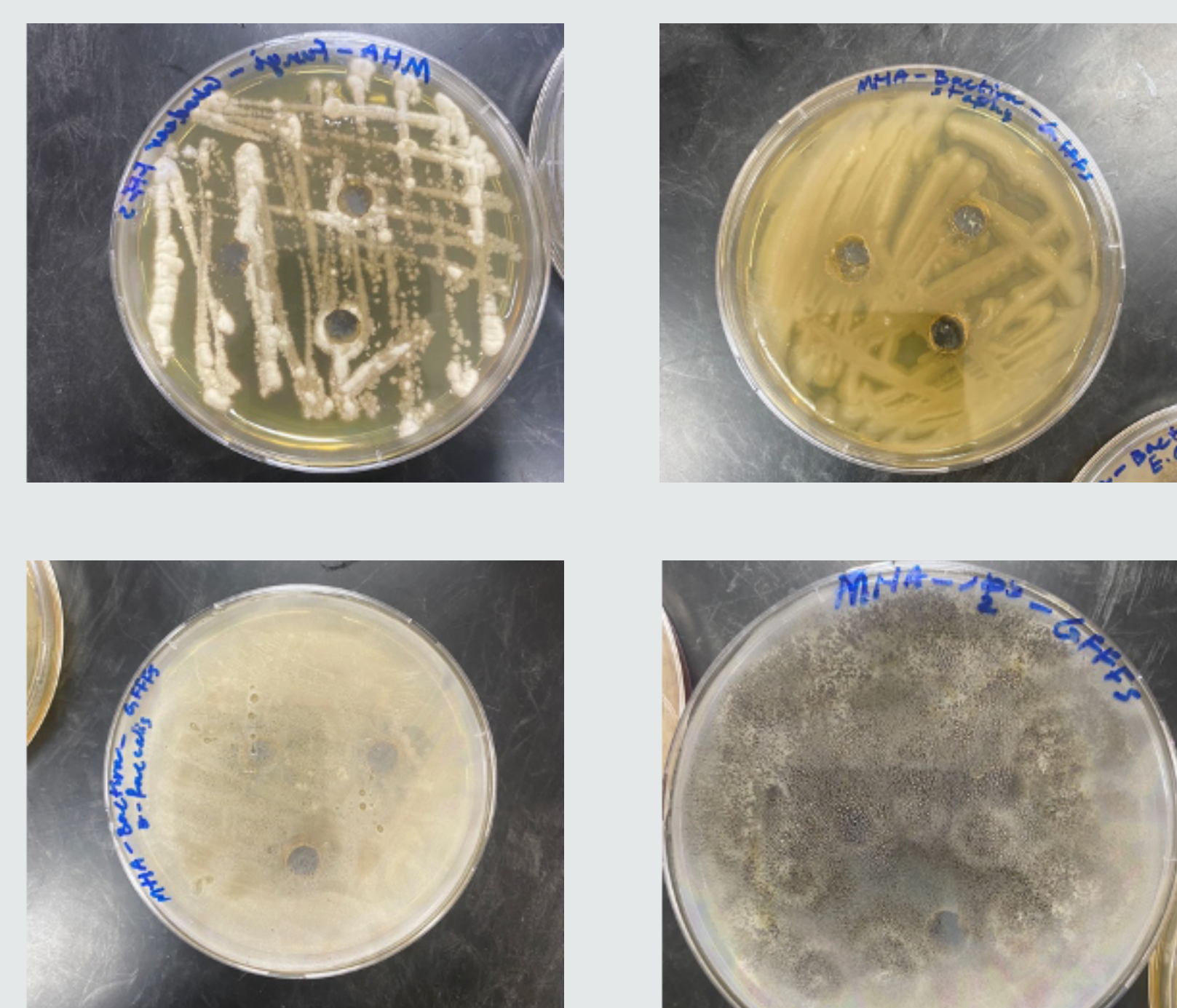
METHODS AND MATERIALS

Extaxtion method and materials

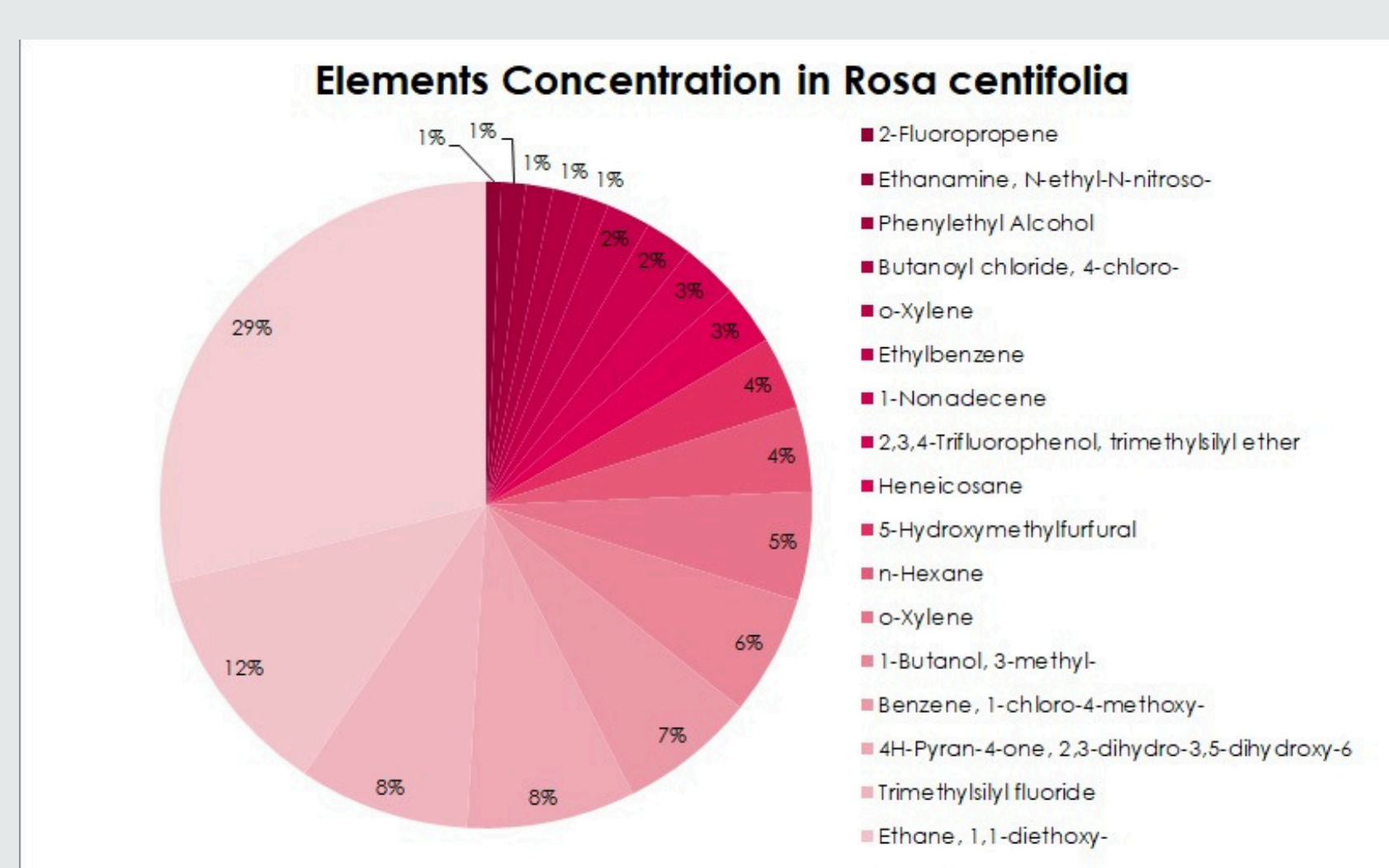
- 1- Collection of plant sampel.
- 2- Wash the rose petals.
- 3- Drying the roses petals.
- 4- Grind the roses.
- 5- Use ethanol as a solvent.
- 6- Separate the extraction using a centrifuge.
- 7- Evaporation the solvent (ethanol).
- 8- Preparing bacteria and fungi culture media.
- 9- Add the extract to media and wait few days.



RESULTS



Rosa centifolia did not show any positive results against the fungi Candida and Aspergillus fumigatus or the bacteria Staphylococcus and E.faecalis, so it is not considered a microbial antidote.



The figure shows that Sucrose has the highest abundance followed by Ethane, 1,1-diethoxy-, etc

DISCUSSION

Pathogenic microorganisms are a major cause of infectious illnesses worldwide, and finding natural substances that can kill or stop their growth without posing a risk to human health is crucial. Rosa centifolia extract and oil have been investigated for their antimicrobial properties. The extract is not effective against Candida, Aspergillus fumigatus, Staphylococcus, and E.faecalis. Despite this, experiments on wastewater with rose oil distillation water showed weak antiproliferative effects against Staphylococcus aureus. Future research should explore the limits of the extract's effectiveness and the reasons for the differences in effectiveness.

CONCLUSIONS

Rose extract and essential oil are popular in skin care, aromatherapy, perfume, hair care, anti-aging, and plant health. They have moisturizing, soothing, and antioxidant properties, making them suitable for various skin conditions. In plants, applying rose oil before growth can improve drought resistance. However, caution is advised, as patch tests and consultation with a doctor are necessary for specific skin concerns or conditions. This study demonstrates the abundance of antimicrobial-active chemicals found in rose petals. This demonstrates that rose extract is effective against a range of infections, including staphylococcal infections resistant to drugs. There should be more research done on antimicrobials.

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