Büro für
Daktyloskopie
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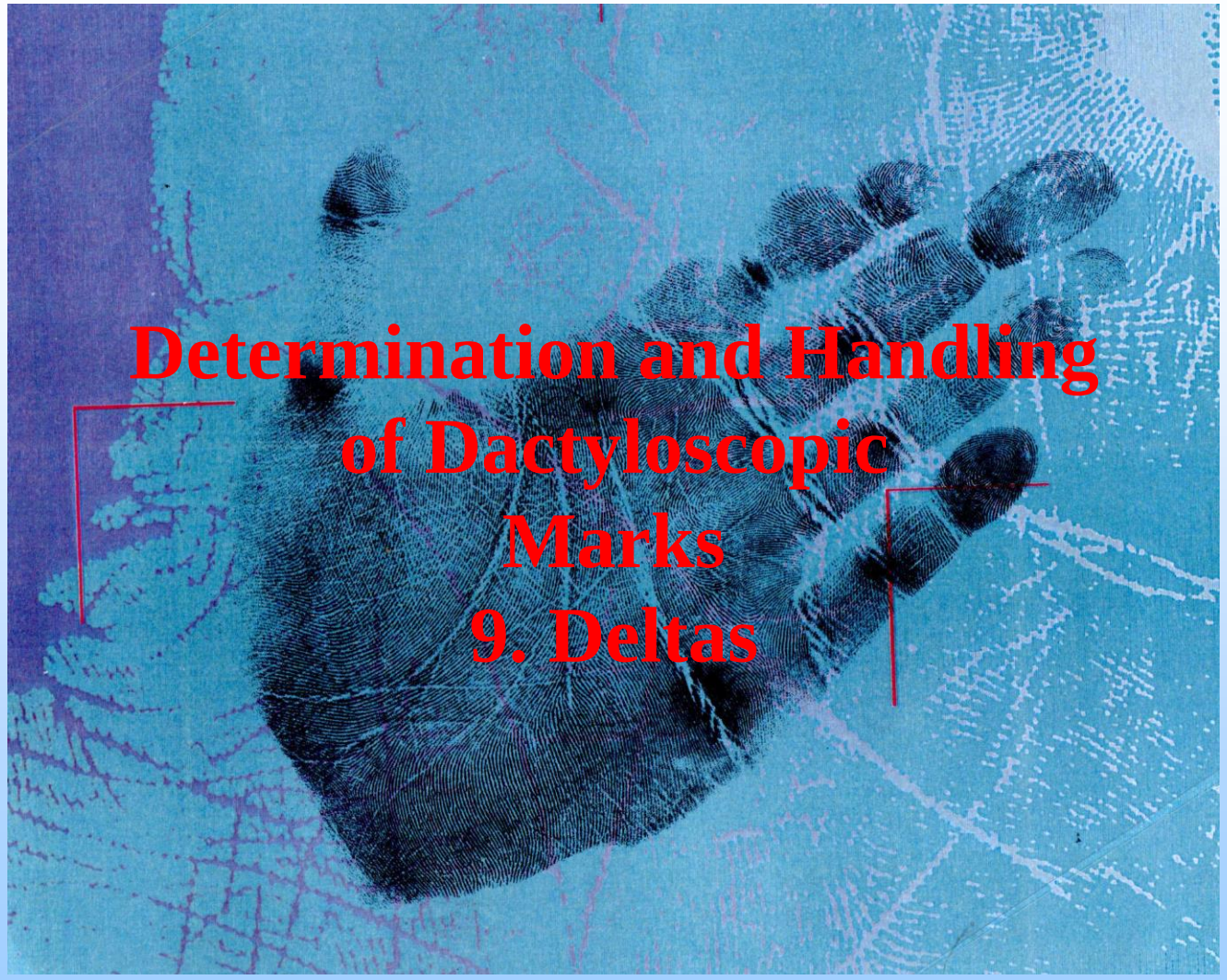


