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On Some Animals Mentioned in the Bible

Author(s): I. Aharoni

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Dedicated to my daughter, the zoologist
Doctor Bathsheba Aharoni, who induced me
to write these lines.

PREFACE

This dissertation and many other treatises on this object are the result of 35 years' *original* research, both in nature (exploring the fauna of Palestine, Syria, Mesopotamia and Northern Arabia) and literature, the *authentic* and *personal* knowledge of *both* being indispensably necessary to treat with such a difficult subject as Biblical Zoology is. — In a lecture given the 19th June a. c. at Paris in the Société Ernest Renan before colleagues of the Collège de France, the Sorbonne and zoologists of the Muséum national d'histoire naturelle on "Nouvelles vues sur la Zoologie biblique et talmudique" I told : "Le texte biblique est bien ancien, assez antique pour être vénéré au moins autant que celui de l'Iliade d'Homère par exemple. Il faut donc prendre garde de corriger sans plus de façons les passages, où il s'agit de zoologie. — Pour juger de l'exactitude zoologique des écrivains de la Bible, et même du Talmud, il faut connaître à fond, d'une manière détaillée, la faune de la Palestine et de la Babylonie, les berceaux de ces deux ouvrages monumentaux, d'une connaissance *personnelle*. Il faut aussi connaître les *noms* des animaux, employés par les *chasseurs mêmes* du grand désert, où les animaux en question vivent et où leurs noms se sont conservés jusqu'à nos jours. En beaucoup de cas il faut avoir aussi une connaissance considérable de la *biologie particulière* de ces animaux et de leur anatomie".

To this principle I adhere closely in this dissertation too, and I hope that the reader of it will get a taste for the wonderful passages treating of zoology in the Holy Writ.

I. AHARONI.

Tale-Ilan is an animal mentioned in Sabbath (second tractate of the Talmud) 28^a. NATHAN BEN YECHIEL, the author of the Aruch (born 1035) writes that this animal is as big as a cat, its skin is spotted. People use it for hunting rabbits (by penetrating into their holes). The name "tale" is Greek, its Syriac name "shafkah", its Arabic one "zabzib".

This animal is the greek *Talḥē* (BUFFON, vol. 13, p. 184), called to-day Vormela peregrusna (the Spotted Weasel).

Taḥash (Monodon monoceros)

In *Sabbath* 28^a we read that the *Taḥash* was as variegated as the Tale-Ilan, on page 28^b — that *the taḥash which appeared in Moses' times* was a "creature for itself" (i. e. not belonging to any tribe of animals hitherto known to them), that the Scholars did not know, if it were to range with wild animals or domesticated ones, and did not decide, if it were clean or unclean. *It had a horn on its forehead*. MOSES got it *incidentally*, made the Tabernacle (from its skins); *afterwards it vanished*.

There are some important moments to consider : 1) That the *Taḥash* was variegated (spotted) as the Tale-Ilan; 2) that it had *one* horn on its forehead; 3) that it did not inhabit the Sinaitic Peninsula, the Red Sea or the Mediterranean (for the Israelites did not know, how to classify it, — they did not decide, if it were clean or unclean : i. e. they never saw it before. *It only once* appeared within their province, then and *only then they saw it*, collected it, prepared its skins, from which MOSES made the Tabernacle together with rams' skins, and the population — excellent sandals (Ezekiel 16,10); then, afterwards, the animal disappeared for ever).

Now I have only to add that the Arabic name for the whole *whale*-tribe is *tuḥas*, and all the riddle of the *Taḥash* is solved ! It is the Narwal, the Sea-Unicorn. It has a "horn" on its forehead, its skin is spotted, it does not inhabit any of the seas near the Sinaitic Peninsula, it is included in the Arabic name "tuḥas". But how could this *northern* whale penetrate into the Mediterranean, and especially into its eastern part, in order to become a booty of the Israelites?

We know that the whales are gregarious *migrant* animals,

annually wandering from north to south and vice versa. The chroniclers relate us from northern whales which stranded in more southern degrees of latitude. In STRABONIS Rerum Geographicarum Liber III. Cap. II. Hispania — we read that the "Ὀρυξ (θαλασσιός) moves about with other whales near Spain. As last year a *cachalot* (sperm-whale), the length of which was $7\frac{1}{2}$ meters, stranded on the sea-coast north of Jaffa (I prepared its skeleton for our University Museum), where since immemorial times no such whale appeared on the Palestinian coast of the Mediterranean, and no zoologist or traveller mentions its occurrence on our coast, — it is possible and *not improbable* that a small troop of Narwals got astray, penetrated once, *only one time* (!) through the straits of Gibraltar (*near which STRABO mentions it*) into the Mediterranean, and stranded there near Gaza or Rafa, where the Philistians or an other people skinned some of them, and sold their skins to the Israelites camping at that time quite close on the Sinaitic Peninsula. As other whales' skins, its skin might be tanned too, and used for different purposes, as covering of the tabernacle and as soles of sandals. The length of the Narwal is about 6 m; together with rams' skins some Narwal skins could suffice to cover the tabernacle.

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Holed, Levit. 11, 29, is our *Mole-Rat* (*Spalax typhlus ehrenbergi*). It means "the underminer of the ground"; Arabic "huld".

