

intermarried with either the Djuke, Boni or adjacent Amerindian tribes with the possible exception of the Trio.

If the hypothesis is valid in that the population size and level of cultural attainment is environmentally determined (Meggars, 1971) the Oayana therefore have attained maximum population size. Earlier population estimates and censuses of the Oayana were of geographically widespread tribal subgroups which did not approximate the parameters of environmental exploitation. In that the Oayana are yet in an exploitative and subsistence-level economy, the size of the semi-permanently dispersed villages and the total population residing within a particular geographic area is environmentally determined.

Numerically small populations, especially those not possessing collective immunity to epidemic diseases, are characteristically in precarious situations. Subsequent to the compilation of the demographic data herein presented (1971) the accidental introduction of rubella resulted in the death of eight sub-adult individuals. The casual contact of an Amerindian family with Europeans at the time of the field studies occasioned an epidemic of influenza which, although causing no immediate deaths, initiated a period in which many Oayana were unable to participate in the procurement of essential animal protein, thus resulting in dietary degradation if not malnutrition. Minor decrease in the critical reproductive age-chofts or in infants and children in a numerically small population as the Oayana is of greater significance than in larger populations. Without immediate and constant medical attention the Oayana are incapable of surviving continued epidemics of contagious diseases. In the event of cessation of such attention the extinction of the Oayana is imminent.

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A CASE REPORT OF SYNPLYDACTYLY

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ABSTRACT

A familial case of polydactyly Type II is presented. The condition is apparently the result of a single dominant autosomal gene with variable expressivity.

INTRODUCTION

Polydactyly, the relatively uncommon condition in which one or two extra fingers or toes may occur on either hand or either foot, is often used in introductory genetics textbooks as an example of a single dominant-autosomal gene which expresses itself in typical Mendelian fashion. A related malformation is one in which

webbed fingers or toes result from a mutant gene that inhibits the normal degeneration of tissues (Whaley 1974), thus resulting in the webbed condition, or syndactyly.

Many published clinical cases of syndactyly are those in which the webbed extremities are only a part of a syndrome involving other parts of the body. Examples are acrocephalosyndactyly (Apert Syndrome; Apert 1906) which is transmitted as an autosomal dominant (Blank 1960), and Carpenter's syndrome, which is the result of an autosomal recessive gene (Temtam 1966). One craniodigital syndrome is the result of a sex-linked

recessive (Scott, Bryant and Graham 1971).

In contrast, other probably less often reported cases of syndactyly occur in which only surgically-correctable extremities are affected. Thurmon (1974) recognized four types of such syndactyly, all the result of autosomal dominants, but differing according to: (1) which fingers or toes are involved, (2) fusion of metacarpals, metatarsals or phalanges, and (3) presence of extra fingers. Syndactyly Type II, synpolydactyly, is characterized by "webbing between fingers 3 and 4 with polydactyly of part or all of fingers 4 included in the web, webbing between toes 4 and 5 with polydactyly of all or part of toe 5 included in the web."

A CASE REPORT

Four generations of a Tennessee family exhibiting polydactyly Type II, or synpolydactyly are shown in Fig. 1. From the pedigree it can be noted that: (1) The condition never occurs in an individual unless one of the parents was also affected; (2) When either parent is affected, the condition occurs in approximately

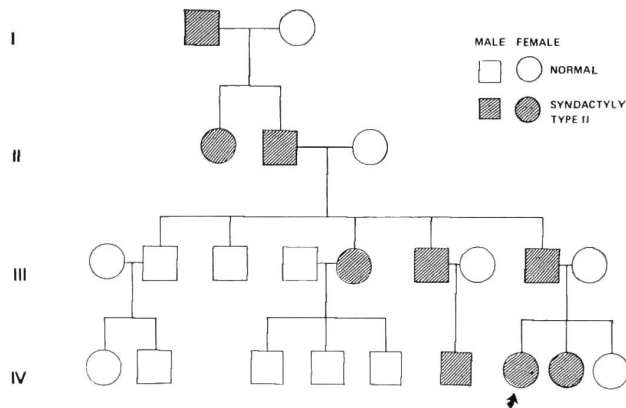


FIG. 1. A family history of polydactyly, Type II. Arrow indicates informant.

one-half of the children (collectively, 8 out of 14); (3) The male: female ratio is 5:4.

Not shown by the chart are various degrees and modes of expression of the trait. From information obtained from the informant, it appears that none of the nine individuals were affected in exactly the same way. In most, but not all, cases both hands and both feet were involved, but the exact fingers and/or toes affected varied considerably. Most of the affected individuals of generations III and IV have had corrective surgery.

DISCUSSION

The method of transmission of polydactyly Type II as outlined above can be accounted for by the assumption that the trait is due to a single, dominant autosomal gene with variable expressivity. Thus, the method of determination is generally consistent with other such reports as summarized by Cross, Lederberg, and McKusick (1968).

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TOXICITY OF FRESH VENOM FROM TIMBER RATTLESNAKES (*CROTALUS HORRIDUS HORRIDUS*) AND COPPERHEADS (*AGKISTRODON CONTORTRIX MOKESON*)

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ABSTRACT

Fresh venom from the timber rattlesnake, *Crotalus horridus horridus* Linné, and the copperhead, *Agkistrodon contortrix mokeson* Daudin, was used to determine an intramuscular LD-50. Swiss-Webster, C₃H, and pet store mice were used as test animals.

INTRODUCTION

During late March and April five timber rattlesnakes and three copperheads were collected near den sites on the North Carolina side of Unaka Mountain. All speci-

mens were healthy and ate well in captivity. The average length for the timber rattlesnake was 42 inches, while the average length for the copperheads was 22 inches.

A specially built cage, 2x2x6 ft., landscaped to their natural habitat, housed these reptiles. The temperature was maintained at 21°C±3°. Also, a 12 hour day and night cycle was established. The snakes tolerated their seven month captivity well.

During this time we observed and photographed many areas of their behavior including the following: