The mandrake, *Mandragora officinarum*, is a perennial plant found in the Middle East, southern Europe, and northern Africa, that has ovate leaves, white or purple flowers, and edible globose yellow fruits, historically thought to have aphrodisiac properties. The mandrake also has a large bifurcated root, which has been credited with human attributes and has been the subject of many myths and superstitions. The root was formerly used as a cathartic, narcotic, soporific, and a conception promoting supplement. Common names for the fruit of the mandrake include: “love apples,” “May apples,” and “devil’s apple” [1].

One of the earliest references to the conception promoting properties of the mandrake is found in *Bereshit* (30:14), where Reuven, Leah’s eldest son, brings her *duda’im* from the field. Rachel, Leah’s younger sister, requests that Leah give her some of the *duda’im* that her son brought her because she wanted children. Leah, however, only acquiesces on the condition that Ya’akov will cohabit with her during that night. Ya’akov agrees and Leah, thereafter, bears her fifth son (*Bereshit* 30:17) and later a sixth (*Bereshit* 30:20). It should be noted that according to may opinions, *duda’im* are considered aphrodisiacs; for this reason it is believed that the word is derived either from the Hebrew word *dodim*, meaning love, or from the Arabic word *du*, meaning two, in addition to *daim*, meaning lovers. [2]

The botanical identity of *duda’im* is quite difficult to ascertain. The accepted opinion, however, is that it is a plant that grows, blossoms, or ripens “in the days of the wheat harvest” (*Bereshit* 30:14). Most biblical commentaries translate *duda’im* as mandrakes. Rashi writes that the *duda’im* are a type of plant that the Arabs call *yasmin*, which is translated in English as the mandrake. Ibn Ezra asserts that *duda’im* have a good aroma, as it is written in *Shir HaShirim* (7:14), “*duda’im* give forth fragrance.” They resemble the human form for they have the likeness of a head and hands. Ibn Ezra concludes, however, that he does not know why they promote conception.

*Ramban* disputes Rashi’s interpretation of *duda’im*, and instead accepts the opinion of Onkelos, who translates them as *yavruchin*. They are called *yavruch* in Arabic and mandrakes in English. *Ramban* explains that Rachel wanted the *duda’im* not to promote conception, but rather to enjoy and take pleasure from their aroma, for it was through prayer that Rachel’s barrenness was alleviated, and not via medicinal means. Reuven brought his mother the fruit of the mandrake, which looked like apples and were aromatic. He did not, however, bring the root, which has the likeness of a head and hands, and which is said to facilitate conception. It is interesting to note that *Ramban* concludes that he is unable to find proof to the latter assertion in any medical books available in his time.

**REUVEN BROUGHT HIS MOTHER THE FRUIT OF THE MANDRAKE, WHICH LOOKED LIKE APPLES AND WERE AROMATIC.**

Rabbi Dr. Joseph H. Hertz, the former Chief Rabbi of the United Kingdom and Commonwealth, quotes the 1611 King James’ authorized version of the Bible where the word *duda’im* is translated as “love apples.” Hertz explains that the fruit is the size of a large plum, quite round, yellow, and full of soft pulp. The fruit is still considered in the East as a love charm. This would explain Rachel’s anxiety to obtain it [1].

The *Ba’al HaTurim* beguilingly points out that the Hebrew word *duda’im* has the same gematria, numerical value, as the word *ke’adam*, like man (i.e. having human likeness). The numerical correspondence fits beautifully with the appearance of the forked root of the mandrake.

The *Malbim* states that *duda’im* promote conception and that Reuven’s intent was for his mother to have more sons since he did not wish to be the only son. The *S’forno*, however, interprets *duda’im* to be aromatic plants which pre-
pare the womb for a fetus. Duda’im and even more potent aphrodisiacs were eaten, especially on Fridays, to increase the love between two young paramours. Rabbi Shimshon Raphael Hirsch, on the other hand, considers duda’im to be wild flowers.

In explaining the biblical passage concerning mandrakes, the Talmud (Sanhedrin 99b), asks, “What are duda’im?” Rav says yavruchi-Rashi translates this as mandrakes; Levi says sigil-the Aruchi identifies this as cypress, the Musaf HaAruch as the narcissus plant, and Rashi, in Berachot 43b, as violets; Rabbi Yonatan says sabiski-Rashi explains this as mandrake flowers/a certain kind of spice. The Midrash, in Bereshit Rabbah 72:2, adds two interpretations of duda’im: barley and fruits of mayishim, which are hackberries or myrtle berries.

Dr. Julius Preuss, a German physician and scholar who gathered medical and hygienic references in Jewish sacred, historical and legal literatures, explains that the duda’im perhaps brought the favor of Yaakov back to Leah; for the one night which Rachel conceded to Leah must have been followed by many more, as the subsequent births demonstrate. The mandrakes, however, did not provide Leah with fertility, for she had never lost her ability to conceive. The correction of the infertility of Rachel as a result of the duda’im is similarly difficult to accept for Preuss. Since the pregnancies of both women resulted from the hearkening by G-d to their prayers and, moreover, since according to religious interpretation, no medication is effective without G-d giving His blessing thereto, Leah and Rachel’s pregnancies cannot be used as evidence for or against the efficacy of the mandrakes. As a result, Preuss cannot accept the hypothesis that duda’im represent a remedy against infertility. He is also not disconcerted by the biblical phrase, “the mandrakes emit an aroma,” Shir HaShirim 7:14, for it is a long way from the effectiveness of an aroma as a sexual excitant to the presupposed influence on the sterility of a woman [1]. It is interesting to note that Rabbi Jacob Kouli, a 17th century scholar from the Greek island of Crete, writes that many physicians during his time recognized mandrakes as a fertility aid.