"*Akhbar*" (ibidem) is especially *our southern mole* (*Microtus philistinus*), comp. 1 Sam. 6, 5 : "...and images of your *mice that mar the land*" (near Ekron!).

"*Hapharperoth*" are *Crocidura religiosa*, *sacred* to the old Egyptians, and found mummified in numerous specimens. It is only once mentioned in Isaiah 2, 20 : "In that day a man shall cast his idols of silver, and his idols of gold, which they made each one for himself to *worship*, to the *shrew mice and to the bats*", both *insectivorous extraordinarily useful animals* : the first, snatching away gnats and mosquitoes in the air, the other exterminating all kind of vermin noxious to agriculture, all worms and other mischievous little creatures inhabiting very narrow ducts in the ground, into which the shrew only may penetrate and be after them. "*Hapharperoth*" means "the burrowers par excellence"

(from "haphar" : to "dig, to burrow", with reduplicated root, as "adamdam" : "very red" etc.).

* * *

"Akko" (Deut. 14,5) is the same as aika (ika) in Sabbath (2nd tractate of the Talmud) p. 152^a, and means *Capra aegagros* (our Wild Goat) : אִיָּא, אִיָּא.

ONKELOS translates "Akko-yaala". But "yaala" is "yael" (*Capra bedouin sinitica*) the Sinai-Ibex (1 Sam. 24,3; Ps. 104,18; Hiob 39,1; Prov. 5,19).

* * *

"M'ree" is the *buffalo* (*Bubalus buffalus*). It is mostly quoted together with the ox ("shōr") : 2 Sam. 7,13 (Oxen and buffaloes) 1 Kings 1,9, 19, 25; Isaiah 11,6 : "And the calf, and the young lion and the buffalo together". Ibidem 1,11 : "The fat of the buffaloes". — Ezekiel 39,18 : "Buffaloes of *Bashan*" (a country renowned for its succulent swampy pastures). — Amos 5,22. Maimonides rightly renders : m'ree : "a *kind* of the *oxen-tribe*".

Genesis 49,21 : "Naphthali est Capreolus, cornibus ramosis — dans ramos cornus".

In *Sota* (the 17th tractate of the Talmud) p. 11^b it is explicitly written that all the children of *Jacob* are compared to *animals*. "Naphthali is a Roe-deer with branched out antlers — who gives twigs of horns".

The portion of Naphthali was the *sea of Galilee*, and the territory south of it. In Palestine the Roe-deer was *mainly* confined to the district between Tiberias and Safed, and thence southward to the Carmel, and northward to the Lebanon. In the Holy Land the Roe became totally extinct 20 years ago; our University Museum possesses the last skeleton and skin of a two-year old male. In the surroundings of Safed I collected more than 100 antlers, which the peasants' wives used to comb wool. With clearing of the brushwood in this district the Roe-deer vanished entirely; it lost all protective means.

Now it is quite understood, why JACOB compared his son NAPHTHALI to the Roe-deer, inhabiting his inheritance.

“Shlooḥah” is an *adjective* signifying “surculosa”, “ramosa” (“cornibus ramosis, with ramified horns or antlers”). The *substantive* “shlooḥoth” we find Isaiah 16,8 : “Her branches (“shlooḥotéha”) are stretched out”.

Although the Hebrew name “ayalah” bears the grammatical termination of the feminine gender, it does not imply the female hart, the hind, strictly and exclusively, but the genus in general; for the Roe-deer is the smallest member of the hart-race. But in the second hemistichium JACOB speaks more particularly, more specifically, and there he uses the verb “hanothén” : “gives forth”, in the masculine gender, because the Roe-buck only possesses antlers.

The word „imre” is the plural of “emer”, and means “twigs”; “amir” is a bough (Isaiah 17,6), the same as “naphil” is a gigantic man, a giant in Numeri 13,33, and “nephel” a human embryo (Ps. 58,8).

The hebrew “shepher” means “antler”, the ramified, full horn of the cervine tribe, while “shophar” signifies the empty, simple, not branched horn of the Cavicornia (cattle, sheep and goats). In *Yoma*, the 5th tractate of the Talmud, p. 29^a, the horns of the “ayalah” [Roe-deer] are compared with the morning-star (“shahar”), “because they send forth twigs to all sides, like the radiating morning-star.

“Shepher” is translated “shahar” in the Syriac version of Genesis 19,15, and Isaiah 58,8 : both meaning “*the morning-star*”.

The hebrew verb “*hanothén*” is applied to *branches* in Ezekiel 36,8.

Now both hemistichia correspond to each other, as is usually the case in the poetical verses of the Bible, and not a single point is to be emended or altered.

Job 39, 13-18.

The lightsome she-ostrich, the mother (possessor, proprietress) of the wingfeather, spur and feathering, — leaving her eggs to the ground, and breeding upon the dust, — she forgets that a foot will squash her, and that beasts of the field might thrash her to pieces. He turned off hardhearted her children to a she-ostrich to whom they do not belong; in vain was (then) her fearless labour ! For God deprived her of wisdom, and did not impart

understanding to her. When it gets up (by means of sticking her nail into the ground), it scorns the horse and its rider.