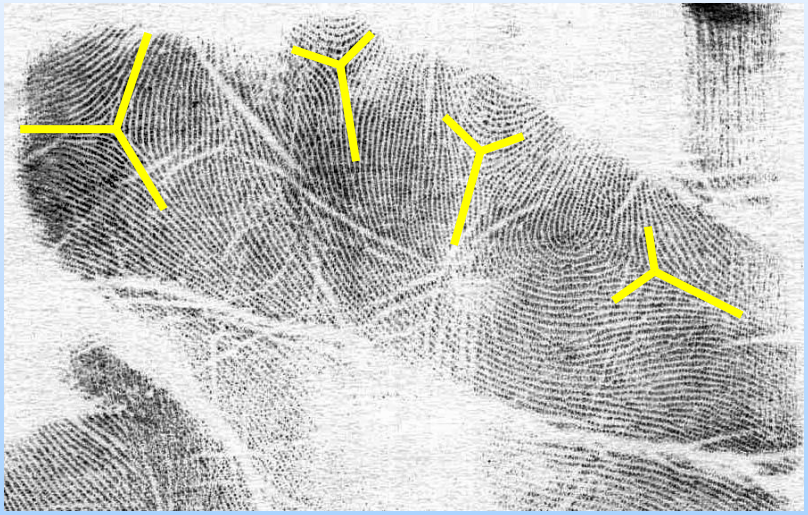
Determination and Handling of Dactyloscopic Marks
9. Deltas

Harald Weisel, October 2005

Deltas

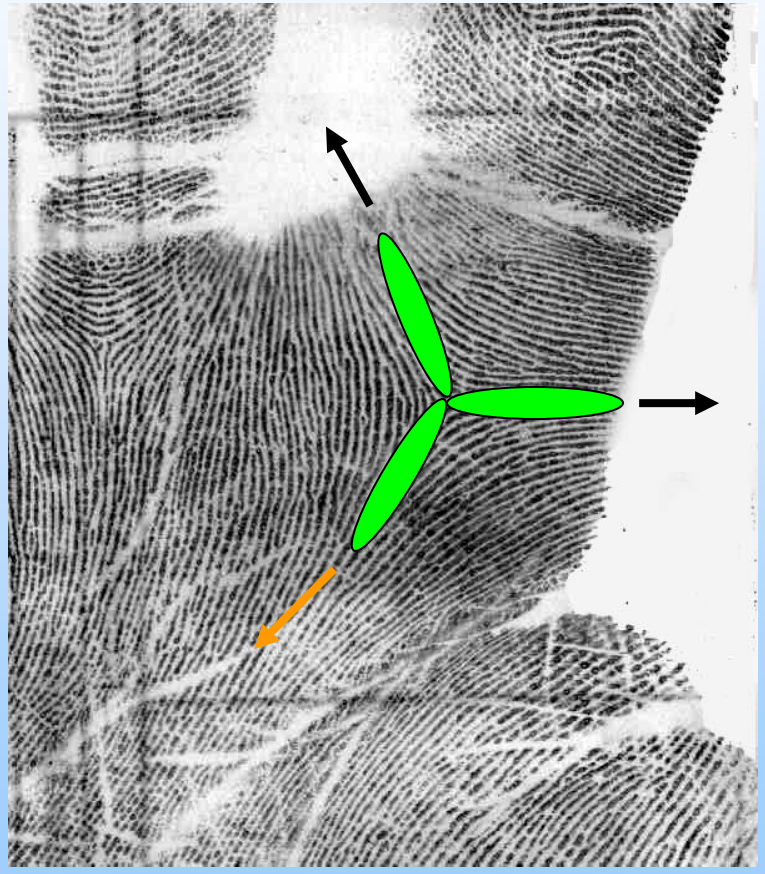
- The typical ridge flow of the palm brings about the formation of deltas. As a rule, there are five of them: four in the interdigatal area and one in the hypothenar area. The thenar area is normally void of deltas. These deltas differ in appearance and may be of great help in determining partial prints.