Ben Ish Chai, the author of Rav Pealim, a collection of halachik responsa, records the opinion of contemporary physicians that mandrakes are a wonderful remedy for eye infections and inflammations. This would be another excellent explanation as to why Reuven brought his mother mandrakes (i.e. to heal her eyes), since Leah suffered from eye problems: “Leah’s eyes were weak” (Bereshit 29:16), because she ruined them with crying [2]. (Since Leah thought that she would have to marry Esav, which was a dreadful no-

tion to her, she cried to the point where her eyes were ruined from her constant tearing.)

Assaf the Physician writes in his Book of Medicines that powdered mandrake root, if applied externally, can heal white spots and leprosy. If it is applied to the white of the eye, the finely mashed up pulp of the fruit can cure pusy discharges from the eye. Lastly, if it is kneaded with oil and honey it can cure snake and scorpion bites. Modern research, in fact, supports the claim that mandrake roots and berries have a sedative, angesic, effect and are beneficial in cases of poisonous bites from snakes and scorpions [2]. Interestingly, mandrake use as a surgical anesthetic was first described by the Greek physician Dioscorides, around AD 60, in which patients preparing to undergo surgery were fed mandrakes [3].

Today, mandrakes are considered poisonous and their use should be strictly confined to well trained practitioners or professional herbalists. Nonetheless, shepherds and Bedouins continue to consume mandrake berries, which have shown, via chemical analysis, to contain an active narcotic agent. The active component in mandrake root is hyoscine, also referred to as scopoline, a tropane alkaloid drug which is quite similar to atropine in its mechanism of action. (Atropine is a drug that lowers the parasympathetic activity of all muscles and glands regulated by the parasympathetic nervous system.) Hyoscine, like atropine, blocks the muscarinic effects of acetylcholine, a neurotransmitter in the central and peripheral nervous systems, thus allowing it to be classified as an anticholinergic agent. Unlike atropine, however, hyoscine readily crosses the blood-brain barrier, thereby lending it the ability to produce drowsiness, hallucinations, and anesthetic affects [4-6].

According to Dr. Robert Greenblatt, the calming action caused by the mandrake root might have lessened Rachel’s anxiety about not being able to bear children, and thereby might have permitted better hypothalamic-pituitary function [7]. There is a continuous mutual interaction between the hypothalamus-pituitary system and ovarian function. The implication, therefore, of hyoscine found in the mandrake root on the hypothalamus-pituitary system is to relax that system, thereby allowing for elevated levels of gonadotropins, such as follicle stimulating hormone (FSH) and luteinizing hormone (LH), which act synergistically to induce follicular growth, ovulation, and development of the corpus luteum [8-10]. The mandrakes given to Rachel would, therefore, have made it easier for her to conceive a child since her body’s hypothalamic-pituitary system was rendered more relaxed due to the presence of neurorelaxers, such as hyoscine.
A fascinating study was done by researchers in the Hadassah Medical School which found that mandrakes contain a minute quantity of sex hormone. Such a finding lends further credence to the mandrake’s reputation as being a fertility agent. Experiments with laboratory animals have shown that mandrakes produce sexual arousal, as well [2]. It is interesting to note that other studies, designed to find a connection between mandrakes and sex hormones, have produced contradictory findings to the study at Hadassah Medical School. Those studies found that certain components in mandrakes have a high progesterone binding activity, thereby behaving antagonistically to progesterone (i.e. mandrake components chemically adhere to progesterone binding sites, thereby, not allowing progesterone to produce its intended hormonal effect). (Progesterone is a steroid hormone involved in the menstrual cycle which permits the endometrium to enter its secretory phase and, thereafter, prepare the uterus for implantation.) Mandrakes, therefore, can be used as abortifacents, emmenagogues (i.e. brings on menses), and, oddly, to facilitate child birth. It is dangerous to the vitality of the fetus for mandrakes to be consumed during pregnancy [11, 12].

While there is much controversy over the exact identity of duda'im, most biblical commentaries are of the opinion that they are mandrakes, a plant which has been thought to possess aphrodisiac qualities since time immemorial. There seems to be an impasse, however, amongst the commentaries, as to the validity of the mandrake’s ability to act as a sexual stimulant and/or to promote conception. Modern scientific studies, however, have elucidated that mandrakes possess anesthetic, hallucinogenic, and narcotic characteristics, in addition to possibly containing anticholinergic agents and sex hormones which can collectively effect the central and peripheral nervous systems, and, moreover, the hypothalamic-pituitary system. Such scientific evidence can, therefore, serve as corroboration not only of the mandrake’s ability to alleviate infertility in the time of the Bible, but also its ability to herbalistically treat various modern-day conditions.
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REFERENCES
Shauli, Ashdod, Israel.
(Retrieved January 25, 2010).
[8] The Museum of Menstruation and Women’s Health. Some Details on the Function of the Hypothalamus-Pituitary-
stimulating_hormone&oldid=23568523 (Retrieved January 25, 2010).
Hormone&oldid=175523664 (Retrieved January 25, 2010).
com/phyto.htm (Retrieved January 25, 2010).