

UNRAVELING THE

Prepared by Rav Yisroel Reisman

The Case Against the Murex

- The Rambam writes that the *chilazon* blood is “black as ink.” The Murex does not fit this description.
- Rashi (*Yevamos* 4b) says that the *techeiles* takes well to many materials, not just to wool. The Murex does not fit this description.
- Tosafos (*Shabbos* 75a) says that the *chilazon* shakes violently before its death. The Murex does not fit this description (Rav Daniel Osher Kleinman).
- The Gemara and Rambam describe a test to distinguish between *kala ilan* (indigo) and *techeiles*. This would not work for the Murex *techeiles*, which is molecularly identical to indigo (Rav Shlomo Miller).
- The Gemara relates that only the *melachah* of *tzad* is involved in removing the *techeiles* dye. Extracting the Murex dye involves *gozez*, as well. The Murex therefore cannot be the *chilazon* (Rav Shlomo Miller).
- Rav Moshe Feinstein writes that the *chilazon* blood is black and cannot turn blue without the addition of other ingredients (*Igros Moshe Yoreh Deiah* 2:133). He cannot hold that the Murex is the *chilazon*.
- One who traps a *chilazon* [on Shabbos] transgresses the *melachah* of *tzad*. This cannot apply to a snail (Rav Moshe Heinemann and others).
- The Maharsham, Rav Yehoshua Kutner (*Ein Hatecheiles*, p. 221), the Beis HaLevi (*Ein Hatecheiles*, p. 13), and the Chofetz Chaim discussed the Radzyner *techeiles*. They all held that the *chilazon* is not a snail.
- The Medrash relates that the *chilazon* was *nignaz*. Rav Elyashiv (*Kovetz Teshuvos* 1:2) and *ybdlch”t* Rav Chaim Kanievsky understand this to mean that the *chilazon* will not reappear until Mashiach’s times. *Aruch Hashulchan* (9:12) says this as well.
- Nets are used to capture the *chilazon* (*Shabbos* 74b). It seems foolish to use nets to catch snails. (Rav Yisroel Reisman)
- The overwhelming majority of *poskim* who studied the two sides of the issue do not wear the *techeiles*.

Additional Points

- There are different traditions about what the Beis HaLevi said regarding the Radzyner Rebbe’s cuttlefish: Some hold he said that the *chilazon* needs a positive mesorah, without which it cannot be identified. (Others hold he said that if there is a fish that everyone knew about throughout the ages, that is essentially a mesorah that it’s not the *chilazon*.)
- Re’ah, Ramban, Ran, Ritva, and Meiri (*Shabbos* 75a) all say *techeiles* is from the *chilazon*’s circulatory blood. Murex dye is fluid extracted from the hypobranchial gland, not circulatory blood. (Rabbi Doniel Osher Kleinman)
- The Gemara (*Shabbos* 75a) describes breaking open the *chilazon* as *petziah*, which Rashi explains to mean squeezing with the finger, as opposed to the more common use of the word *petziah*, which means opening with a crack. Clearly Rashi deviated from the standard explanation because he did not think the *chilazon* has a shell. (Rabbi Yirmiyahu Kaganoff)
- A *baraisa* (*Menachos* 44a) describes the *chilazon* as follows: “Its body resembles the sea, its form resembles a fish, it emerges once in 70 years, and with its blood one dyes wool sky-blue for tzitzis.” None of these descriptions fit the Murex. (Rav Asher Weiss)
- Some argue that the devil is in the details. Even assuming that the Murex is the *chilazon*, the lack of *mesorah* creates problems. Perhaps the shade of blue is critical, and if so, what shade is it? It is a three-way *machlokes* as to how many strings are needed. Without a *mesorah*, how do we *pasken*?