Besides "Yaēn" (Threni 4,3) the Ostrich is also called "chenaf r'nanim", i. e. "the charming wing", because the nicest and most important part on the body of the Ostrich are the big white rapturous wing-feathers, on account of which it was hunted ever since the first days of history to the present day. "Chenaf" means "wing", "r'nanim" — "charming". ("Ranan", sg., "r'nanim" pl., in Hebrew, the same as in Arabic "ranan" — "charming by beauty").

As the grammatical gender of "chenaf" is feminine, and as the verses (except *one* hemistichium) are treating of the *she*-ostrich, the single adjective and all the verbs are feminine.

The word "imm" signifies "mother", or "proprietary", the same as the Arabic "umm".

"Hassidah" means "spur". While the *Spur-winged plover* (*Hoplopterus spinosus*) has only *one* spur on each wing, the Ostrich has *two* spurs on each wing: a quality *peculiar* to the Ostrich, and certainly not overlooked by the sharp-sighted poet.

The root of "ḥassidah" is "ḥassad"; this verb and "ḥatzad" mean "to cut", "to sting". As a metathesis ("ḥadash") we find it also in Arabic. "Ḥassoodah" (in Sabbath — the second tractate of the Talmud — p. 108^b) is the *puncture caused by the flea*; here it means the *spur itself*. Cause and effect in *one* word we also find in the word "*makeveth*", which means "*hammer*" or "*borer*" in Judicum 4,21, and "*hole*", caused by the borer — in Issaiah 51,1. In Sabbath is written "ḥassoodah", in Job — "hassidah", but "oo(u)" and "i" are often interchanged in Hebrew (comp. "Penooel", Genesis 33,32 and "Peniel", ibidem 33,31 and hundreds of other words) and many other languages.

"Imm evrah hassidah wenotzah" ("The mother of the wing-feather, the spur and the *general* feathering of *body*") is an apposition to the "light-hearted ostrich" preceding these 4 words.

Verse 15 intimates the habit of the Ostrich to breed in a shallow cavity raked by the parents themselves in the sandy ground of the desert. When the birds sit upon their eggs they are so flattened within the cavity, that a camel, a wild ass, an antelope, a horse, a hyaena etc. may easily smash then their back, being nearly on the same level with the surrounding ground.

In verse 16 we suddenly find a turn from the feminine gender, maintained till now, to the masculine one, in the verb “*hikshéah*” (“hard-hearted he turned off”; comp. Isaiah 63,17).

Here I must premise some words.

Generally the *he*-ostrich is breeding together with two *she*-ostriches within *one* cavity of the sand. When the young chickens slip out from their eggs, *all* the troop, viz. the two mother Ostriches together with their children, walks inseparately, — all headed by the male. Of course the *hard-hearted father* (comp. Threni 4,3 !) pitilessly disorders the herd, mingling pell-mell the chicks of *one* mother with those of the *other* mother, or as the poet marvellously expresses, — “*he* (viz. the *male*) hard-hearted turned off her children (i.e. the children of the *she*-ostriches spoken of in all the 5 verses) to an (other) ostrich, to whom they do not pertain”; “in vain, then, was her courageous, fearless labour” of breeding during nearly two months, exposed to so many dangers. Every farmer knows that a *hen* for instance only likes her own chickens, and wishes to take care of them herself; while she does not suffer chickens of another hen in her immediate surroundings. Just the same is the case with the female Ostrich.

Now the poet is *returning* to the *she*-ostrich, *re*-using all verbs in the feminine gender.

In the 17th verse the stupidity of the Ostrich is wonderfully pointed out. We know that the brain of the Ostrich, this giant among birds, does not fill out its whole skull, its brain nearly equalling that of a turkey.

Verse 18 exactly and undoubtedly shows that the 5 verses preceding treat only and exclusively of the Ostrich, incapable of flying, — and *since immemorial time pursued on horse-back, as the bedawines do to-day*, — not of any other bird fit for flying. On horseback only an animal *unfit for flying* can be chased (hunted), *as the horse itself*; but it is an insanity to hunt an eagle, a vulture or any other *bird, furnished with wings capable of carrying their owner in the air — on horseback!*

“Bamarom” means “in the loft”, “upward”.

The root of “tamree” is “mar”, or “mari”, which in Arabic is mainly used for a horseman or rider, and signifies : to spur on the saddle-horse by the spurs of the boot, what I many times heard myself used by my bedawin-hunters.

(“*Mar-nita*” in Syriac is a “*spear*”). In order to *rise up*, the ostrich plants its only, but mighty nail of its leg into the ground (as the horseman pursuing it fixes his boot-spurs in the loins of his saddle-horse), and thus firmly propped up it takes its run unparalleled in all the animal kingdom.

Pica pica bactriana

Proverbs 30,17 : “The eye that mocketh at his father, and despiseth to obey his mother, the ravens of the *river* (Hebr. “*nəḥal*”) shall pick it out, and the young vultures shall eat it”.

This “raven of the river” is our Magpie, which is resident on *both* shores of the Euphrates, and pretty frequent at Deir ez-Zor.

The Ravens, as the Griffon Vulture (“*nesher*” in Hebr. *Gyps fulvus*) attack first the *eyes* of a cadaver, these being for them the softest part of the body to begin with. Thence they progress to tear the corpse asunder. With adult vultures the Magpie would never venture to dismember together a carrion; this it does with young vultures.

