Global Journal of Science Frontier Research: A
Physics and Space Science
Volume 15 Issue 3 Version 1.0 Year 2015
Type : Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4626 & Print ISSN: 0975-5896

New Type of Hypothetical Venusian Fauna Found at the *Venera*-14 Landing Site

By L.V. Ksanfomality, A.S. Selivanov & Yu.M. Gektin

Corporate Values, Hungary

Abstract- The present study deals with one new form of hesperas, hypothetical living objects found on panoramas obtained on the Venus surface by the *VENERA*-13 and *VENERA* -14 landers in 1982. Novel hypothetical objects of Venusian fauna, called “amisadas”, may belong to terramorphic living forms. At a cursory examination the amisada’s body has the size of 12--15 cm. An amisada has a well-distinguished body that (when observed from above) resembles a fish. However, amisadas have organs of rest (and, probably, of motion) like reptiles. Their motions are very slow, same as of other objects of Venusian fauna. Three amisadas are seen on fragments of the *VENERA* -14 panoramas. Despite the *VENERA*-13 and *VENERA* -14 landing sites separated by a distance of 900 km from each other, amisadas are found in both places. By virtue of a close position of the objects to the TV-camera lens, low noise intrinsic to *VENERA*-14 images and sufficient number of the panoramas, relatively detailed images of amisadas were obtained permitting to follow their motion.

Keywords: *planet venus; venera missions ; astrobiology; space vehicles instruments.*

GJSFR-A Classification : *FOR Code: M19*

New Type of Hypothetical Venusian Fauna Found at the *Venera*-14 Landing Site

L. V. Ksanfomality [α], A. S. Selivanov [σ] & Yu. M. Gektin [ρ]

Abstract- The present study deals with one new form of hesperas, hypothetical living objects found on panoramas obtained on the Venus surface by the *VENERA*-13 and *VENERA* -14 landers in 1982. Novel hypothetical objects of Venusian fauna, called "amisadas", may belong to terramorphic living forms. At a cursory examination the amisada's body has the size of 12--15 cm. An amisada has a well-distinguished body that (when observed from above) resembles a fish. However, amisadas have organs of rest (and, probably, of motion) like reptiles. Their motions are very slow, same as of other objects of Venusian fauna. Three amisadas are seen on fragments of the *VENERA* -14 panoramas. Despite the *VENERA*-13 and *VENERA* -14 landing sites separated by a distance of 900 km from each other, amisadas are found in both places. By virtue of a close position of the objects to the TV-camera lens, low noise intrinsic to *VENERA* -14 images and sufficient number of the panoramas, relatively detailed images of amisadas were obtained permitting to follow their motion.

Keywords: planet venus; venera missions ; astrobiology; space vehicles instruments.

I. Introduction

Transmission of TV images is a commonly used modern method in both space research of celestial bodies and the search for extraterrestrial life in the Solar system. Nowadays, this method is intensely applied, e.g., for investigating the planet Mars. However, on the basis of the TV method, already 40 years ago, the Venusian surface was studied by the *VENERA* landers. In 1975, two landers of the Soviet *VENERA* series (missions 9 and 10) landed on the surface of the planet Venus. The TV investigation of the planet surface was one of the most advantageous experiments fulfilled on the planet's surface. Seven years later, in 1982, the *VENERA-13* and *VENERA-14* landers performed even more advanced studies.These experiments were aimed at studies of the most general features of the planet's surface. At that time nobody considered to search for traces of life in the Venusian carbon-dioxide atmosphere free of oxygen at a pressure of 9.2 MPa and temperature of 735 K. Now, the TV images obtained 40 and 33 years ago, were re-processed anew on the basis of modern codes, making images much more distinct. As a result, the images indicate the presence of strange objects that might be hypothetical forms of Venusian flora and fauna. Some of the found objects are closely reminiscent of the forms of Earth's living organisms. The similarity phenomenon is called terramorphism. Other forms are unfamiliar.

