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Cultivation of the Date Palm in Mesopotamia

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***Eriocrania subpurpurella*, Haw.**

Mr. Nicholson took two of these beautiful pale golden insects in the Gardens last May. The larva makes large mines in oak leaves.

***Micropteryx seppella*, F.**

One specimen in Q. The larvae of this genus, of which those of two species are known, are of very peculiar construction. They have ten rows of ball-like appendages along the body, and eight pairs of prolegs and a terminal sucker. They feed on wet moss (*Hypnum*). Our knowledge of these singular caterpillars is due to Dr. T. A. Chapman.

XXXIX.—CULTIVATION OF THE DATE PALM IN MESOPOTAMIA.

The following article on the cultivation of the Date Palm in Mesopotamia by His Majesty's Consul at Basra, Turkey in Asia, has been received at Kew, through the courtesy of the Secretary of State for Foreign Affairs :—

“Trees can be reared from seed, but do not bear good fruit. Offshoots are preferred. The shoots are cut from the stump of the male or female tree as required, and are transplanted. The larger they are the better, as there is less chance of their being injured in transplanting. They are very hardy, and the average weight of an offshoot is about 12 lbs. If planted near the river they get sufficient water with the rise of the tide. The date gardens are intersected by irrigation trenches leading to the creeks. These fill naturally with water as the tide rises. If the land is far from the river and unaffected by the tide, the offshoots will need hand-watering for about six months. The spot must be sunny, as plants develop very slowly in the shade. Offshoots can be planted all the year round, except during 60 days in the winter and during the dog days in August. This hot period is called Bahura, and lasts seven days. The shoots are placed about 10 to 15 feet apart. They need not be planted immediately they are cut, but can be preserved for about three weeks by placing the roots in water. When planted they are wrapped up in bulrushes (Berdi) or in palm leaves (Saf) to protect them from extreme heat and cold. The soil should be soft, low enough to be affected by the tide, and all stones removed.

“Where water is plentiful and soil good, the offshoots take root and develop rapidly, bearing fruit within four or five years from the time of planting; Khadrawee bear fruit under these conditions in three years; Hallawee and Sayer in four or five years. Where water is scarce and the ground hard, seven to eight years elapse before signs of fruit are visible. Shoots are placed in a hole dug in the earth, and are surrounded by soft soil. No manure is required. Trees are manured after the third year, and cow dung is used for the purpose. The palm tree begins to bloom towards the end of February, if the weather is mild. A fleshy

spike, enclosed in a leaf or spathe ('Tilla'), sprouts round the heart of the tree in a strong cover (Girif), like a sword scabbard. The sheath (Girif) splits in March, and shows a bunch of blossom, milky white in colour. If the sheath in the female tree does not burst by the end of March, it is opened artificially. On the female palm (Nakhla), the spathe ('Tilla') contains the flower ('Ilib) and the stalk (Esga), enclosed in a sheath (Girif). On the male palm (Fahl), the spathe contains the twig for fertilising (Ligah), on which is the pollen (Tahin), the whole being enclosed, as on the female tree, in a sheath.

"It is usual to open the sheath in the male tree artificially, as, when left to itself, the pollen is scattered by the wind immediately it opens. The male blossom is bigger and broader than the female. The male trunk is also bigger and stouter. Its branches and prickles are stronger. The root of the branch (Karab) where it joins the trunk (Jida') is coarser than the female. The male blossom appears about a month before the female. Both are milky white.

"The branch of the date palm is called Saf, the lower part of it Gasmul, the middle part Jerida, and the leaves Birdel or Khoos; the prickles on the lower part are called Shok. The fibre of the date palm is called Lif.

"When the scabbard splits in March and the blossom appears, the female palm is fertilised. This is done by impregnating the female blossom with a portion of the blossom of the male tree. The cultivator climbs the tree, opens the bunch of female blossom slightly and deposits in it a few sprigs of the male blossom. A special kind of male palm called Ghannami is preferred for fertilising purposes because it is stronger than any other. The male blossom is only used to fertilise, it does not turn into fruit. The process of fertilisation is called Telgih. It is said that in places where date palms grow close together, the wind scatters the pollen of the male blossom and the female is impregnated naturally. When, through neglect or oversight, the female palm is not artificially fertilised, the fruit it bears does not come to perfection; it is seedless and insipid and is called Shis. In 1821, during the plague, the trees were not fertilised artificially. The pollen was scattered by the wind but the crop was less good than when artificially handled.

"About one month after fertilisation the fruit forms and is then called Hababok; in two months it is green and is called Chimri; in three months, that is in June or July, it is hard but is red and yellow and is called Khalal; in four months, that is in August, it is partially ripe, soft and juicy and is called Rutab; it is then sold in the bazars as food but is not fit for preservation. If kept two or three days it turns sour. In the fifth month, 150 days from the date of fertilisation, that is about September, the fruit is fully formed and is called Tamr. It is then cut down carefully. The date cluster is called 'Ithig. When required for local consumption, the dates are spread on the ground and left to dry in the sun for about a month. For export they are sold damp to the date brokers and are brought to the packing sheds (Chardak) and are there handed over to the packers.

"Dates are packed by hand in cardboard boxes or cartons, placed in wooden cases, in baskets and in skins, according to quality and market requirements. In some cases the juice (Dibs) is extracted. It is collected in jars and used by the natives instead of sugar. The fruit is placed in a tank (Medbasa) made of sun-dried mud or cement. It is not artificially pressed. The juice exudes naturally. Dates can be packed in baskets after the juice has been thus extracted. Dates in a hard form, dry and yellow in colour, partially ripe (Khalal), are also preserved by boiling in water and are then exposed to the sun and air till they harden. This preparation, called Khishra, if well packed and preserved from damp, will keep for some time.