-Compiled by Gavriel Horan

TECHEILES DEBATE

The Case for the Murex

Prepared by Rabbi Chaim Klein

- *Gedolei kadmonim* explicitly identify the purpura snail (Murex) as the *chilazon*. These include *Shiltei Giborim*, *Chavos Yair*, *Tosafos Re'eim*, and Rav S. R. Hirsch.
- Rav Yaakov Emden and the Radal write that *techeiles* is in fact the famous and well-documented ancient Tyrian dye that was made by the Murex. This amounts to them saying clearly that the Murex is the *chilazon*.
- The word "*chilazon*" means snail. This is proven beyond doubt by multiple sources in Rishonim and Acharonim. To this day "*chilazon*" still means "snail" in many Middle Eastern languages including Arabic and Modern Aramaic.
- The Gemara (*Shabbos* 26a) says that the *chilazon* was caught off the northern coast of Eretz Yisrael, in the region of Tyre and Haifa. Murex dye is well documented to have been caught and produced in that area. Scores of dyeing factories with mounds of Murex shells have been found in that region.
- The Tosefta (*Menachos* 9:6) gives only one condition for kosher *techeiles* — that it comes from a snail (*chilazon*). So according to this source, the Murex is kosher, as it is a snail.
- Whenever Chazal refer to invalid *techeiles*, they only mention *kala ilan* (the indigo plant), not the Murex, which was widely used in those times. If the Murex dye is invalid, Chazal should have warned against it.
- The Yerushalmi (quoted by the Ra'avya) translates *techeiles* as *Purphira* (a garment dyed from the Purpura or Murex snail).
- The opponents of the Murex don't present anything that could dispute the above evidence. Their arguments are mostly in the vein of saying, "If it's the *chilazon*, then how would you understand this or that?" So, since the evidence can't be contested, it remains conclusive.

Additional Points

- The *Pesikta D'Rav Kahana* (11:21) says that the *chilazon* is a creature with a growing shell. Rambam says that it is an aquatic creature with a shell (*Keylim* 12:1). Rav Avraham ben HaRambam says that harvesting *chilazon* was like cracking open a nut — again implying that it has a shell.
- In some places Rashi translates *chilazon* as *limace*, which is Old French for snail (*Avodah Zarah* 28b). In other places he describes its body as that of a worm (*Sanhedrin* 91a); a snail is basically a worm, albeit with a shell.
- As mentioned above, the Gemara warns that *techeiles* appears identical to dye made from a plant known as *kala ilan* — identified by most as indigo. Chazal go so far as to say that the colors are so similar that only Hashem can tell the difference (*Bava Metzia* 61b). The blue made from the Murex trunculus is actually identical on the molecular level to the color derived from the Indigofera plant from which indigo was derived in the ancient world.
- The Gemara in *Menachos* (43a) implies, as the Rambam (*Tzitzis* 2:1) clearly writes, that its dye is extremely permanent. The dye made from the Murex trunculus is extremely permanent.
- The Gemara in *Shabbos* 75a implies (according to one *pshat* in *Tosafos*) that the *chilazon* has two "bloods," its lifeblood and a secretion used for its dye. This matches the trunculus that stores its dye in the hypobranchial gland.
- The historical record shows that the Romans forbade the use of the Murex at exactly the same time that the Gemara describes it as *nignaz*, hidden or illegal.
- The Gemara (*Shabbos* *ibid.*) writes that it was preferable to remove the *dam* while the *chilazon* was still alive. Pliny, in describing how the dye was extracted from the Murex, states that it was extracted while the snail was still alive (Rav Yitzchak Silber) and today we see that it begins to lose its quality almost immediately after the animal dies.

-Compiled by Gavriel Horan

Mishpacha magazine Issue 738 has a discussion of murex techeiles. On page 102 Rabbi Reisman brings out the case against murex followed by additional questions compiled by the author of the article. The following is my take on these points.

- The Rambam writes that the *chilazon* blood is "black as ink", The Murex does not fit this description.

When the blood of a few snails is collected together, it fits the description of the Rambam very well. When the blood is extracted from the snails, the blood immediately turns from clear to very dark purple, and it looks black like ink.



Left - many glands with their blood collected in one container

Center - a solution of murex blood and water

Right - dried out murex glands with their blood

- Rashi (*Yevamos* 4b) says that the *techeiles* takes well to many materials, not just to wool. The Murex does not fit this description.

Rashi makes no such statement or implication! In fact, Sefer Hachinuch (286) writes: "שבע התכלית לא היה יפה בפשתן – לעולם אלא בצמר".

It is evident from Gemara *Yevamos* 4b that linen can also be dyed תכלית, but there's certainly no implication that techeiles takes equally well to linen or other fabrics. (Dyes generally do not hold as well in linen compared to wool, as the Gemara says in *Nida* 61b).

Indeed, Murex can dye linen, but the color comes out weaker. This has been independently tried and tested successfully (see picture on right).



- Tosafos (*Shabbos* 75a) says that the *chilazon* shakes violently before its death. The Murex does not fit this description (Rav Daniel Osher Kleinman).