The fundamental question of philosophy of all times is whether there is life outside the Earth. Nevertheless the *VENERA* results are quite sudden. Experiments in *VENERA* television photography [1, 2] yielded in about 40 panoramas (or their fragments) of the Venus surface at 4 landing sites. After re-processing the pictures revealed a dozen previously undetected strange objects that can attest to the fact that Venus does possess hypothetical life. Materials shown in this paper demonstrate experimental results that involve re-processing of the original panoramas, without any retouching or corrections. For the moment, it is impossible to prove that the objects are alive in fact because they cannot be touched. However, the opposite is true also, that nobody can place errors into the processing of the images. A sense of critical arguments boil down to the famous humorous statement of A.P. Chekhov, in his 'Letter to my neighbor-scientist': "this cannot be, because it never can be." Subconsciously, all positions of critics have been based on variations of the statement: only the Earth's conditions are suitable for life. Based on this idea, limited "habitable zones" are drawn in schemes of extra solar planet systems and are under the study of theoreticians. No other possibilities are considered.

During the 40 and 33 years that passed since the time of TV experiments employing *VENERA* landers (1975 and 1982), no similar experiments or missions to Venus have been performed by any space agency. In connection with the renewed interest in what was occurring during the experiment and to the discovery of manifestations of possible life revealed on some of the pictures, the remaining part of panoramas were re-examined too. A train of papers [3, 4 and others] published in 2012-14 presented some data on the hypothetical Venus fauna and flora that survives under physical settings that are radically different from the Earth's.

Author α: Space Research Institute of the Russian Academy of Sciences, Mosco. e-mail: ksanf@rssi.ru.

Author σ ρ: OAO Russian Space Systems, Moscow.

II. On Possible Existance of Non-Terrestrials Living Forms and their Detection

The existence of life on Venus, at first glance, sounds absurdly. Physical conditions on Venus are incompatible with terrestrial life at all. It may be reminded that the Venusian atmosphere almost entirely is composed of carbon dioxide (CO_2, 96,5%) and nitrogen (N_2, 3.5%). Cloud layers located highly in atmosphere consist of micron-size droplets of concentrated sulfuric acid. Surface temperature of Venus at its mean radius 6051 km is 735 K (462°C), and pressure is 9.2 MPa. In many sites, the planet surface is similar to solidified lava. The daytime illumination attains 5--10 klx and higher; blue light is absorbed by the atmosphere, and the sky tint is yellowish. The Sun disk usually is not seen through permanently presenting clouds. The duration of both the day and the night is 58.4 Earth days. A typical Venusian landscape (Fig.1) is a waterless, almost red-hot stony or loose surface, mountains, and, sometimes, craters and volcanoes.

A hypothetical waterless Venusian life, if it does exist, has to use biophysical mechanisms of metabolism and photosynthesis, which are distinguished from those of the Earth's life. Panoramic images of the Venusian surface were returned in the course of the Soviet *VENERA* missions in 1975 and 1982. In total, 41 images or their fragments were transmitted by the landers' cameras. Up to now, 11 or 12 unusual objects were found, analyzed, and discussed in relevant publications.

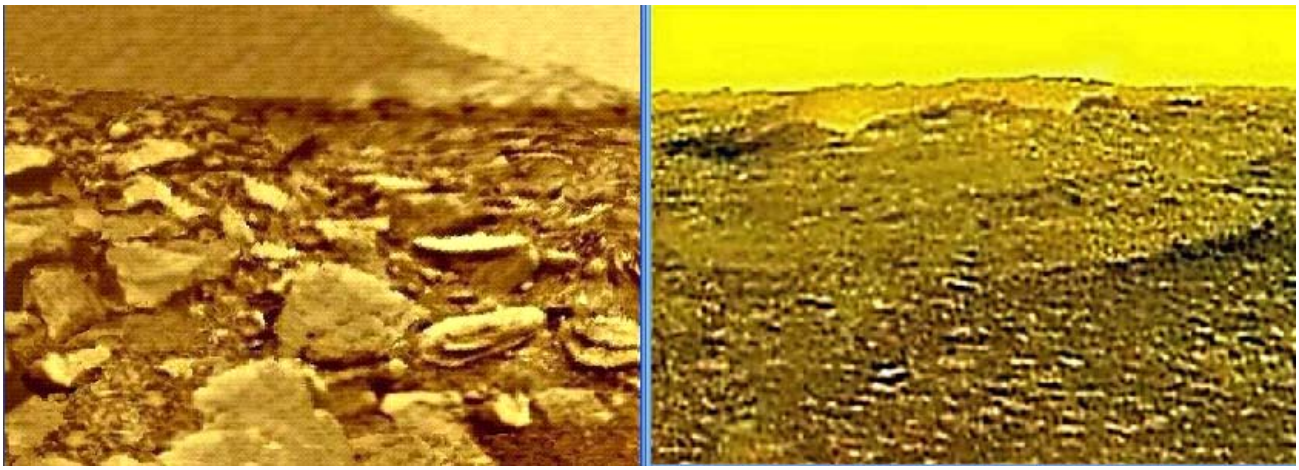

Figure 1 : Images of the planet's surface based on *VENERA*-9 and *VENERA*-13 panoramas at their landing sites (1975 and 1982) in modern processing