Interdigital Area



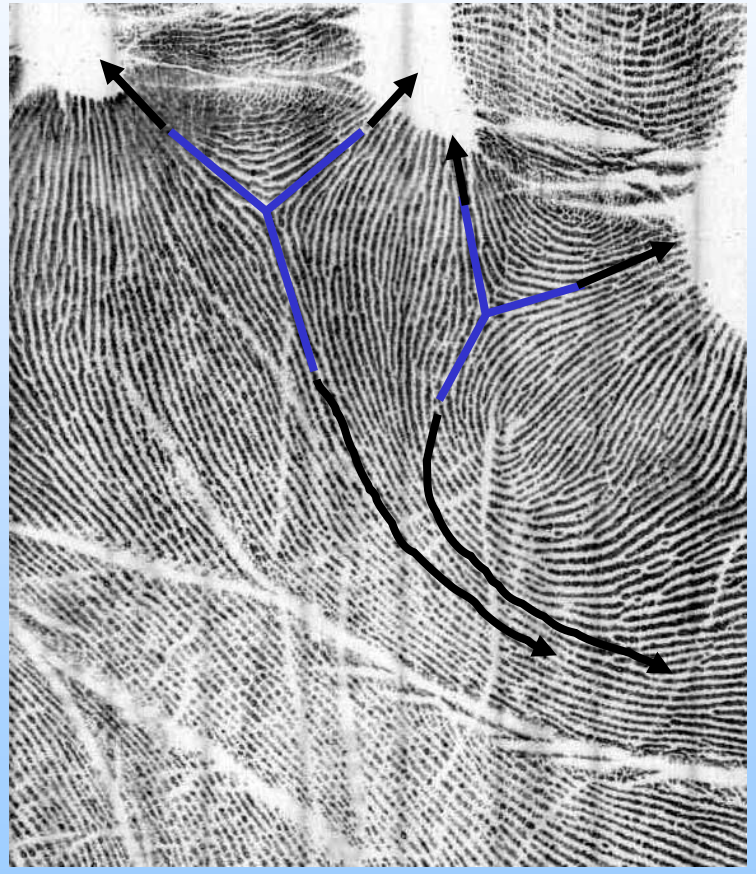
- This area has normally four deltas, which can be attributed to the individual fingers.

Index Finger Delta



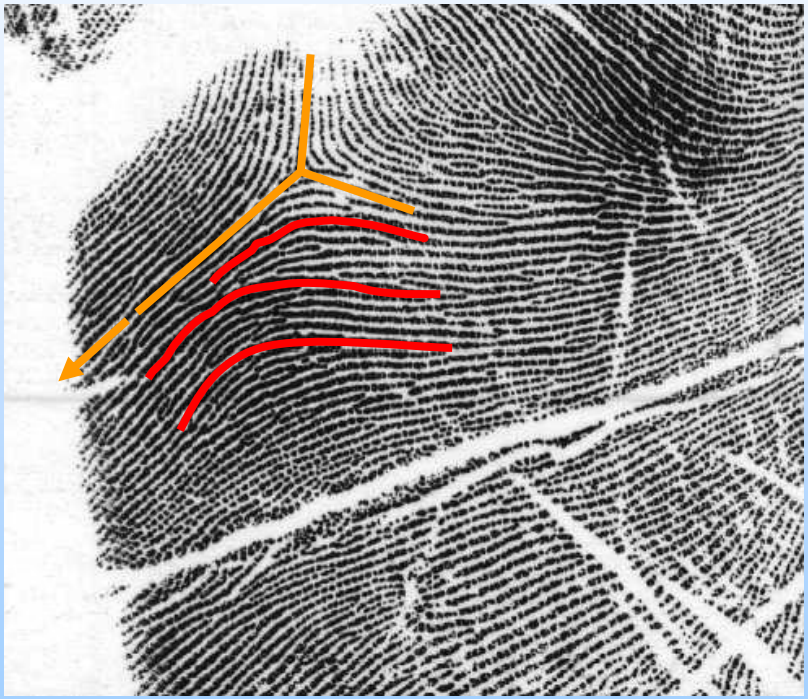
- This delta is referred to as ⇨ **“propeller”** or “clean delta” because of its equal angles, and its tails point to the following directions:
  - thumb side
  - “tunnel”
  - area between index and middle fingers.