Tosafos (ד"ה הצד) says that upon removing the chilazon from water, "שמא חלזון דרכו לפרס ולקרב מיתתו" – perhaps the chilazon tends to quiver and hasten its death. In other words, perhaps it does, but perhaps it doesn't.¹

- The Gemara and Rambam describe a test to distinguish between *kala ilan* (indigo) and *techeiles*. This would not work for the Murex *techeiles*, which is molecularly identical to indigo (Rav Shlomo Miller).

In reality there are molecular differences which obviously have an effect. One example is that bromine is only present in murex dye and not in plant indigo, another is that plant indigo has much higher quantities of indirubin than murex dye. The mechanics of the Gemara's test are not known to us, so it is impossible to explain how exactly those differences cause a change in reaction to the test, but the fact is that there are differences.²

- The Gemara relates that only the *melachah* of *tzad* is involved in removing the *techeiles* dye. Extracting the Murex dye involves *gozez*, as well. The Murex therefore cannot be the *chilazon* (Rav Shlomo Miller).

It is not necessary to cut out the gland to extract the blood.³

Moreover, even when one chooses to extract the blood via cutting off the gland, it does not entail *gozez*, see: אבני נזר (תני) (קלא אות ד'), מנחת חינוך (מוסך השבת, מלאכת גוזז אות ח'), חתם סופר (שבת קו. ד"ה תני) who explain that *gozez* generally does not apply to cutting off a piece of בשר from a living organism.

¹ The following Tosafos (ד"ה ולחייב) says: והכא נמי במה שממיתו יש תקון קצת שאינו מפרס לכאן ולכאן ונוח ליטול ממנו הדם -- that killing the chilazon [by piercing it to remove the dye] is a תקון קצת, in that it will not quiver and thus inconvenience the (further) removal of dye. While we don't know to what extent murex would be מפרס if the פגיעה wasn't fatal, it certainly moves while alive (as evident in the techeiles documentary) and hence the תקון קצת. Importantly, here Tosafos switches the word מפרס to מתנדנד (a weaker term relating to movement) even though the Rosh does retain the term מפרס in context of the previous Tosafos regarding the possibility that the chilazon hastens its own death (where the Rosh indeed maintains that this possibility is merely "אפשר").

² This question is addressed in the *אור ישראל* journal (Vol. 37 p. 135) which cites Professor Otto Elsner, a textile chemist from the Shenkar College's Institute of Fibers in Israel explaining that besides for the dye molecule, other naturally occurring substances affect the bond between the dye and the fiber.

³ See: <https://phoenicia.org/industry.html>

There were two ways in which the dye was obtained from the molluscs. Sometimes a hole was broken in the side of the shell, and the fish taken out entire.[16] The /sac/ containing the colouring matter, which is a sort of vein, beginning at the head of the animal, and following the tortuous line of the body as it twists through the spiral shell,[17] was then carefully extracted, either while the mollusc was still alive, or as soon as possible after death, as otherwise the quality of the dye was impaired. This plan was pursued more especially with the larger species of *Purpuræ*, where the /sac/ attained a certain size; while with a smaller kinds a different method was followed. In their case no attempt was made to extract the /sac/, but the entire fish was crushed, together with its shell,

- Rav Moshe Feinstein writes that the *chilazon* blood is black and cannot turn blue without the addition of other ingredients (*Igros Moshe* Yoreh Deiah 2:133). He cannot hold that the Murex is the *chilazon*.

Exactly – only when other ingredients are added is the blood of the murex reduced⁴, and only then can it turn from black to blue. In any case, Rav Moshe is clear that what he is saying is only according to the Rambam and that Tosafos were unsure of this (presumably because they didn't see the dying process).
- One who traps a *chilazon* [on Shabbos] transgresses the *melachah* of *tzad*. This cannot apply to a snail (Rav Moshe Heinemann & others)

Rav Elyashiv disagrees with Rabbi Heineman and has paskened numerous times that it is assur to catch a slow-moving animal on Shabbos ('עני' אורחות שבת פי"ד הע' כא שלמי ניסן קונטרס הצד ב' ג' הלכות שבת בשבת צידה אות ב').

There are numerous proofs to Rav Elyashiv's position from the Rishonim, including Rashi who says that it is assur to catch a land snail on Shabbos.
- The Maharsham, Rav Yehoshua Kutner (*Ein Hatecheiles*, p. 221), the Beis HaLevi (*Ein Hatecheiles*, p. 13) and the Chofetz Chaim discussed the Radzyner techeiles. They all held that the *chilazon* is not a snail.