The re-processing of the images made it possible to detect novel unusual objects that could be signs of hypothetical life on the Venus planet. Compared to the *VENERA*- 13 landing site, the analyzed *VENERA* - 14 panoramas represent geological provinces of another type [2]. Object found on panoramas of *VENERA*- 13 were originally referred to as "hesperos" or "hespy" [4] (similarly to the case of the *VENERA* -13 landing site). However, described here unusually shaped objects, apparently, represent another hypothetical group of Venusian fauna. Similarly to [3-4] and for convenience of description, the specific nickname "amisadas" was proposed for this group of objects (an abbreviation from the name of ancient Babylonian king Ammizaduqa in Mesopotamia (XVI century BC). His astronomers used clay tablets in which apparitions of Venus were recorded. It should be noted that the processing of primary images to the level required to search for hypothetical forms of Venusian fauna and flora is difficult and a time consuming task. This is the fact that can explain, why the systematic study that began 6 years ago, in 2009, has resulted so far in 11 or 12 findings only of hypothetical objects. Up to now, the analysis is not completed yet; approximately a half of available images were studied. The amisadas are related to most recent results. Entities found in the present study strongly diverse in their shape so that, as a rule, to classify them to certain groups is impossible. Most easily is detection of terramorphic objects, like a Bear-cub, an Owl, a Mushroom and a Scorpion [4].

Nevertheless, even in these cases, it took long time to recognize an object presented in an insufficiently clear image. Certain kind of support occurred from the atlas of Earth's living forms. However, many objects that strongly differed from surrounding background are unusual so that there was nothing to compare. Of course, the possibility of artifacts associated with the interference of noise cannot be excluded, especially when images are noisy. In these cases, a very thorough analysis was required. An example is an object called Disk [4], which was detected in the BW-6 panorama transmitted from the *VENERA*-13 lander on the 87th--100th min upon landing. Panoramas of *VENERA* landers were studied for many years by both Russian and

foreign researchers. However, the amisadas are described for the first time. Therefore, the natural question arises, why no entities, even terramorphic were found previously? This fact can be explained by two reasons. The first one is that nobody was looking for them, although the earliest publication about it is dated by 1978. The second, more important reason is the necessity to develop novel processing methods that did not exist previously and the processing is very labour assuming. It is more difficult to explain, why a certain object could attract attention and be found out. Apparently, this is associated with individual features of the image perception for different persons. These properties are sharpened, e.g., at talent professional photographers of nature, who are capable to notice and fix unusual images or compositions ignored by other people.

III. Collecting and Processing of Experimental Data

Images published soon after the completion of the *VENERA* missions were obtained on the basis of single or combined black-and-white or color-divided panoramas (Fig.1, left and right parts). There are some primary raw images not studied yet. Detailed information on TV experiments on the *VENERA*-13 and *VENERA*-14 landers was published in [2-4] and is not repeated here. Different from cameras 1 of the *VENERA*-13 and *VENERA* -14 landers, the cameras 2 transmitted a full black-and-white image and then in turn, colored fragments of right and left parts of the panoramas, 14 fragments taken by each camera. They consist 4 consecutive series of repeated groups of images numbered as 1, 6, 9, and 13. According to the arrangement and positions of noises and defects, series 6 could be a re-transmitted series 1, and series 13 - a retransmitted series 9, although they have certain differences. Each series includes a number of panoramas. On the most successful images, noise is low, which allows using efficient processing methods and combining different images. As a result, the images quality was improved noticeably. Figure 2 show an example of primary processing steps of most successful panoramas for series 1/6 and 9/13 in which identified fragments were selected.