Ammoperdix hayi

1. *Samuel* 26,20 : “For the king of Israel is come out to seek a flea, as the Sand-Partridge (Hebr. “*koré*”) is getting *pursued* in the mountains”. This Partridge, pursued (by hunters) in the surroundings of the *Dead Sea*, is Hay’s Sand Partridge. (The Chukar, *Alectoris greca sinaica*, is called in Hebr. “*hoglah*”, as in Arabic “*hajal*”).

Jeremiah 17,11 : “As the Sand-Partridge (“*koré*”) breeds on eggs, which it had not laid (Hebr. “*yalad*”; comp. the first words of *Bezah*, the 7th tractate of the Talmud); so he that getteth riches, and not by right, shall leave them in the midst of his days, and at his end shall be a knave”.

The female of *Ammoperdix hayi* generally lays 11 eggs. I many times found 22 eggs together in *one* hole of a rock, but a good number of them were addled eggs. This fact surprised me, as it was mostly the rule. Special observation solved the riddle. For some unknown reason, two females lay their eggs

together in *one* hole. But after the lapse of some days one female displaces the other one, supplants it, and tries to sit upon all the 22 eggs, an effort remaining useless — on behalf of the littleness of its body and proportional shortness of wings of the Sand-Partridge. Thus a considerable number of eggs remains unbred, addled. This curious habit, *peculiar* to the Sand-Partridge, is strikingly alluded to in Jeremiah : As the Sand-Partridge breeds on eggs which it did not lay... and is obliged to abandon them after some time, — so a man who unfairly gathered reaches, will relinquish them in the midst of his age.

Our Owls

All Owls of Palestine and Syria are enumerated separately; after no name in Leviticus 11 and in Deuteronomium 14 is written “after his (its) kind”. We have 15 species and subspecies of Owls : 1) *Bubo bubo aharonii* (the Palestine Eagle Owl); 2) *Bubo bubo ascalaphus* (the Egyptian Eagle Owl); 3) *Bubo b. desertorum* (Desert Eagle Owl); 4) *Bubo interpositus* (the Intermediate Eagle Owl); 5) *Ketupa zeylonensis* (the Fish Owl); 6) *Asio otus* (the Long-eared Owl), 7) *Asio flammeus* (the Short-eared Owl); 8) Humes Tawny Owl (*Strix butleri*); 9) *Strix aluco* (the Tawny Owl); 10) *Tyto alba* (the White Owl, Barn Owl, Screech Owl); 11) *Athene noctua saharæ* (the Little Owl); 12) *Athene noctua lilith* (Desert Little Owl); 13) *Otus brucei* (Striated Scops Owl); 14) *Otus scops scops* (the Scops Owl); 15) *Otus scops pulchellus*, which many authors regard as synonymous with the preceding.

Their biblical names are :

1. *Oah*. This *extremely rare* Eagle Owl inhabits rocky mountains of Southern Palestine. To its extreme rarity corresponds the paucity of passages in which it is quoted : only once in Isaiah 13,21, where its name occurs with other desert animals. Its name “*Oah*” is an imitation of its cry, as *Buh* in Arabic, *Uhu* or *Schuhu* in German.

2. *Bath ha-yaanah*, the most frequent and most mentioned Owl of the true plane desert. Its name signifies “Daughter of the Desert” (“*yaan*” being derived from “*waan*” : desert, in Arabic).

3 and 4 are included in the name *Tan* (pl. tanim, masc., and tanah, pl. tanoth, fem.) Both these subspecies are the companions of Bath-hayaanah in the desert, and in the Bible. They are less frequent.

5. *Shalakh* (*Ketupa zeylonensis semenovi*). It is mentioned between two other owls in Lev. 11,17 and Deut. 14,17 it is mentioned as the last bird of prey. In *Hullin* (the 19th tractate of the Talmud) p. 63^a its name is derived from the verb "shalah" (to draw out fish from the sea).

6. *Yanshof* or *Yanshoof* is pretty rare in Palestine, and only thrice mentioned in the Bible. The name may be cognate with "neshef" (evening) or derived from the verb "nashōf" (to blow, to give a spit, as said from the cat), both significations equally adaptable to this owl.

7. *Kippod* or *Kippoz* (*Asio flammeus sive Asio palustris*). Its name is mentioned Isaiah 14,23 : "I will also make it a possession for the Short-eared Owl and pools of water", and ibidem 34,11 : "But the Little Desert Owl and the Short-eared Owl shall inherit it", and in the same chapter verse 15 : "There shall the Short-eared Owl make her nest, and lay, and hatch after having bred in her shadow".

8. *Shahaf* is mentioned after the Owls Bath-hayaanah and Taḥmas, before the Sparrow-Hawk, followed again by Owls, — in Levit. 11,16 and again only in Deut. 14,15 in the same series of enumeration. To the paucity of passages in which it is quoted corresponds its extraordinary rarity in general and in Palestine. Prior to my discovery of its existence in Palestine it was only known by 2 specimens : 1 from Sināi, 1 from Baluchistan. — "*Shahaf*" signifies "the emaciated", a name suitable to owls. (Comp. Ps. 102,4-8 quoted hereafter). "*Shahaf*" is a metathesis of the Arabic "ḥufash", signifying "bat" as well as "owl", — as in Hebrew "keves-kesev" (sheep) and many other words.