The most that can be hypothesized is that they were able to entertain such a possibility that *chilazon* can also include other marine creatures besides for a snail. It is guesswork to prove anything more than that.
- The Medrash relates that the *chilazon* was *nignaz*. Rav Elyashiv (*Kovetz Teshuvos* 1:2) and *ybdlch"t* Rav Chaim Kanievsky understand this to mean that the *chilazon* will not reappear until Mashiach's times. *Aruch HaShulchan* (9:12) says this as well.

Incorrect. Rav Elyashiv cites the משנת מלכו, who says that "פשת לשון הפרי" is "משמע" that it's גנגד. But if we have a ראייה that we found Techeiles then of course we should wear it.

Furthermore, we see clearly from the Rishonim and Acharonim (מהרי"ל לבוש עולת תמיד חמדת שלמה ועוד הרבה) that תכלת can actually be found before משיח comes. In any other Halachic question, the authority of the Mahari"l and so many Gedolei Acharonim that predated the Aruch Hashulchan by far, would not be taken so lightly.

It is also worth mentioning here a quote Rabbi Reisman's handwritten notes on techeiles:

ובזאת התחלתי, שאין לנו שום מסורה המעידה שהחלזון לא יחזיר עד ימות המשיח, והראשונים שדברו מהא החלזון והתכלת אין ידוע לנו, לא הזכירו שלעתיד לא יחזור, ופשוט שמצד ההלכה אין לדין אלא מה שענינו רואות. ואם יתברר לנו איזהו החלזון, ודאי נחזור לקיום מצות תכלת בשמחה רבה. ובספר שפוני טמוני חול (עמוד 1-11) הוכיח כן בטו"ד.
- Nets are used to capture the *chilazon* (*Shabbos* 74b). It seems foolish to use nets to catch snails. (Rav Yisroel Reisman)

It may seem foolish, but it is a fact well known by those who catch sea snails – "facts are stubborn things". The snails are attracted to baited nets that are left on the floor of the ocean, and when the nets fill up, they are raised on to a fishing boat.

Below [left] are photos published in the journal *Scientia Marina* following Pliny's method (accessible at bit.ly/2Gk0TSi).

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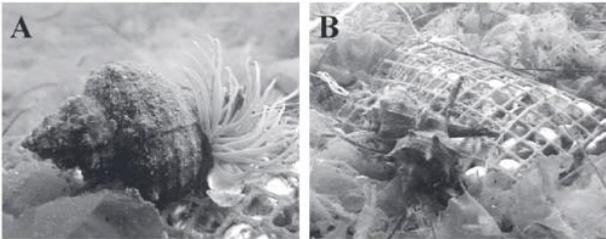


FIG. 3. – Under-water photographs of the target species attached to the external surfaces of the "walkers" baited with cockles: A) *Heniplex truncatus*; B) *Bollinus brandaris*.

Above [right]: an alternative method for seafloor net trap used for whelk (download mp4: bit.ly/2QJxsNR):


- The overwhelming majority of poskim who studied the two sides of the issue, do not wear the techeiles.

This description is quite surprising! While the overwhelming majority of Poskim have not yet studied this sugya in depth, our experience is that most of those who have indeed studied both sides thoroughly are supportive.

⁴Reduction is a process that allows the murex dye to bond with the wool. The added ingredients only aid the reduction process and do not change the color. However, in the reduced state, the black [deep purple] blood is able to lose its red component, thereby producing a blue dye.

- There are different traditions about what the Beis HaLevi said regarding the Radzyner Rebbe's cuttlefish: Some hold that he said the *chilazon* needs a positive mesorah, without which it cannot be identified. (Others hold he said that if there is a fish that everyone knew about throughout the ages, that is essentially a mesorah that it's not the chilazon.)

The second tradition mentioned would seem to be the correct one for a number of reasons.

- That version was recorded and published in the Radzyner Rebbe's sefer during the lifetime of the Beis Halevi, based on a letter dictated by the Beis Halevi himself, and is also the version quoted by Rav Elyashiv in Kovetz Teshuvos.**
- The first tradition is contrary to the opinion of numerous Rishonim and Acharonim (מהרי"ל לבוש עולת תמיד) (חמדת שלמה ועוד הרבה).**

- Re'ah, Ramban, Ran, Ritva, and Meiri (Shabbos 75a) all say *techeiles* is from the *chilazon's* circulatory blood. Murex dye is fluid extracted from the hypobranchial gland, not circulatory blood. (Rabbi Doniel Osher Kleinman)

Tosafos (Shabbos 75a) in the name of Rabbeinu Tam is very clear that techeiles does not come from the regular circulatory blood.

