



3rd International Propolis Conference

Propolis, Past, Present and Future Medicine
9- 11 November 2023 İstanbul -Türkiye

PLANT SOURCES OF PROPOLIS IN IRAN



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آفاهل
misterhoney



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Beekeeping industry in Iran

Beekeeping is in our blood

The oldest figure obtained from the honey bee on a bronze dagger (knife) from Lorestan in Iran. related to the first millennium BC. (Brussels belgium museum)



The archaeological findings in the world show that the oldest figure obtained from the honey bee is on a bronze dagger (knife) from Lorestan in Iran. This old dagger (knife) is related to the first millennium BC and now it's kept in the Brussels museum. According to this ancient object, the history of Iranian acquaintance with beekeeping dates back to 3,000 years ago.



- ❑ Three native Honeybee species
- ❑ A history of several thousand years of beekeeping in the traditional way
- ❑ Management of more than 11 million Honeybee colonies
- ❑ Annual production of more than 150,000 tons of honey bee products
- ❑ Employment of more than 100,000 beekeepers professionally



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Plant diversity in Iran

A vast country with a high diversity of plants



Plant sources of
propolis in Iran



9500 native plant species



more than 3000 non-native



more than 1000 Beeplants



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Introduction

Propolis

✓ Propolis, or bee glue, is a sticky resinous material that is collected by bees from buds, leaves, skin, secretions from trees and various plants and then processed inside the hive by adding some wax, pollen and salivary secretions.



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collect and process the propolis

From plant to hive

Behzad Refahi Plant sources of propolis in Iran



Collecting gum and resin

Usually early in the morning and by old bees



Transfer to the hive

Separation of gum and plant resin parts and connection to the pollen basket



Separating the gum load from the pollen basket



Production of propolis in the hive



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Plant genera that produce gum and resin

Plant sources of propolis in Iran



Plant families

Cupressaceae

Pinaceae

Salicaceae

Betulaceae

Leguminosae

Umbelliferae

Rosaceae

Anacardiaceae



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Cupressaceae

Plant sources of propolis in Iran



- In this family, there are 8 species of trees and shrubs that grow natively in the plateau of Iran from 400 to 2800 meters above sea level.
- One of the most important plant sources of gum and resin in Iran
- Very wide distribution in the forest and mountain areas of Iran
- On the back surface of scaly leaves, stems and branches, there are pores for the secretion of gum and resin.
- The flow of resin secretion is higher on hot days