Middle and Ring Finger Deltas



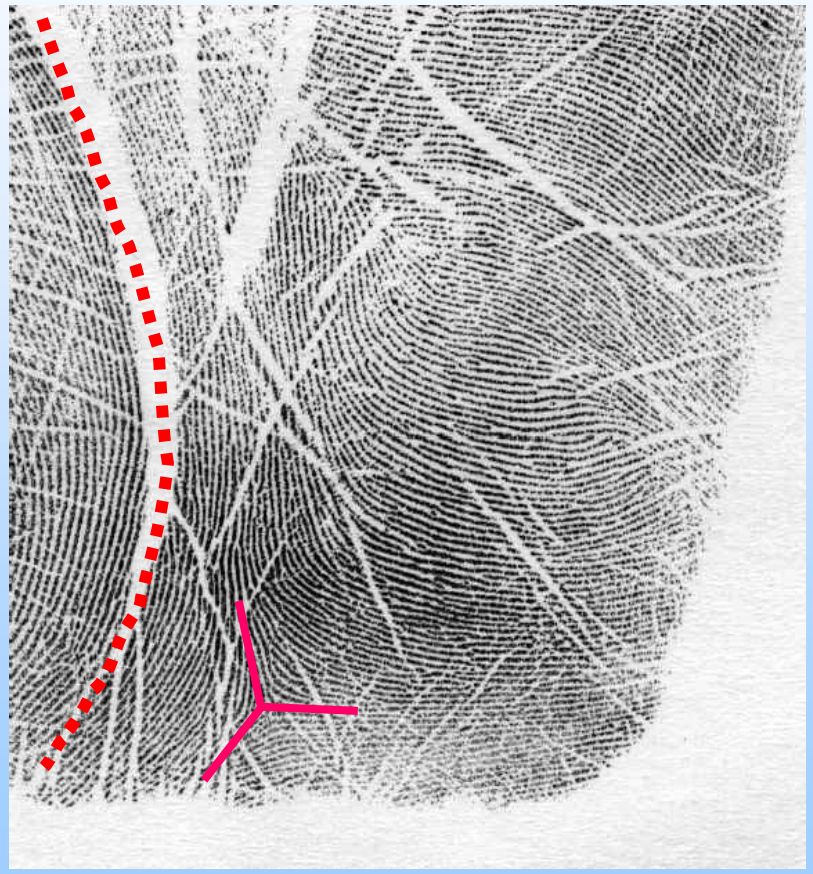
- The short tails of the so-called **“ice-cream cones”** point in the direction of the areas between the fingers, while the long tails indicate the position of the outer edge of the palm.

Little Finger Delta



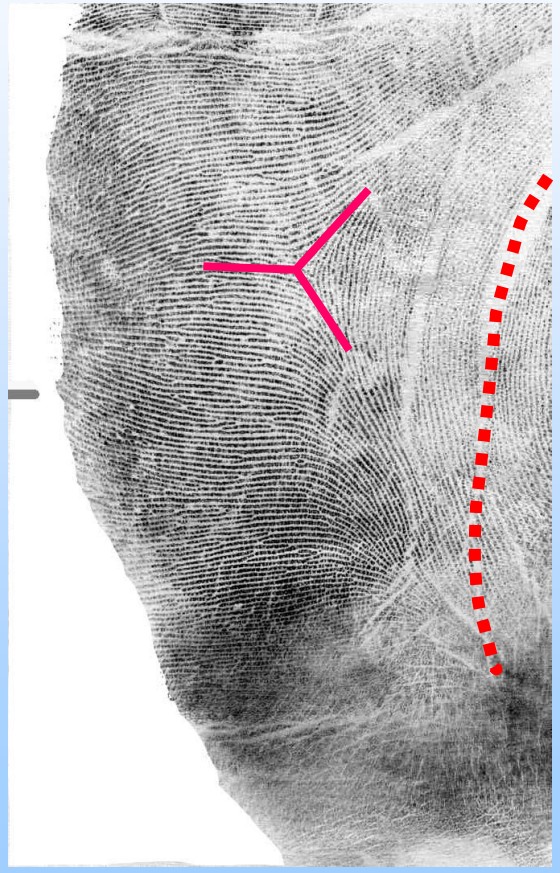
- The outer tail of the ⇒ **“lying delta”**, which is located beneath the little finger, points towards the edge of the palm.
  The lower side of the delta shows again the typical **“vault”** of the papillary ridges.

