STATUS OF WILD INDIAN JUIJUBE AS A NATURALLY INTEGRATED FOOD PLANT ALONG WITH AGRICULTURAL PLANTS FROM ARCHAEOLOGICAL SITES IN INDIAN SUBCONTINENT

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SUMMARISED BOTANY: THE BOTANICAL, GENETICAL AND PHYTOGEOGEOGRAPHICAL STUDIES SUGGEST ORIGIN OF JUIJUBE IN SOUTH CHINA AND HIGH DEGREE OF SECONDARY DIVERSIFICATION IN SEMI-ARID AND ARID REGIONS THROUGHOUT INDIAN SUBCONTINENT. THE THORNY BUSI/SHUBH AND FULL-SCALE TREES INTERMITTENTLY DOT ARID AND HEAVILY GRAZED LANDSCAPE. AS NATURALISED HARDY ELEMENTS, OFTEN CONSIDERED AS A SEMI-DOMESTICATED WITHIN AGRICULTURAL FIELDS AS CO-EVOLVED SPECIES. JUIJUBE OCCURS ALONG BUNDUS AS NATURAL CROPPING HABITAT; IT SERVES AS AN EXCELLENT FEMINE FOOD, LEAVES AS ANIMAL FEED AND WOODS AS CONSTRUCTION TIMBER AND FOR AGRICULTURAL TOOLS LIKE PLOUGHS, SICKLES, CARTS, ETC. THE EARLIER FLORISTIC STUDY BY TAXONOMISTS INDICATES NEARLY FOURTEEN SPECIES OF GENUS ZIZIPHYUS NATURALLY OCCURRING IN DIFFERENT ECOT-CLIMATIC ZONES (DRY AND MOST DECIDUOUS AND SEMI-EVERGREEN RAIN FORESTS OF INDIA), HOWEVER, THE PRINCIPAL FOOD SPECIES IS ESSENTIALLY ZIZIPHYUS MAURITIANA (LAM.). IT IS BEST DEVELOPED IN SEMI-ARID AND SEMI-HUMID ZONES OF NORTH-WEST, CENTRAL AND SOUTHERN INDIAN AND SEEMS TO HAVE ADAPTED DURING ANCIENT TIMES TO OTHER WETTER ZONES OF EASTERN AND WESTERN INDIA SINCE IT IS COMMONLY FOUND FROM SITES WHICH HAVE YIELDED EVIDENCES FOR SUMMER CROPS AS WELL AS WINTER CROPS IN MOST PARTS OF INDIA.

EVIDENCE OF WILD EDIBLE FRUITS (BERRIES), ESPECIALLY INDIAN JUIJUBE, ANTIQUITY: ARCHAEOLOGICAL EVIDENCES OF NEARLY TWENTY SPECIES OF WILD FOOD PLANTS HAVE BEEN FOUND FROM INDIAN SUBCONTINENT. OF THESE, THE INDIAN JUIJUBE (ZIZIPHYUS JUJUBA LINN. SYN. ZIZIPHYUS MAURITIANA LAM.), FAMILY RHAMNACEAE) CONSTITUTES THE MOST UBIQUITOUS WILD FOOD PLANT SPECIES UNDER THE CATEGORY OF BERRIES FROM PRE-AGRICULTURAL AND LATER AGRICULTURAL SITES. THE EVIDENCE IS MOST COMMONLY FOUND IN THE FORM OF CARBOHYDRATE RICH STONEFRUITS AND PHOSPHATSHEISED SEEDS. RARELY, ENTIRE FRUITS WITH CLEARLY PRESERVED EPICARP, MESOCARP AND ENDOCARP HAVE ALSO BEEN NOTED FROM SOME SETTLEMENT SITES BELONGING TO NEOLITHIC, CHALCOLITHIC, IRON AGE AND HISTORICAL PERIODS. THE BERRIES COULD HAVE BEEN EATEN AS FRUITS, PUREFOODS, WITH HONEY OR MILK OR AS CEREAL SEEDS. OCCURRENCE OF SEPARATED SEEDS OF INDIAN JUIJUBE IS RELATIVELY UNCOMMON, FRAGMENTED AND SOMETIMES CONSIDERED UNDER INDETTERMINATE TYPES. THE CHARACTER OF WOODS OF INDIAN JUIJUBE IS ALSO NOTED FROM PROTOHISTORIC AND HISTORIC SETTLEMENT SITES. MORE THAN 100 SITES HAVE YIELDED EVIDENCES FOR THESE SPECIES; THIS SPEAKS FOR ITS ECONOMIC IMPORTANCE AS FOOD PLANT COMPLEMENTARY TO CEREALS, PULSES AND OIL SEEDS AND ALSO AS A FUEL CONSTRUCTION WOOD IN ANTIQUITY. IT IS ALSO AN IMPORTANT MEDICINAL AND CULTURAL PLANT OF ANCIENT INDIAN AYURVEDIC SYSTEM OF MEDICINE. PERHAPS IT MIGHT HAVE BEEN USED AS SURVIVAL STRATEGY IN ANCIENT TIMES ESPECIALLY TO MIGRATE CROP FAILURES OF SUMMER MONSOON ZONES. AS WAS THE CASE UNTIL EARLY PART OF THE LAST CENTURY. JUIJUBE OCCURS SO COMMONLY WITH CHALCOLITHIC-NEOLITHIC SITES THAT ITS RELATIVE IMPORTANCE WAS IN FOOD AS COMPARISON WITH WHEAT, BARLEY, RICE, MILLETS HAS OFTEN REMAINED UNAPPRECIATED. EARLIER DETAILED STUDY OF PLANT CONOMY AT CHALCOLITHIC INAGAMOA BY KAJALE (1987) INDICATED INCREASING RELIANCE ON WILD INDIAN JUIJUBE AS A FOOD PLANT DURING LATE JORWE PERIOD (C. 1500-700 B.C.) WHEN AGRICULTURAL ECONOMY OF EARLIER PERIODS (MALVA TO EARLY JORWE, C. 1600-1000 B.C.) BASED ON CEREALS, PULSES, ETC. HAD CLEARLY DECLINED POSSIBLE BECAUSE OF LOCAL ECOLOGICAL FACTORS. SUGGESTION-HOLOGISTIC RESEARCH INVOLVING INTEGRATION OF EVIDENCES FROM ARCHAEOBOTANY, ANATOMY, STATISTICS, BIOMOLEULAR ANALYSIS AND AMS DATING OF ANCIENT INDIAN JUIJUBE IS URGENTLY NEEDED.