

Revised Palm Formula with Special Reference to Parathenar Configurational Area

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ABSTRACT The main aim and object of the present investigation is to focus the attention to the parathenar configurational area of the palm which has so far been ignored and never documented. As such there existed a perceptible void for decades in the palm formula. Like any other configurational area, the parathenar is the intrinsic part of the palm and has not only credentials but a legitimate right to be documented in the palm formula. For the first time in 1993 the pattern loop was observed in this area. The existing palm formula comprised of 10 components. After revising it comprises 11 components and is reported in a sequential order as four main lines, followed by axial triradius and six configurational areas (not five) viz., D.C.B.A. Ax. Tr-Hypo. parathenar Th/I.II.III.IV. After scanning the palm prints of 60,000 individuals (120,000 Palms), only one right palm of a male has expressed the loop in this area. The frequency occurrence have been computed to be 0.0000166 per individual or 0.0000083 per palm, thus corroborating the rare occurrence of the pattern in the parathenar configurational area.

The entire human body is clothed with the skin which happens to be the largest and most important organ of the body. It performs many vital functions in the life of an individual, viz. it protects and safe guards the body from the Vagaries of the weather, maintain the body temperature and save the internal organs of body from the injuries. However, the skin on the ventral sides of the hands and the plantar sides of the feet is exclusively designed and is corrugated with the ridges and configurations which are functionally useful as they help in the grasping without which the objects would easily slip away from the handle. Cummins in 1926 for the first time coined the terms dermatoglyphics to this field of science. It has been accepted and adopted internationally. Etymologically this term is harmonious blend of two words-Derma, Skin; Glyphe, Carve. It gives the impression that something has been carved out of the skin.

These features of dermatoglyphics are formed during the 13th/14th week of the developing embryo and once formed remain permanent and never change throughout the life except in the dimension commensurate to the growth of an individual. This fact has been tested and confirmed in 1976 at the time when the author was awarded the Senior Fellowship by the Alexander Von Humboldt Foundation, Bonn (Germany) and was engaged in the advance research in the institute of Human Genetics, Medical College. University of Lubeck, Lubeck. The most ideal place to scrutinize the age of the appearance of the features of dermatoglyphic was

the museum of the institute of Anatomy of the same University where the embryos are preserved in glass jars of different ages of their developments. On critically examination this age of the appearance of the said features was authenticated to be 13th week as stated earlier.



Fig. 1.

The main aim and object of the present research is to focus the attention to the pattern on the parathenar configurational area of the palm, which has remained elusive and there existed a big void for five decades. This area as shown in the figure is ensconced in between Hypothenar and Thenar 1st interdigital area. It

has been neglected for myriads of reasons the main cause is of rare occurrence of patterns in this area, besides it remained unknown, unseen, ignorance, oversight and lack of interest. It is an internationally accepted practice to indicate the absence of the pattern by '0' in any of configurational area and by the same logic should be followed for the parathenar area in letter and spirit. Ignoring it would amount to closing the eyes to the facts. Taking the analogous situation for the Bettmann's figure in the Thenar/1st interdigital area which also does not occur frequently, nevertheless it is recorded as and when it is present. The patterns in the parathenar area, though rare, yet unequivocally are the intrinsic part of the palm formula, but have never been accorded there importance and recognition. It cannot be isolated from palm formula. Cummins had the cognizance of the parathenar area but did not have any palm showing the pattern. It remained a riddle wrapped in a mystery till 1993 when it miraculously surfaced and for the first time was observed and this print recorded by the author. Some findings are not only exciting and noteworthy but even newsworthy. With an open mind, optimism, devotion, intuition coupled with immense patience the search continued for decade culminating into the findings of the pattern in the parathenar area in 1993 - a rich dividend indeed exactly after a long wait of fifty years of the publication of the Magnum Opus 'Fingers Prints, Palms and soles—An introduction to Dermatoglyphics by Harold Cummins and Charles Midlo in 1943. This findings in the parathenar area has a profound effect on the palm prints. It has enriched and provided a new perspective and has ushered in a new era for the palm formula. There is always a first time in any scientific investigations parathenar included. It is one of the spectacular area and it was an unfathomable exercise to search for the patterns. With a missionary spirit, the author has been keeping a track of it with continuous and sustained efforts with an unwavering faith and hope for long years of the teaching and research. The search for it tantamounted to the search for a needle in the haystack. Certainly for such a project it requires a great patience, alertness optimism coupled with a bit of luck.

The sample for this project has been vast and varied. The palm prints screened consisted were not less than 60,000 individuals (120,000 Palms) - a remarkable and marathon exercise indeed culminating into the mega finding of a loop in

the parathenar area in only one of the male, prior to the finding of the pattern in the parathenar in 1993, the palm formula comprised of ten components—four main lines followed by the axial triradius and five configurational areas in a sequential order as D.C.B.A.-Ax. Tr-Hypo Th/I.II.IV.IV.

The author was spellbound to see for the first time this magnificent pattern loop in the parathenar configurational area on the right palm of a male. This indeed is the most important milestone in the history of the palm print in general and in the palm formula in particular. As in other configurational areas, in parathenar also can express a plethora of patterns. In any scientific investigations there is always a provision to improve, modify, revise and add to the already existing theories and formulae. Hence in the light of the pattern in the parathenar configurational area it is not only necessary but high time to revise and revamp the already existing formula comprising of 10 components to 11 components. Without an iota of doubt the parathenar pattern is the continuum of the palm formula. The palm formula now stands as four main lines followed by the axial triradius and six configurational area (not five). D.C.B.A. -Ax. Tr-Hypo. Para. Th/I.II.III.IV

The image and the language of the palm formula would have certainly been different had the parathenar been observed and not neglected during the Cumminsonian era.

Frequency Occurrence of Pattern in the Parathenar Area

The pattern in the parathenar area of the palm has been eluding and there existed a big void in the palm formula for 50 years. It was ultimately after a long period of search, for the first time noticed by the author in the right palm of one male individual after scanning not less than 60,000 individuals (120,000 palms). The frequency occurrence has been computed to be 0.0000166 per person or 0.0000083 per palm, thus confirming the observation of the rare occurrence of the patterns in the parathenar configurational area of the palm.

COMMOMORATION

The science of dermatoglyphics is replete with innumerable events, thought provoking publi-

cations, path breaking findings from time to time. The most highlighting event has been the publication of book '*Fingers, Palms and Soles-An Introduction to Dermatoglyphics*' by Harold Cummins and Charles Midlo in 1943. The other most important landmark in this field had happened in 1993, when the author of present investigation for the first time after the long wait of 50 years of the above book, observed the pattern in the parathenar configurational area of the palm. It is with great, pleasure respect and honour that the author would like to dedicate his findings to commemorate fifty years of book published by Cummins and Midlo.

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REFERENCE

Cummins, H. and Midlo, C.: *Fingers Prints, Palms and Soles -An Introduction to Dermatoglyphics*. Dover Publication, Inc, New York (1943).