9. *Lilith* is mentioned among other ruin-inhabiting animals — Isaiah 34,14 :

"The Tawny Owl also shall rest there, and find for herself a place of rest". "*Lilith*" means "Night-bird".

10. *Tinshemeth* never inhabits the desert, it always dwells in human settlements (towns and villages); accordingly, the Barn Owl is never quoted in passages treating of ruins or

deserts. It is mentioned in Lev. 11,18 and Deut. 14,16. The name is derived from the verb "nasham" (to "breathe", to "snore") intimating the act by which the Screech Owl betrays its presence amidst foliage of trees, in garrets or elsewhere near man's houses.

11. *Côs*, a name imitating the peculiar cry of this Little Owl, as its German name "Kautz", for instance. It has a *special predilection for ruins*, and *as such* it is mentioned in Ps. 102,3-7, where the leanness of the owl-tribe is wonderfully, but very mournfully expressed: "For my days are consumed like smoke, and my bones are burned as an hearth. My heart is smitten like grass and withered, for I forgot to eat my bread. By reason of the voice of my groaning my bones cleave to my skin. I resembled the Little Owl of the Desert, I was like the Little Owl of Ruins. I got emaciated ("shaquadi" as the Arabic "saquad") "and I was like a solitary bird on a roof" (a marvellous allusion to the Little Owl, *very often seen alone on the ridge of a roof!*). — It is also mentioned Levit. 11,17 and Deut. 14,16 among other Owls.

12. *Kaath*. Like "Côs", its name is an imitation of its voice. *It inhabits the true desert only*, and is mentioned *as such* in Ps. 102,7: "I resembled the Little Owl of the *Desert*, I was like the *Little Owl of Ruins*". In Isaiah 34,11: "And the Little Desert Owl and the Short-eared Owl will inherit it, and the Long-eared Owl and the Raven will dwell in it. — In Levit. 11,18 and Deut. 14,17 it is quoted among other Owls.

13. *Tahmas* (*Otus brucei*) is mentioned with other Owls in Levit. 11,16 and Deut. 14,15. The root of the name is "hâmas" (to "ravish").

14. *Sair*, Isaiah 13,21: "And the Scops Owl shall dance there. This little Horned Owl moves by a kind of "dancing". Ibidem 34,14: "And the Scops Owl shall cry to his fellow".

Diurnal birds of prey

Levit. 11,14: "*Nesher*" (in Arabic "nir") is *Gyps fulvus* (the Griffon Vulture). "*Ozniah*" is *Aegyptius monachus*, the *Black Vulture*. As the Greek name is composed of $\alpha\tilde{\iota}\xi$, $\alpha\tilde{\iota}\gamma\acute{o}\varsigma$ + $\gamma\acute{\upsilon}\psi$, so the Hebrew name is derived from "Ez" (goat), the same as its Arabic name "*Anezeh*" — from "*Anz*" (goat). — 1) Because it is *black* as our goat (*Capra mambrica*). 2) Because it *precipitates*

goats into *prcicipes*, in order to dismember and eat them in the deep wady. — In the *Mishnah Kelim* 17,14 the *Ozniah* is called “Oz”, and it is said that its bones of wings were used (as shalms).

Peres is *Gypaëtus barbatus* (Vultur ossifragus; Laemmergeier). Its name is derived from the verb “paross” (to break), “to tear” : an illusion to its habit of picking up tortoises, and carrying them off with himself into the highest stratum of air, in order to drop them from this immense height, and get easily to their flesh in their smashed case.

Levit. 11,15 + Deut. 14,13 : *Daah-Raah* is *Milvus milvus*, the *Red Kite*. Its first name is based on the peculiar way of floating, hovering and soaring in the air. Its second name is based on its extraordinary sharpness of sight. In *Hullin* 63^b it is said that the *Raah* being in Palestine sees a carrion in Babylon.

Ayah in Levit 11,14 + *Dayah* in Deut. 14,13 signify the *Black Kite*. The first name is based on its voice, the second — on its “ink”-black colour.

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Ps. 69,30 : Rebuke the *Crocodile* (Hebrew : *hayath kaneh* : beast of the reedbank). Thus the Crocodile has 3 names in the Bible :

1) *Tannin* or *tannim* (Ezekiel 29,3, 32,2; Isaiah 51,9; Is. 27,1; Jerem. 51,34; Ps. 74,13. — 2) *Livyathan* (Ps. 74,14; Isaiah 27,1; Job 40,25). — 3) *Hayath kaneh*. *Job* 41,5 : “Wilt thou play with him (viz. : with the Crocodile) as the Bird (Hebrew : *Katsippor*)”?

Here is an allusion to the *Crocodile-Bird* (*Pluvianus aegyptius*) which enters fearless the crocodile’s mouth, in order to pick up leeches, gnats and other vermin in it.