"A species of date called Zahdee is used for distilling arak or spirit. Zahdee dates make the best arak. Basra water is not suitable for the purpose and it is made at Bagdad.

"There are many varieties of dates and each kind has a special name. The principal kinds are as follows :—

Hallawee, the best kind at Basra, ripens early and is packed in boxes for export generally.

Khadrawee, packed in boxes for export to the United Kingdom, America and the Continent, also to Egypt, Tunis and Oran.

Sayer or S'Amran, packed in boxes and baskets for export.

Zahdee, packed for export in baskets and skins.

Deree, packed in baskets for export.

Chibchab, used for cooking in the semi-ripe stage and also eaten uncooked. They are hard and yellow.

Maktum, much smaller than Chibchab and used for the same purpose.

Hassawee, are eaten in the moist stage (Rutab), and are not sold for export.

Berhee, are eaten in the moist form and are kept in baskets, but are not exported.

'Aweydee, a kind much prized by the natives, are dried and kept for eating, but are not exported.

Ashgar, are eaten in the hard (Khalal) stage or moist (Rutab), but are not exported.

Asabi-el-Arus 'Bride's fingers,' are eaten moist and dry, but are not exported.

Khissab, ripen late, are left on the tree till the winter and then eaten in the Khalal or Rutab stage, but are not exported.

Lilwee, ripen late and are eaten in the moist and dry stages, but are not exported.

Firsee, a red date, ripens late and is kept for eating.

Guntar, are eaten moist or dry, but are not exported.

"The droppings throughout the season from the 'Ithig or date cluster are called Dosan and Hashaf. They are collected and given to cattle. Cows are fed largely on dates. Dosan are also eaten by the natives. The date palm is of great use to the poorer classes and is employed in a variety of ways. The peasants feed

on the droppings from May to September and keep the fruit when ripe as food for the ensuing seven months. The branches supply fuel and material for hutting and fencing. The fruit stalks are converted into brooms. Rope called Kumbur is made from the date fibre. The leaves are woven into matting and beds, chairs, cages, coops and household furniture are manufactured from the branches. The trunks are cut up and used in housebuilding and bridge making; they are also scooped out and converted into water pipes and gutters.

British Consulate,
Basra, March 31, 1908.

F. E. CROW."

XL.—DIAGNOSES AFRICANAE: XXIV.

951. *Cotylonychia*, *Stapf*, gen. nov. [Sterculiaceae]; distinctissimum, ob flores hermaphroditos, petalorum structuram, androgynophorum brevissimum, Buettnerieis accedens, sed sepalorum aestivatione primo imbricata mox aperta et staminibus omnibus aequalibus fertilibus diversa.

Flores hermaphroditi. *Sepala* 5, libera, primo imbricata, mox aestivatione aperta, herbacea. *Petala* 5, hypogyna, libera, initio vero contorto-imbricata, mox aestivatione aperta, basi in unguem crassiusculum leviter concavum margine albo-tomentello cinctum contracta, supra in laminam lanceolatam inflexo-apiculatam producta. *Stamina* 10, aequalia, omnia fertilia, androgynophoro perbrevis pentagono inserta, episepala ad eius angulos sita; filamenta filiformia; antherae oblongae, apiculatae, thecis parallelis 2 connectivo tenui connexis. *Ovarium* inter stamina sessile, 5-loculare, loculis multiovulatis, ovulis biseriatis; stylus indivisus; stigma 5-crenatum. *Fructus* globosus, pericarpio crustaceo, caeterum imperfecte notum.

C. Chevalieri, *Stapf* (species unica).

Frutex; ramuli teretes, diu virentes, cortice laevi, tenuiter sulcato-striati, glaberrimi. *Folia* alterna, petiolata; lamina oblongo-obovata, basi subcuneata, apice abrupte breviter acuminata, 9–12 cm. longa, 5–5.5 cm. lata, papyracea, utrinque concoloria, viridia, glaberrima, nervis lateralibus utrinque 5–7 obliquis uti venis crebre anastomosantibus utrinque prominulis, ob cellulas mucilagine repletas obscure pellucido-punctata; petiolus 8–9 mm. longus. *Flores* corymboso-racemosi; racemus glaber, subsessilis, omnibus partibus ob cellulas mucilagine et acido tannico repletas magis minusve fusco-punctatis, rhachi sub anthesi circa 1 cm. demum ad 2 cm. longa; bracteae lineares vel subulatae, 1–3 mm. longae, deciduae; pedicelli filiformes, ad 1 cm. longi. *Sepala* lanceolata vel suboblonga, acuta, ad 5 mm. longa, glabra, fusco-punctata, costula prominula. *Petala* ad 15 mm. longa, ungue disciformi 2.5 mm. alto, lamina glabra ob epidermatis cellulas magnopere fornicatas tenuissime velutina, apiculo saepe induplicato-inflexo substantia tenuiore. *Androgynophorum* vix 1 mm. altum. *Filamenta* 5–6 mm. longa. *Antherae* 1.5–1.7 mm. longae. *Stylus* 5 mm. longus. *Fructus* (immaturus) globosus, ad 3 cm. diametro, apiculo 4 mm. longo instructus.