Carpal Delta



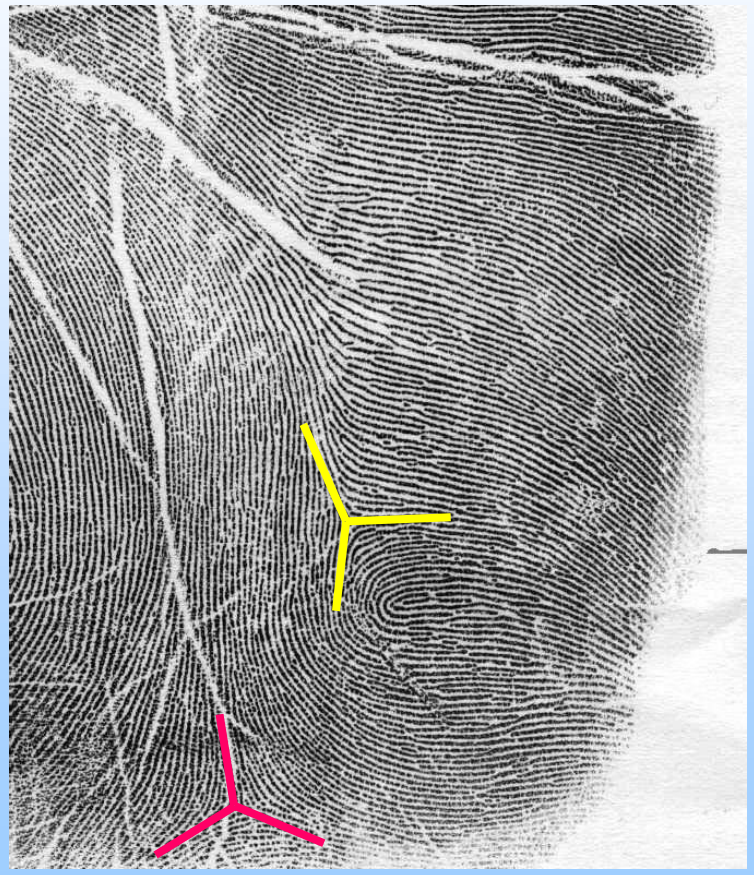
- This delta, also referred to as ➡ **“base delta”**, is located in the heel of the hand between the hypothenar and thenar areas. In right hand palm prints, it is always situated on the right of the thenar crease and vice versa.

Carpal Delta



- This delta may "emigrate" towards the metacarpus, in which case it is referred to as ➡ **"high delta"**. However, in right as well as left palms, it is always on the corres-ponding side of the thenar crease.

Other Deltas



- Due to exceptional ridge courses, further deltas may appear or disappear. The convex ridges of loop and whorl patterns create further deltas, whereas arch patterns rather tend to suppress deltas.

Examples

- The fact that the base delta is missing in a print pattern of the heel of a hand is useful information for the latent print examiner, as in that case there must be either a **“high delta”** or an arch pattern in the hypothenar area.

Examples

- In the reverse case, if he finds an elevated delta in a print pattern of the hypothenar area, it can only be a “high delta” or a delta that developed through pattern formation.