As already HERODOT relates, the *Egyptian Plover* (*Pluvianus aegyptius*, Linné) is very useful and beneficial to the *Crocodile of the Nile* by purging the body of this huge reptile from all small animals adhering to it. The bird dares even penetrate fearlessly into the widely opened *mouth* of the monster basking in the sun, and pick up all gnats (*Culices*) sucking its blood as well as the leeches filling its mouth. The habit of this wonderful bird, the friend of the Crocodile, with whom it dares “play,” is very nicely intimated in *Job* 41,5 : “Wilt thou play with him as the bird?” — “*Katsippor*.”

“*Nahash*” does not always signify “snake” or “serpent.”

Thus *Amos* 9,3 : " And though they hide themselves in the top of *Carmel*, I will search and take them out thence; and though they hid from my sight in the bottom of the *sea*, thence will I command the *Crocodile*, and he shall bite them."

" *Naḥash* " there is "*Crocodilus vulgaris*" which lived till 1877 in *Nahr e'Zerka*, south of the *Carmel* (where the town "*Crocodilon*" is mentioned as having been near by in STRABO's *Rerum Geographicarum*, not far from the *Mediterranean*).

Job 26,12-13 : " He divideth the *sea* with his power and by his understanding he wounded the *Egyptian* (Hebr. " *Rahaw*;" comp. *Isaiah* 51,9; Ps. 87,4. "*Pharaon*" in Arabic signifies "*Crocodile*," the *typical animal of Egypt*)... His hand has perforated the *Crocodile*." (Hebr.: "*naḥash bariaḥ*." The verb "*barah*" means : " to shoot through from *one* end to another one;" comp. *Exod.* 36,33. — This epitheton fits the *Crocodile*, as the peculiar structure of its vertebrae constrains it to turn *all* its body, if it wishes to turn round, as if *one* longitudinal bar were shot from *one* end of its body to the other one).

In *Isaiah* 27,1 the *Crocodile* is named "*Liviathan naḥash bariaḥ*," the *last* epitheton being opposed to "*Liviathan naḥash akalathon*" (the gigantic *Monitor miloticus*); "*akalathon*" meaning "*capable of winding itself*." "...and he killed the *Crocodile* which is in the *Nile*." (Hebr. "*Yam*" means not only "*sea*" but also the *Nile* and its arms. — Comp. *Isaiah* 18,2; *Ezechiel* 32,2).

There are 2 families of *Lizards*: 1) *Lacertidae*, 2) *Scincidae*. The first mostly inhabits the surface of the ground, its members climb adroitly on walls, rocks, trees etc. Their legs are pretty long, *their skin not adhering to their body*. — Members of the second family are short-legged or deprived of limbs at all. They are incapable of climbing, always attached to the ground, into the holes of which they very easily slip, because *their skin is so tightly adhering to their body, that skin and flesh make one*.

These last ones are very precisely characterized in *Hullin* (the 31th tractate of the *Talmud*) p. 122.^a The skin of these is there just regarded as their flesh (upper muscles), i. e. it is not detachable from the latter. With them are enumerated : the skin of man, domestic swine, the skin of the hump of a young camel before it began to carry burdens, the skin covering the under tail surface of the *steatopygous* race of our sheep (*Ovis laticau-*

data), the skin of the *Anakah* (*Ophisaurus apodus*), *Koaḥ* (Chameleon), *Letaah* (*Eumeces schneideri*) and *Homet* (*Chalcides sepsoides*). All these 4 genera of lizards are quoted in Leviticus 11,30. The tight adherence of skin to their body makes them very smooth, and highly facilitates their penetration into holes of the ground.

Tinshemeth (ibidem, v. 30), already mentioned in verse 18 among birds, is here (among reptiles!) *Varanus griseus*. It is also "breathing", giving spits as the *snoring tinshemeth* (*Tyto alba*) among birds.

Such a case, even the triple signification of *one* name, we find in "*Kippod*", which means : 1) Short-eared owl; 2) Hedgehog; 3) Porcupine in the Talmud. The same in *Tannin*. It means : 1) Cachalot (*Catodon macrocephalus*); 2) Crocodile; 3) Cobra.

In the Bible *only poisonous snakes* are mentioned, and all their names have an "f" as an imitation of their blowing and puffing : "tzefa", "tzif'oni", "ef'eh", "sh'fifon", "fethen".

The *Viper* of settled places is *Vipera lebetina*; its Hebrew name is "tzefa" or "tzif'oni" (Isaiah 14,29 : "Out of the serpents' root shall come forth a *Viper*, and his fruit shall be a fiery flying serpent". Ibidem 11,8 : "And the sucking child shall play on the hole of the *asp*, and the weaned child shall put his hand on the *viper's* den". — Ibidem 59,5 : "They hatch *vipers'* eggs, and weave the spiders' web". — Proverbs 23,32 : "At the last it biteth like a *serpent*, and stingeth like a *viper*". — Jer. 8,17 : "For, behold, I will send *serpents, vipers*, which will not be charmed, and they shall bite you".)

Ef'eh is *Echis colorata* : Isaiah 30,6 : "...into the land of trouble and anguish, from whence come the young and old lion, the *Efa* and fiery flying serpent". — Isaiah 59,5 : "He that eateth of their eggs dieth, and the crushed one breaketh out into an *Efa*". — Job 20,16 : "He shall suck the poison of *asps*; the *Efa's* tongue shall slay him". — Its dwelling area begins from *Wady Fara*.