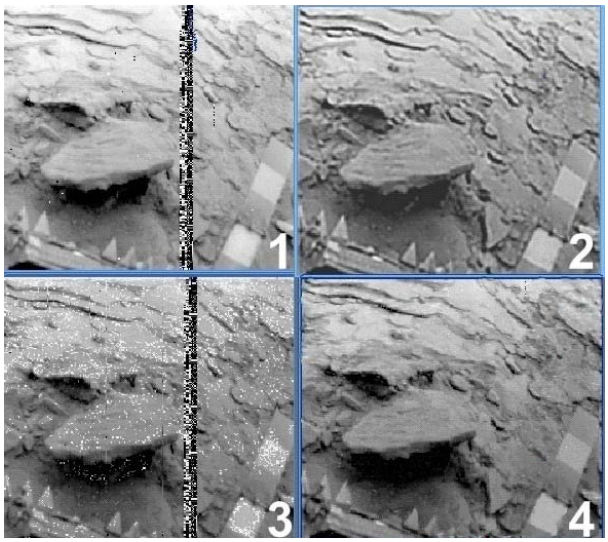

Figure 2 : Illustration of primary-processing methods for selected fragments of Venusian surface panoramas: (1) and (3) are initial images at the *VENERA*-14 landing point (camera 1); (2) and (4) correspond to the eliminated insets and partly eliminated noise

Images 1 and 3, respectively, correspond to original fragments with a very low (1) and middle (3) noise levels. The vertical band is a telemetry data inserted from other devices. In images 2 and 4, inserts are replaced by sections taken from other panoramas of the same series and noise interferences are removed. The fragments obtained admit further significant improvement of sharpness and clarification of fine details. To this end, four methods were employed: application of an unsharp-mask and the functional-sharpness methods; use of the correlative-stacking operation; and an improvement of the sharpness by consistent application of the "blur-sharpening" operation of standard WORD and WINDOWS software. All these approaches are known sufficiently well and a significant number of relevant codes are proposed for each of them.

IV. Amisades

Results of the above operations (and of other less significant ones) are presented in Fig. 3 for series 1/6 (on the left) and for the series 9/13 (on the right). The improved clarity of images made it possible to detect objects not recognized previously. The layered structure

of the surface with numerous cracks is clearly seen. The color-control panel (on the right) provides the scale size with each its field being a square of 10 x 10 cm^2. The distance between the teeth on the landing buffer is 5 cm. Thus, the size of the large stone in the foreground is about 50 cm.

The amisada-1 object is located on the left to the large stone, in a small alcove at the left edge of the picture and is positioned favorably being close to the camera lens, at a distance of 1.2 m. The amisada is seen at an angle of about 60° to the horizon and represents an elongated bulky body, 12 cm long, resembling a fish if observed from above. Its frontal part (on the left) terminates by a regular structure. As a result of the first attempt to clarify the amisada's structure, the image shown in Fig. 4 was obtained. The first amisada position is marked by white ring.

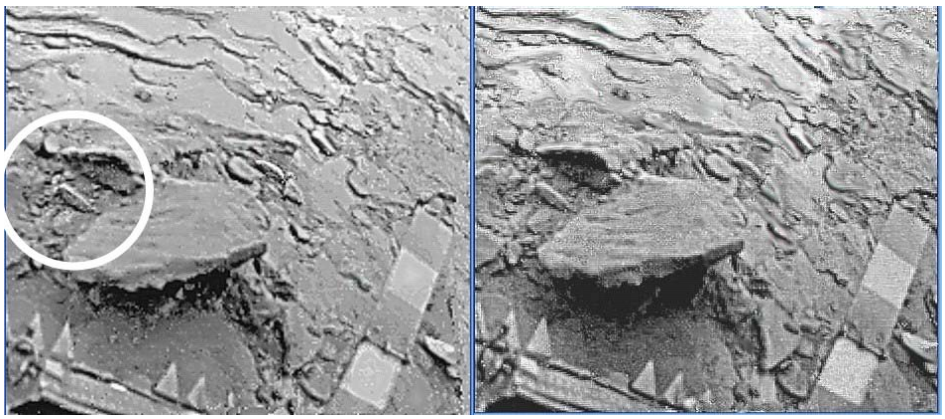

Figure 3 : Advanced methods of processing Venusian surface panoramas improve their sharpness and make it possible to identify objects missed previously. On the left: processed image of the *VENERA*-14 panorama fragment (camera 1, series 1/6); on the right: the same fragment on panoramas of series 9/13.