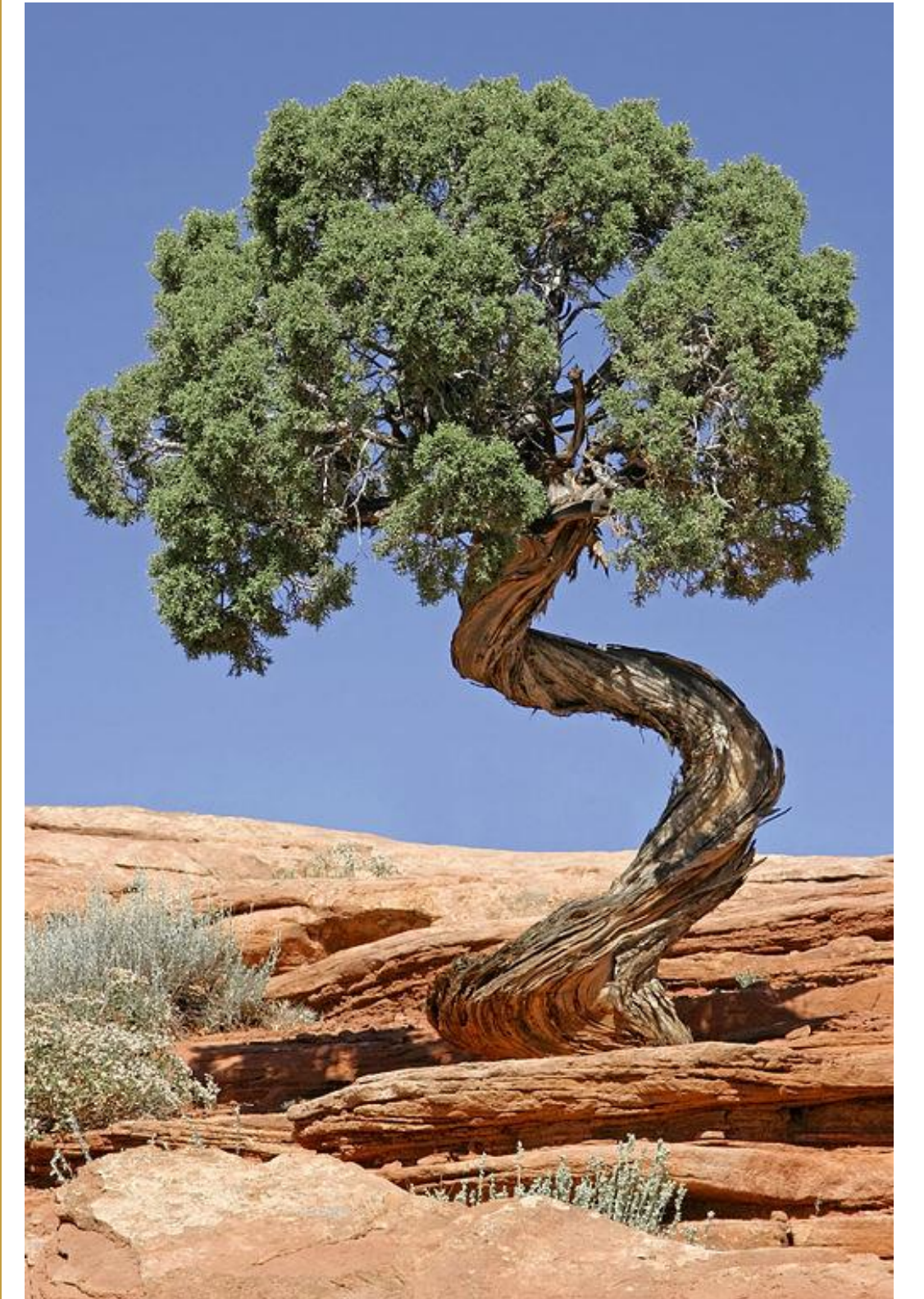


Cupressaceae

Plant sources of propolis in Iran

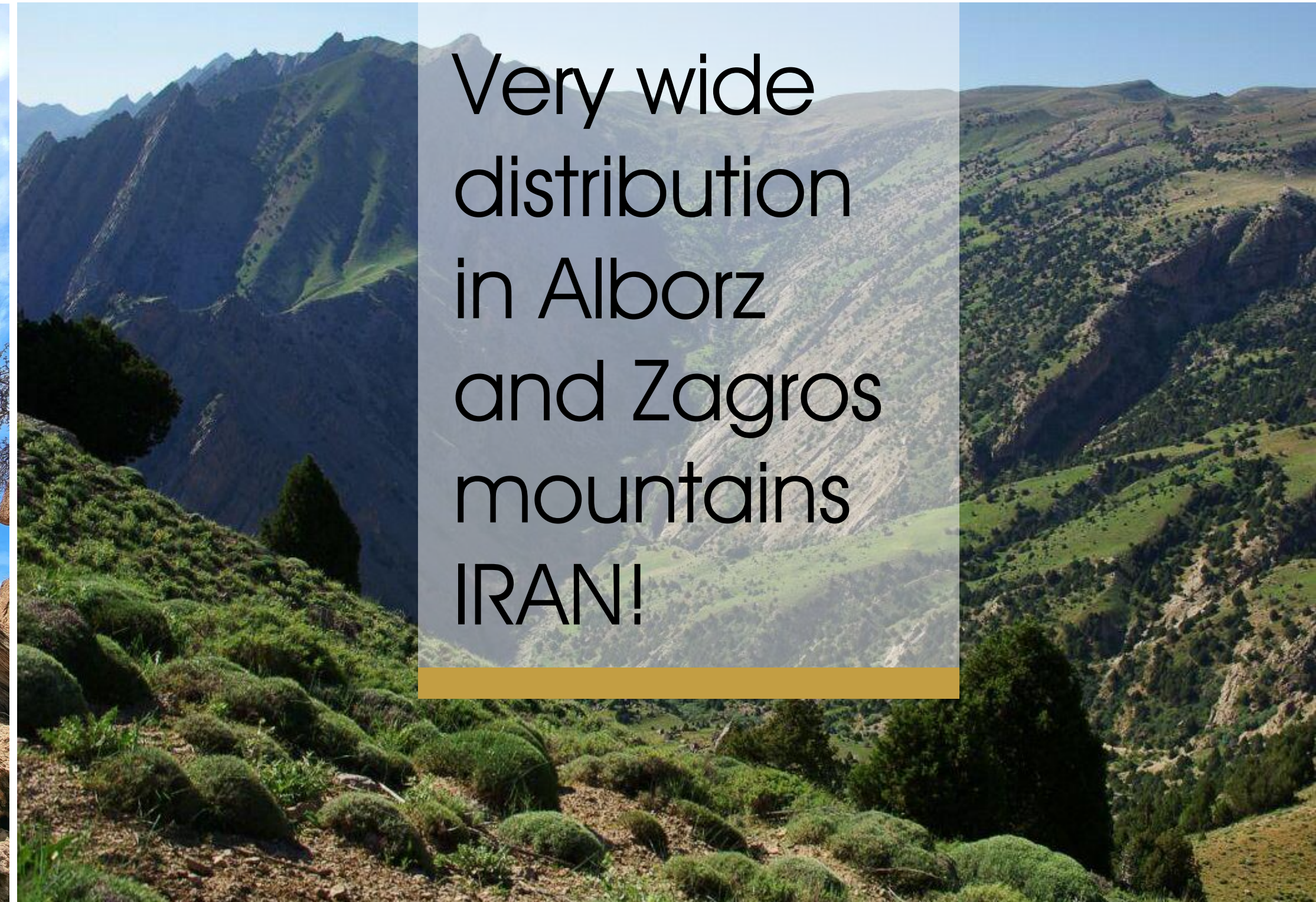


- The most important species producing gum and resin in this family:
- *Cupressus sempervirens*
- *Thuja orientalis*
- *Juniperus excelsa*
- *Juniperus communis*
- *Juniperus oxycedrus*
- *Juniperus sabina*



Cupressaceae

Plant sources of propolis in Iran



Very wide
distribution
in Alborz
and Zagros
mountains
IRAN!



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Pinaceae

Plant sources of propolis in Iran

- The plants of this family are trees with needle leaves.
- All species of this family are non-native to Iran and are widely planted in gardens and parks.