The *Horned Viper* (*Vipera cerastes*) is called "*Shefifōn*". The name with double "f" is based on its very threatening puff : f-f-f ! In the hieroglyphics its figure represents the letter "f". — Genesis 49,17 : "Dan shall be a serpent by the way, a *horned Viper* in the path, that biteth the horse heels, so that his rider shall fall backward". — A wonderfully exact observation of the

habits of the Horned Viper! Even to-day it enrols itself in the plate-shaped impression of the camel's foot in the sand of the desert, where a caravan uses to pass, and bites the heel of the camel passing over its head. It prefers this abode, because the excrements of camels, mules, horses and donkeys attract mice and birds on which the viper preys.

Pethen (and *Thannin*) signify "Aspic" (*Naja haje*). Ps. 58,4 : "Their poison is like the poison of a serpent; they are like the deaf *aspic* that *stoppeth her ear*". (An allusion to the fact that the *snakes have no meatus auditorius externus*)! — Isaiah 11,8 : "And the sucking child shall play on the hole of the *asp*". — Ps. 91,13 : "Thou shalt tread upon the lion and *asp*". — Deut. 32,33 : "Their wine is the poison of *asps*, and the cruel venom of *asps*". — The first "asp" is rendered by "thaninim", the second — by "pethanim". — Job. 20,14, 20,16.

* * *

Joel 1,4; 2,25. In my book entitled "Haarbeh" (Jaffa, 1919), The Locust, — I proved that the 4 names "Arbeh", "Yelek", "Hassil", "Gazam" signify 4 stages of development of our *migratory Locust* (*Schistocerca gregaria*, Forskål = *Schistocerca peregrina*, Olivier), not 4 different species of insects. "*Arbeh*" being the adult, the winged one (Exodus X,13 : "The east *wind* brought the locusts") and corresponds to *ἀκρίς* in Greek and "Gerad" in Arabic. — The first *larval* stage is "Yelek", and corresponds to *βροῦχος* in Greek and "Ssarū" in Arabic. It is *entirely black* ("Yelek samar", Jeremiah 51,28. — Samar = asmar : black in Arabic), and *hops*, instead of striding (stepping). The etymology of "yelek" is the same as "walaka" in Arabic : "to move on by *hopping*". — The *second larval* stage is "ḥassil". Its jaws are already pretty well developed, its colour is black and yellow. "Ḥassil" is derived from "ḥassal" (to browse : Deut. 28,38). — *This* and the following larval stage are the *ἀρτέλαβος* of the Greek; its Arabic name is "daba". — The *third larval* degree is "Gazam" : "the *pruner*". Its jaws are already *completely* developed; its colour is mostly yellow. Its Arabic name is "*gauga*".

There is no confusion or contradiction whatever in the *series of enumeration*. If we begin with "gazam", the *last larval* stage (from which the "*arbeh*", i. e. the adult, the winged, the flying

one arises) it is followed by "arbeh", which deposits eggs, from which slips out the "yelek", the *first larval* stage. After the "yelek" then follows the "ḥassil", and after the "ḥassil" — the "gazam" (1). This enumeration we find in Yoël 1,4. But if we begin the series of enumeration with "*Arbeh*", the order is consequently : Arbeh, yelek, ḥassil, gazam, — a succession we find in Yoël 2,25. Had we begun the cycle with "yelek", for instance, the series must have been : "Yelek, ḥassil, gazam, arbeh", and so on. *The last larval* stage is called in Aramaic "zaḥal" corresponding with the Greek ἀσκαρῆς (not hopping). See note ! Allowed to eat were only the grass-eating locusts, pertaining to the family *Acrididae* (short-horned, without ovipositor) and *Locustidae* (with very long antennae, the female possessing an ovipositor), but not the *rapacious, exclusively insectivorous Mantidae*.

"Ḥagab" is the *general* name of *all* Locusts, as we read in Ḥullin (the 31st tractate of the Talmud) p. 66, — clean and unclean ones. But "ḥagab" means *also especially* the migratory very pernicious locust of *Mesopotamia*, *Stauronotus maroccanus*, as we explicitly read in *Baba kama* (the 20th tractate of the Talmud) p. 80^b : "...and the other fatal accidents threatening to come on the community, as itching pustules of the skin, *the locust* (ḥagab), the fly (meaning the "tsetse", comp. Isaiah 7,18, where it signifies *Glossina morsitans*), the wasp (*Vespa orientalis*), the mosquito, the expansion of snakes and scorpions". In northern Mesopotamia it appears in enormous troops by no means smaller than those of *Schistocerca gregaria*, Forskål. According to Sabbath (the 2nd tractate of the Talmud) p. 106^b the ḥagab appears in *streaming* troops, i. e. in troops, the movements of which resemble the streaming of water. The same "streaming" I also observed in the immense mass of *Schistocerca gregaria*, which invaded and covered Palestine in 1915. As said above *Schistocerca gregaria* is the "Arbeh" quoted as the *first* genus in Levit. 11,22, the locust which devastated the fields of *Egypt too* in the reign of Pharaoh. The second "streamer", which never occurred in Egypt, and consequently cannot be the "arbeh", — is the "ḥagab" mentioned as the *last* genus in the *same* verse of Leviticus 11 : *Stauronotus maroccanus*.