The regular structure of the amisada's "head" (left part) consists of isolated unresolved elements forming a round crown-like semi-circle salient, at 2--3 cm from the amisada's body. At the right, the amisada is terminated by a short narrow appendage similar to the hespy's tail [4]. Of interest is the lower part of the amisada. Combining parts of images obtained independently and presented in Fig. 3. The more detailed view of the fragment is Fig. 4, where geometry is corrected in part. According to the image, the amisada rests on the projecting parts of its body, their number at this side can attain 3 or 5. The apparent inclined position of the body in Fig.3 is explained by geometry of the image, namely, by the 50° tilt of the camera axis. In Fig.4 under the object a deep shadow is seen, which indicates the volume character of this object.

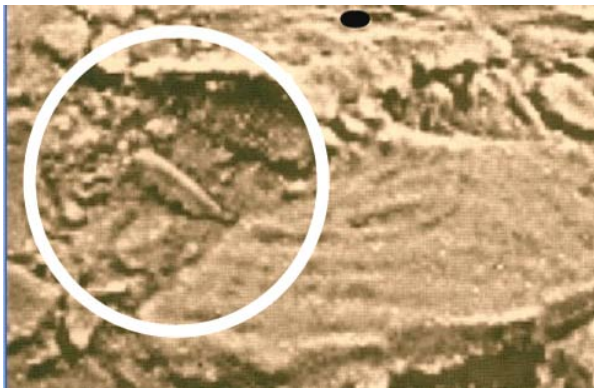

Figure 4 : Amisada-1: a supposed object of Venusian fauna. Its size is about 12 cm. The left side of the amisada, a "crown", is surrounded by a structure resembling a tilted semi-circle consisting of individual non-resolved elements.

The detailed analysis of Fig. 3 allows to suppose that there is a second amisada located roughly twice as far as the first one. The second amisada is arc-shaped and is seen also in Figs. 3 and 5 (black arrow). Apparently, amisada 2 is a bit larger than the first one. It was found by animation methods that for the observation time, the amisada-1 displaced a bit (for few cm) and inclination of its "crown" changed. The number of high-resolved BW-images is insufficient for a more detailed conclusion; as for the color-divided panoramas they included only the right part of the amisada 1. In any case, estimates given in [3, 4] for the maximum movement velocity characteristic for Venusian fauna, namely, about 1 mm/s, is not exceeded here. Figs. 3-5

show that both amisadas are located in small depressions.

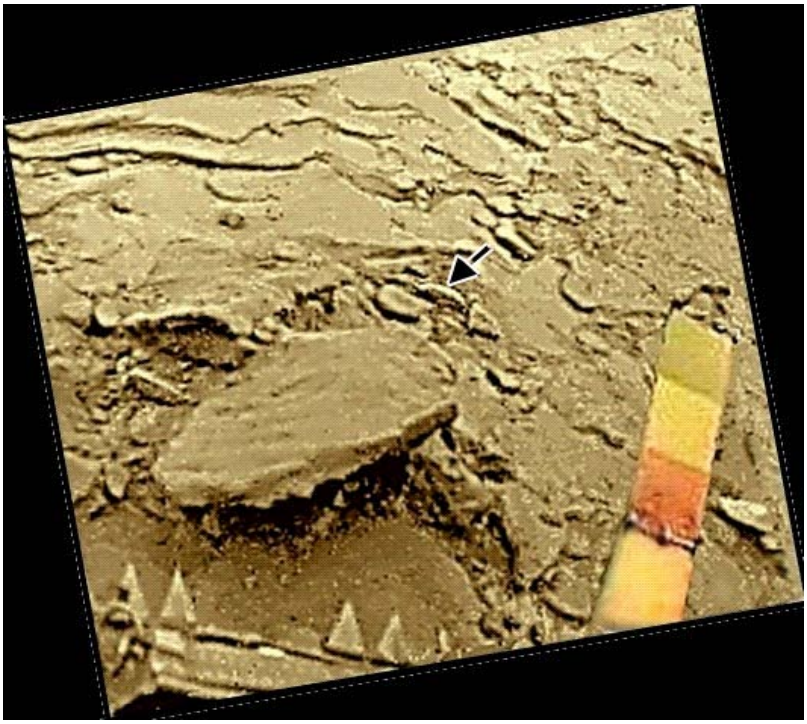

Figure 5 : The high sharpness image stacked of two parts of Fig. 3. The "crown" formed by individual elements is not of a random nature and relates to amisada in itself. A possible second amisada is indicated by black arrow.

