

## Babul Tree Peels New Powder Development of Latent Fingerprint

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Submitted: 2023, Dec 29; Accepted: 2024, Jan 10; Published: 2024, Feb 05

**Citation:** Dalwale, C, G., (2024). Babul Tree Peels New Powder Development of Latent Fingerprint. *In J Fore Res*, 5(1), 01-03.

### Abstract

*Fingerprint impression made by the papillary ridges on the ends of the fingers and thumbs. The powder method is a quick and easy approach to the development of latent fingerprints on porous and nonporous surface. There are many waste materials of plant-based (babul tree peels) that are used as a powder was applied to the latent fingerprint of different surfaces using a hairbrush. This research study focuses on this type of powder that are used for the enhancement of ridge characteristics to personal are clearly shown and non-porous and porous surfaces or photography was done with suitable contrast. This powder is cost-effective and nontoxic in nature. An eco-friendly approach to develop fingerprints by using natural color produces by various plant-based waste material and a very reliable technique to use in the crime scene.*

### Introduction

“Today the fingerprint is the pillar of modern criminal identification.” Fingerprint identification depends upon three principles. A fingerprint is individual and is not shared by any two people. A fingerprint remains unchanged thought life. There is fingerprint are there three grouping. Arches, loops and whorls. Whorls, loops, and arches are still the basis for fingerprint matching and identification. Even though everyone has them, how they have them is unique. Each person has a different number of these types of patterns, and the patterns vary from fingertip to fingertip on each person. Loops are the most common type, accounting for about for 60 percent of all fingerprint. Whorls account for 35 percent of fingerprint, and arches for 5 percent. The adhesion of powder formulation to fingerprint residue is governed by the pressure deficit mechanism. If a powder particle is wetted only on its lower side by the swear deposition, then owing to the curvature of meniscus there will be a pressure deficit inside the droplet, causing the particulate to adhere. The electrostatic attraction between the sweat residue and the powder particles, resulting due to frictional charges, also play a role in adhesion, albeit a minor one. Fingerprint have often been and still are considered one of the valuable types of physical evidence in identification. In general, three forms of fingerprint evidence that may be found at a crime scene are visible(patent) prints, impression (plastic) prints and latent prints. Latent prints are not visible to the naked eye and thus require some means of development or enhancement for their visualization. New techniques have been developed for latent fingerprint detection but the traditional fingerprint detection technique for treating latent prints is powdering method. When the fingerprint powder

is sprinkled over an affected area, the powder adheres to the oil, sweat or other materials left in a fingerprint. This powder can easily identify the fingerprints, this powder is nontoxic because no chemical substance is used in this powder and it is a natural and low-cost powder. Fingerprint present in the crime scene in cases of murder, theft rape etc.

### Materials and Methods

Material: Babul tree peels, match box, grinder, plain paper, box, sieve (Filter)

**Methods:** Four latent fingerprint were collected on different surface. First, I took babul tree peels I kept it for two-three days to dry after tree peels it was completely dried, I burnt it after tree peels it was completely black powder, I converted into grinded it with a grinder. After that it was completely black powder then sifted it a little with the help of a sieve and removed some unwanted matter from it and after sifting the powder was ready. After him I four test latent fingerprints were collected on different surfaces. The method used in the development of latent prints is powder dusting. It is a physical method of enhancement of latent prints and works on the mechanical adherence of the fingerprint powder particles to the oily components of the skin ridge deposits. Application of powder to the prints by brushing is a simple and easy technique but it also has disadvantages that the brush on coming in contact with the surface having the prints destroy the print and hence the ridge characteristics get destroyed. In order to develop latent fingerprints with the help of babul tree peels powder, commercially available babul tree peels were taken in the present study and then further ground in a blender in

order to get a very fine powder to the level of talcum powder but no particle size was measured. The powder so prepared was kept in the glass tubes and sealed. The powder is sprinkled over a surface and then excess of powder is removed by taping in order to get clear print. In order to check the comparative evaluation, the babul tree peels powder has been applied on porous and non-porous surfaces. The types of surfaces which have been employed in this investigation are normal paper, wooden surface, plastic sheet, and metallic substrates were developed and showed clear to ridges as is evident from figures. It has been found that latent fingerprint on cardboard were also visible after development and using this method the ridges were clear to read. This babul tree peels powder method gives better results on contrast surfaced.

## Result and Discussion

The results of the latent fingerprints development using babul tree peels powder on four different surfaces are shown in figure 1, figure 2, figure 3, figure 4. The latent fingerprints present on majority of the surfaces examined can be successfully developed with babul tree peels powder. The comparative evaluation of different surfaces with this powder reveals that it gives better results on contrast surfaces than the others examined. The development of the latent fingerprints presents on surfaces like, normal paper, plastic sheet, metallic substrates top and writing surface of the could be successfully done and gives clear ridges as is evident from the figures. It has been found that latent fingerprints on cardboard were also visible after development and using this method the ridges were clear to read. This babul tree peels powder method gives better results on contrast surfaced [1-3].



## Conclusion

Physical developer is a sensitive method of detecting fingerprints on porous and non-porous items. It is specifically useful when fingerprints are required to be visualized on articles that have been deliberate. We have waste material powders; babul tree peels this powder developed the latent fingerprint on both porous and non-porous surfaces. It is also the oldest technique to be used by fingerprint experts. It does not require any sophisticated

equipment, even an amateurish hand can develop the prints by brushing and tapping. The detection of prints may be carried out both at the scene of crime or in the laboratory. It is concluded that babul tree peels powder which is easily available, nontoxic and simple can be used successfully on various surfaces to develop the prints in crime investigations. It can be concluded from the present study that this commonly available; less expensive; non-toxic powder can be successfully used for the decipherment of

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latent fingerprints deposited on a broad spectrum of non-porous, porous and semiporous surfaces. It also proves to be efficient in visualizing prints on multi-colored surfaces giving excellent results.

## References

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