(1) It is called "gazam" after the "*mode of its eating*"; "zaḥal" (the "creeper", by Onkelos in Aramaic), according with the *mode of its walking*. See "*Lekesh*".

Synonymous with "Arbeh" is "Govai", Amos 7,1. The meaning of this name is "collector of taxes", an allusion to the migratory locust, as a punishment of God to destroy or decimate the crops of sinners. Verse 1 and 2 of ch. 7 in Amos must thus be translated: "...and behold, he forms the *grasshopper* in the beginning of shooting up of the *later growth* (Hebrew: "*lekesh*"); and lo, there is the *first larval stage* (Hebr. *again* "*lekesh*"!) of the *migrating locust* after the kings' mowings. And it came to pass, that when it (i. e. this young grasshopper) had made an end of eating the grass of the land etc."

While the *first* hemistichium the Septuaginta translates "...καὶ ἰδοὺ ἐπιγονὴ ἀκρίδων ἐρχομένη ἐωδιμή", it rightly translates the second hemistichium "καὶ ἰδοὺ βροῦχος εἰς Γὼγ ὁ βασιλεύς". Βροῦχος is the same name by which the Septuaginta also translates "yelek" in *Joel* (i. e. the first larval stage of *Schistocerca gregaria*).

This translation of "*lekesh*" — "*grasshopper*" in *Amos* was also maintained by RASHI (the greatest Jewish medieval exegete in France) in *Taanith* (the 9th tractate of the Talmud) p. 6^a, and is also followed by the Arab commentator, who renders the *second* "*lekesh*" — "*gindab*" (locust). And this translation is quite logical: First came the "*gōvai*" (= "*arbeh*"), the *winged* one, in the *beginning* of shooting up of the growth, and deposited eggs; from these eggs then after 15 days slipped out the young locust. Within these 15 days the grass grew forth, and was consumed by the young grasshoppers.

The *verb* "*lakesh*", from which the *substantive* "*lekesh*" is derived, we find in Job 24,6. ("And the late vine of the wicked they will *gather*, i. e. *devour*").

The first larval stage of the locust is called "*lekesh*", because it consumes the "*lekesh*" (the later growth) and "*yelek*" on account of its *hopping*. Both names are correctly rendered βροῦχος by the Septuaginta, — just as "*gazam*", the *third larval stage* of the migratory locust, is called by *this* name ("the pruner") on account of the mode of its eating, and is *also* named "*zahal*" in Aramaic ("the creeper"), on account of its *stepping*.

"*Sol'am* (Leviticus 11,22) is — according to the explanation in *Hullin* 65^a — the *genus Tryxalis* (Acrida), as is written: "the *Sol'am* after his kind". In this passage of *Hullin* "*sol'am*" is synonymous with "*rashōn*" (the *long-headed* locust), and is *lacking* an

ovipositor. It is therefore a long-headed locust pertaining to the family *Acrididae*, and can *only be the genus Tryxalis*. In Palestine we have *Tryxalis nasuta*, *unguiculata* and *miniata*.

According to Hullin 65^a the *genus* "arbeh" of Levit. 11,22 includes also the locust named "little bird of the vineyards". This is *Anacridium aegyptium*, the biggest of the family *Acrididae*, and mostly inhabiting vineyards.

Hargöl (Levit. 11,22) is *Tetigonia* (*Locusta*) *viridissima*, a pretty big, very frequent *Locustidian* *endowed with an ovipositor* (Hullin 65^b).

Hargöl in Arabic is the *biggest Locustidian we have, Saga viridis*. According to IBN SIDA (a famous writer at the time when the Arabs possessed Andalusia, author of the brilliant work "kitāb el-muḥassas") "ḥargöl" has very long legs, very long horns (antennae), and no other locust exceeds its size. Its colour is green. — *Hava* (Arabic-English Dictionary) writes: "Ḥargöl is a *large wingless locust*". Thus *Ḥargöl* in *Arabic* signifies only *Saga viridis*. But two reasons exclude it to be the *clean* (!) "ḥargöl" of Levit. 11,22. Considering Hullin l. c. a *clean* locust must have wings covering at least the majority of its body (and "Saga" has no wings at all). — With regard to Levit. 11,21 the "Ḥargol" (as all other *clean* grasshoppers) must have "legs above their feet to leap withal upon the earth", and "*Saga*" *does not employ its very long hind pair of legs for leaping*. Besides *Saga* is a raptorial locust, not a herbivorous one.

"*Tselatzal*" = *zarzar*: *Gryllotalpa vulgaris* (the Mole-Cricket). Its damage is very precisely described in Deuteronomy 20,42: "All thy trees and fruit of thy land will consume the "*tzelatzal*". It never *climbs up* trees, and cannot consume their *fruit*, but gnaws through their *roots*, whilst it is capable of corroding all vegetables and other fruit of the soil. The Hebrew name "*tzelatzal*" and its Arabic name "*sarsūr*" are both based on the strident chirp which this cricket produces by rubbing its wings against each other. In Hullin 65^b we read: "The "*tzartzūr*" has 4 legs, 2 thickened hind legs, and its wings cover the majority of its body, but nevertheless it is unclean, because it is not included in the tribe of grasshoppers "(literally": it is not named "*ḥagab*").