Regular and similar shapes of the amisadas and their mutual proximity underline their reality. Due to the larger distance to amisada 2, its lower part is not completely visible. For amisada 2, its total length attains about 15-16 cm.

V. Spotty Amisada

The image resolution is insufficient for attributing it to objects considered above. The most interesting object is a spotty amisada that has been found at the central part of the *VENERA*-14 panorama, left side of fields shown in Figs. 3 and 5. This spotty amisada is located just at the landing buffer, is marked by the white circle in Fig. 6 and is the closest to the lens of camera 1, being observed from above at an angle of about 80° to the horizon. In Fig.6a, a single image of the amisada is presented, which corresponds to about the 30th minute of activity of the TV camera of the *VENERA*-14 lander.

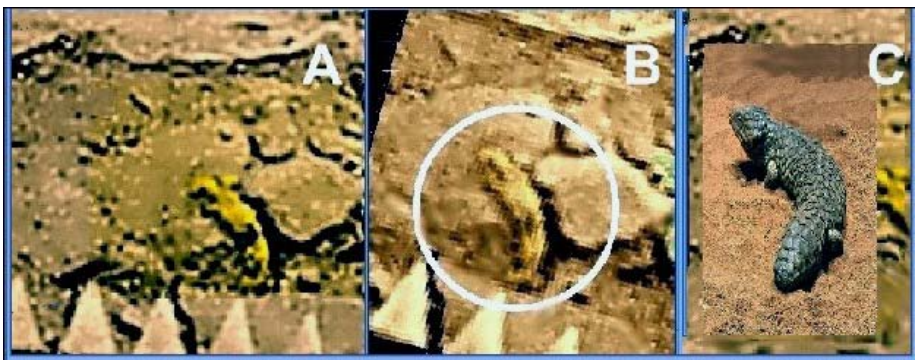

Figure 6 : (a) Amisada climbing up a stone, (b) stacking of 6 original fragments of *VENERA*-14 panoramas, (c) sluggish Australian Shingleback lizard whose size and shape resemble the amisada

The distance between the spotty amisada and amisada-1 attains approximately 0.4 m and the spotty amisada is, apparently, seen in motion. Seemingly, it is climbing up or creeping on a 5-8-cm stone. The upper part of amisada is located on the flat surface of the stone, and the lower part envelops a ledge. Of course, it cannot be excluded that spotty amisada does not go up but comes down from the stone. Its crown is scarcely

seen and manifests itself presumably by an additional processing of initial images both as a semi-circular shadow at the upper part of the amisada and several hardly distinguished points above it. Therefore, if the crown (shown in Figs. 4, 5) is considered as a signature of the amisada's head part, it is actually climbing up onto a stone. Since each image line takes 0.78 s, blurring of the crown image could be caused by the wind above the stone surface (in contrary, the amisadas 1 and 2 were positioned in depressions). Two small protrusions at both sides below the amisada's "head" could be its forelimbs. In general, it resembles actually an Earth lizard climbing up to a rock, which again indicates the surprising terramorphism of Venusian fauna. Spots on the amisada's body in Fig.6 are more distinctive than in Figs.4 and 5. An oblong spot is seen on the "head", dark spanning bands are visible at its central (at the bend) and lower parts. The length of the amisada is about 10-12 cm (excluding the crown).

The images of the amisada were additionally processed, which made it possible to see the motion of its upper part as a sequence of six sequential positions. Animation of 6 subsequent frames for spotty amisada has made it possible to detect a small displacement of light and dark parts of its "head". Position variation of the upper part of the amisada is shown in Fig.7 as changes in the direction of arrows. Here, fragments of the six available panoramas are given. The images are presented in chronological order, with the intervals between them being, on average, of about 13 min.