Besides the Meiri, none of the other Rishonim mentioned in the question say that techeiles is from the life-blood. All they do is give an alternative answer for the question that forced Rabbeinu Tam to say that it is not life-blood. In other words, they are saying that what Rabbeinu Tam says is not מוכרח because there is another answer, but they are not saying that it can't be.

Furthermore, it has been suggested by the Radzyner Rebbe (עין התכלת עמ' ר"צ) that perhaps the other Rishonim needed to provide a different answer to the question of Rabbeinu Tam not because they doubted his answer, rather because they had to deal with another question of why there is no מלאכה of חובל as one pierces through the skin and flesh of the chilazon in order to access the pouch containing the dye-blood.⁵

- The Gemara (Shabbos 75a) describes breaking open the chilazon as petziah, which Rashi explains to mean squeezing with the finger, as opposed to the more common use of the word petziah, which means opening with a crack. Clearly Rashi deviated from the standard explanation because he did not think the chilazon has a shell. (Rabbi Yirmiyahu Kaganoff)

Actually, the Eglei Tal (מלאכת דש ס"ק [ז] אות כ"ה-כ"ו) already addressed this. He explains the words of Rashi that there is no prohibition of Dosh on Shabbos when one removes the outer shell if there is still an inner encasement to be broken. Therefore, Rashi was forced to explain that *potzeia chilazon* refers to breaking the skin of the chilazon after it has been removed from the shell. The Eglei Tal is saying that Rashi DOES NOT preclude a shell from the chilazon.

- A baraisa (Menachos 44a) describes the chilazon as follows: "Its body resembles the sea, its form resembles a fish, it emerges once in 70 years, and with its blood one dyes wool sky-blue for tzitzis". None of these descriptions fit the Murex. (Rav Asher Weiss)

It has already been explained at length in many seforim about the murex techeiles that these descriptions actually fit very well with the murex if they are understood properly.

- Some argue that the devil is in the details. Even assuming that the Murex is the chilazon, the lack of mesorah creates problems. Perhaps the shade of blue is critical, and if so, what shade is it? It is three-way machlokes as to how many strings are needed. Without a mesorah, how do we pasken?

Wearing techeiles [when it is available] is a חיוב גמור, so if there's a machlokes how to do the mitzva, we need to pasken. We are not exempt from keeping the Mitzvos. Just like we need to pasken medical sha'alos which are new and can't simply be ignored. But to simply violate the mitzva according to all shittos?! Chas Veshalom!

Additionally, the subject has been dealt with clearly and satisfactorily by the Rabbonim who hold of it.

The shade is not critical as we have no Gemaras discussing the shade as we have by other halachos that depend on color such as *dam niddah* and *tzoraas*. It is also clear from the Radvaz (מ"ה) א"ל תכ"א (ה"ה) that the shade may vary.

⁵ ע"א אבן האזל הלכות כלי המקדש פ"א ה"ג שכתב: "דדם חלזון כיון שהוא מפקד פקיד אין בו דין דם חיה, ואף שעכ"פ הוא יוצא מן הטמא צ"ל כדברי הכ"מ דכיון שהוא צרור נעשה כעפר בעלמא, וכשיטת הרי"ף בסוף פ' כל הבשר בחלב הקיבה דכיון שהוא מכוונס בעור הקיבה פרשא בעלמא הוא, וכן פסק הרמב"ם פ"ט מהל' מאכלות אסורות, ולכן ה"נ כאן גבי מור כיון שכתב הרמב"ם שהוא הדם הצרור בחיה שבהודו, וא"כ אינו דם האברים אלא כעין דם חלזון שיש להחיה מקום מיוחד שצנר שם דם זה ואין לו המשך ויניקה מן האברים, ולכן נעשה פרשא בעלמא ואין לו אלא ריח." עכ"ל הנוגע לענייננו.

והנה אם יש מח' בין ר"ת והמאירי במציאות החלזון, ודאי אין צורך שיתקיימו דברי שניהם. וידועים דברי החת"ס (חידושים נדה י"ח, שו"ת יו"ד סי' קסז) שבמח' ראשונים שתלוי במציאות, המציאות יוכיח.

וז"ל הרב רייזמאן ברשימותיו על התכלת (כת"י): "אין ההמצאה של החלזון חייבת להתאים עם כל הראשונים, כי כן דרכו של תורה שאנחנו דנין בדברי הראשונים וקובעים ההלכה כפי רובם".