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Pinaceae

Plant sources of propolis in Iran



pinus eldarica



Abies balsamea

Picea excelsa

Cedrus deodora



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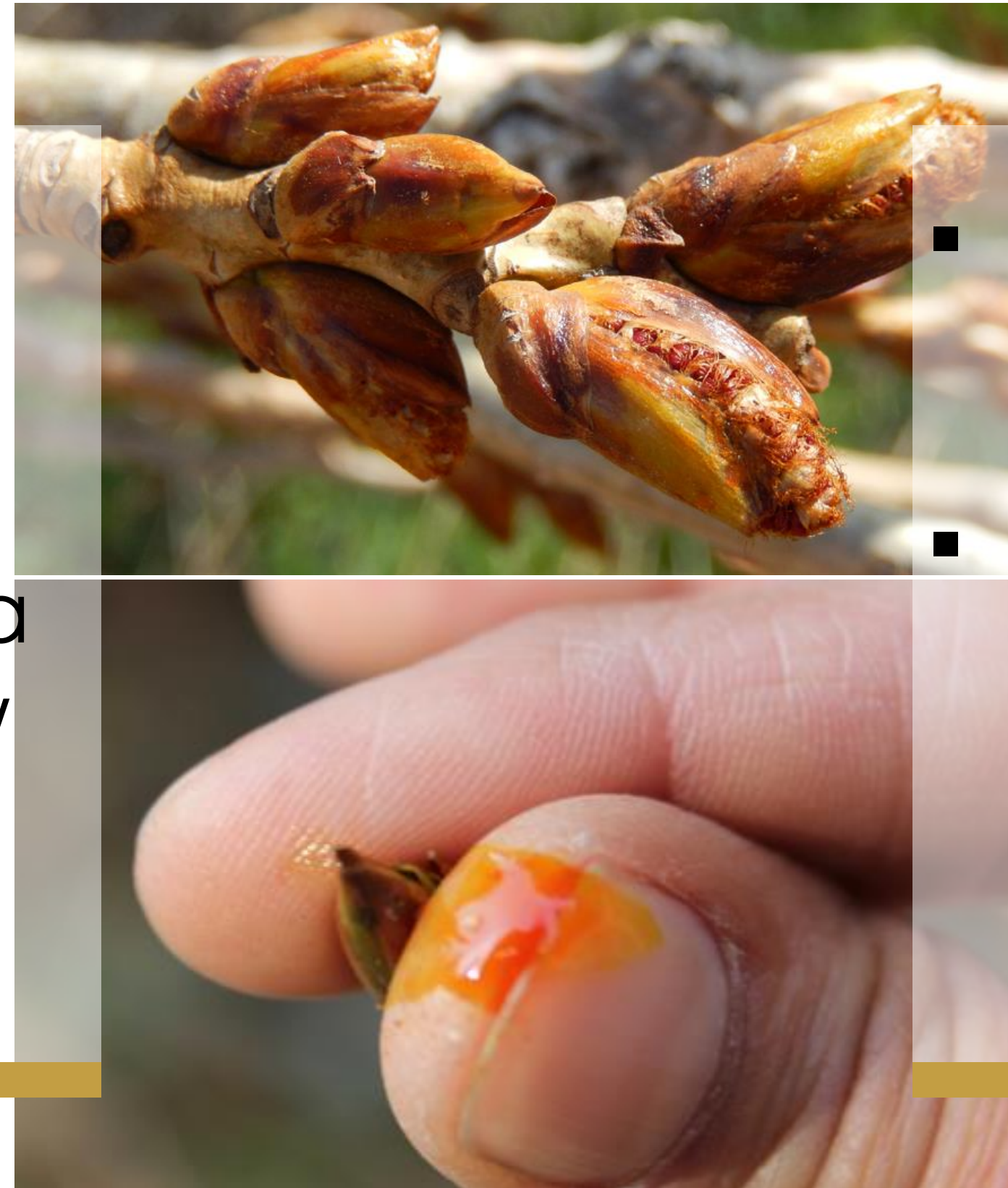
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Salicaceae

Plant sources of propolis in Iran

- One of the most valuable sources of gum in the world
- Bud gum production
- Two important genera are Poplar and Willow
- Production of brown propolis

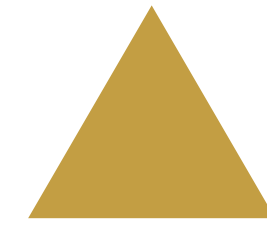


- Poplar propolis is one of the most famous propolis in the world
- Propolis is brown in color and its effective composition is flavonoid substances



Salicaceae

Plant sources of propolis in Iran



POPLAR

Populus nigra



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Salicaceae

Plant sources of propolis in Iran

Behzad Refahi Plant sources of propolis in Iran



▲
WILLOW
□ *Salix alba* □
▼



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Anacardiaceae

Plant sources of propolis in Iran



- *Pistacia atlantica ssp. Mutica*
- One of the most important trees in Iran in the growing region of Zagros
- Gum producer



Betulaceae

Plant sources of propolis in Iran

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Plant sources of
propolis in Iran

- *Alnus subcordata*
- *Alnus glutinosa*
- *Betula pendula*
- Bud gum producer
- Resins are produced on buds, fresh leaves and young stems.
- Alder propolis is yellow



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Apiaceae

Plant sources of propolis in Iran



- *Ferula assa-foetida*
 - *Ferula foetida*
 - *Ferula gabrielli*
-
- They grow widely in the mountainous areas of Alborz and Zagros
 - Ferula propolis is red in color and very fragrant



Apiaceae

Plant sources of propolis in Iran

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Plant sources of
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Dorema ammoniacum

- In the plains and mountain slopes in the center and east of Iran
- Produces white propolis



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Apiaceae

Plant sources of propolis in Iran



Ferulago angulate

- Endemic species of Iran
- Producer of white propolis
- in the southern Zagros mountains



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Other plant species

Plant sources of propolis in Iran

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Plant sources of
propolis in Iran



- *Dalbergia sissoo*
- *Acacia nilotica*
- *Azadirachta indica*
- *Mangifera indica*
- *Fraxinus excelsior*
- *Calotropis procera*
- *Cerasus avium*



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Forget
the gun
Death
And think about the story of the bee
which in the middle of the battlefield
Looking for a flower branch...

Thank you for your attention

- Mohammad Refahi -



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