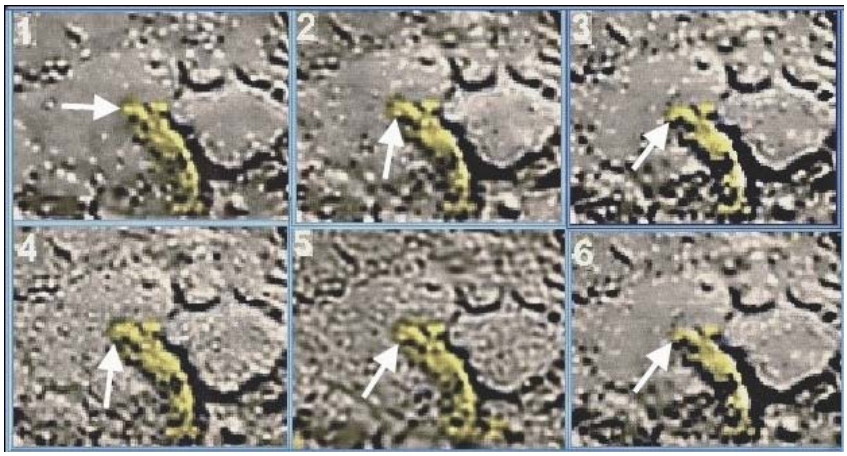

Figure 7 : Amisada at landing buffer of the *VENERA* -14 lander. Shown are processed fragments of initial panoramas. Arrows direction indicate and repeat the sequence of positions of the front (upper) part of the amisada, which in size and motions resembles a semibent finger. (All initial images are black-and-white.)

In frame *1* of Fig. 7, the upper part fragment of the amisada is directed to the left (9 h), whereas the shadow under it is almost absent. We should recall that for scattered natural illumination on the Venusian surface, shadows appear only in the case of low positions of an object with respect to the surface. In this case, the altitude of the object above the surface should be comparable to its size. Most likely, the absence of a shadow indicates that the object's part is lifted above the surface. In frame *2*, the amisada's upper fragment is displaced along the 7 h direction, and a small shadow is present. Finally, in frame *3*, the edge fragment corresponds to, approximately, the 8 h direction with a deep shadow under it. Further variations are given by the frame sequence *4* to *6*. The size and displacements of the fragment are close to those of a human finger and its motions. (The procedure of the search for, discovery, and processing of images of terramorphic objects are described in [3, 4].)

For 1.5 hours, the head gradually shifted first for 2 and then - for 2 or 3 image pixels to opposite sides. At a distance of about 85 cm from the camera lens and for a resolution of 11', the displacement corresponds to 1.1 to1.3 cm. So the displacement, in itself, attains 3 cm. In this case, the speed of the motion is significantly lower than that mentioned in [4]. It is closer to 1 mm/min, rather than 1 mm/s. This value seems may be housekeeping action (looking for food?) of the spotty amisada, rather than its speed of motion that any case, is very slow.

Thus, three amisada-type features were found at the *VENERA*-14 landing site. Classification of amisadas as forms of hespies, which had been proposed in [7] for panoramas of *VENERA*-14, likely, was wrong. The body of a hespy is flattened and twice as long as that of an amisada. The amisada's body is thicker and flexible, as can be seen from Figs. 6-7. Apparently, these were amisadas but not hespies that had been shown in [4].

VI. Amisadas on *Venera*-13 Panoramas

Amisada-like forms were also found in *VENERA*-13 panoramas. The object shown in Fig.8 was too far from the camera so that the resolution of the image was insufficient to recognize fine details. The shape of the object was reconstructed by the more rigorous

processing using all available images repeated in successive panoramas.

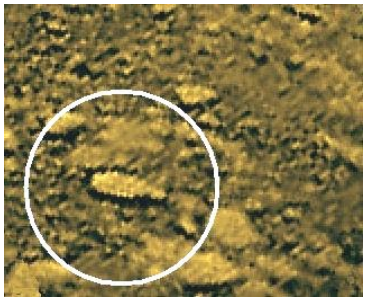

Figure 8 : Fragment of the *VENERA*-13 panorama with an object shown that can be identified as an amisada, upon further processing

The above-listed processing methods were applied. A small shift of successive images within a single pixel results in an additional improvement of the resolution.

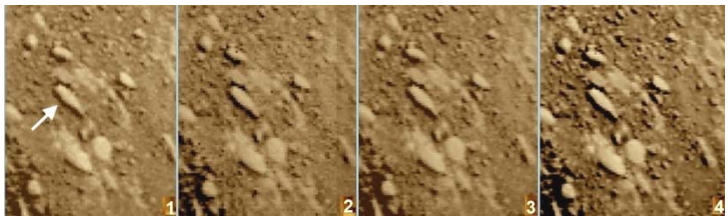

Figure 9 : Processing of successive images (1-4) of the object shown in Fig. 8 (arrow) and steps of their stacking

Of course, the image cannot be better than that contained in original images. Figure 9 illustrates the step-by-step improvement of images obtained. Frame 1 with an arrow corresponds to the processed version of Fig.8. Further, the same fragments but taken from other panoramas (2--4) were involved in the processing. The methods employed improve significantly the quality of images, which is demonstrated by final image in Fig.10.

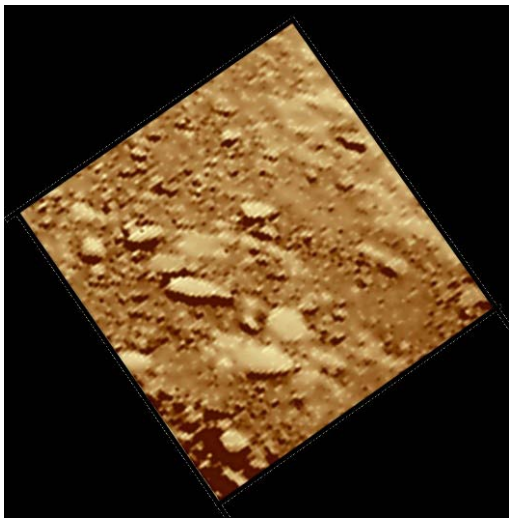

Figure 10 : Result of processing of the fragment of *VENERA*-13 panoramas upon employment of all available images

Thus, one may assume that the elongated body shown in Fig.10 actually is an amisada rather than a stone or hespy. However, the resolution is insufficient for detection of fine details such as crown, spots, and other characteristic features of the object, which are more confidently traced on *VENERA*-14 panoramas (Figs. 3-7).

VII. Conclusion

For thousands of years, humanity has wondered whether there is life outside the Earth. In this paper details are thoroughly described of hypothetical fauna pattern of Venus, found on panoramas of the *VENERA* -14 lander, that were returned from the planet

Venus 33 years ago. The objects for which a nickname "amisada" is proposed have terramorphic features and resembles Earth' lizards. The amisadas when viewed from above, are well-distinguished fish-shaped bodies, however, supplied by limbs of support (and, probably, of motion). The amisadas seem are similar to reptiles by their shape. The structure and purpose of the amisada's body part, resembling a crown, is not clear. The crown consisting of isolated elements forms the forward (or may be back) part of an amisada. A limited fragment of the panorama, presented in the text, contains images of three amisadas. Their motion is slow and similar to motions of other objects of Venusian hypothetical fauna. Probably analogous objects were found on panoramas of *VENERA*-13 too, that landed at a distance of 900 km from the landing site of *VENERA* -14.

If the hypothetical Venusian fauna is heterotrophic, the source of its existence should be hypothetical autotrophic flora. Direct rays of the Sun, as a rule, do not reach the surface of the planet, nevertheless there is enough light for photosynthesis of the Earth-like type there. In the case of the Earth, a diffuse illumination of 0.5-5 kLux is sufficient for photosynthesis. The measured illuminance on Venus is of the same order, at the range of 0.4 to 9 kLux. Of course, photosynthesis at high temperatures and in a non-oxidizing environment should be based on a completely different, unknown biophysical mechanism.

Certain forms of assumed Venusian fauna exhibit surprising similarity to the living world of the Earth. We call this strange repetition of terrestrial forms terramorphism. The discovery of this phenomenon is no less important than that of the extraterrestrial life itself. Certainly, the phenomenon relates to most deep problems of the search for life in the Universe.

Initially, the experiments performed by *VENERA* landers were aimed at accumulating general information on the Venusian surface. However, the results obtained make it possible to consider these experiments as a revolutionary step. The next important problem now becomes the urgent realization of a new special mission to explore the surface of Venus for hypothetical fauna and flora existing on the planet. This mission should be of a particular directivity and significantly more complicated than the previous *VENERA* missions. Nevertheless, progress in science and technology attained during the past 33-40 years, allows the undertaking of this task to be quite realistic.

References Références Referencias

1. Selivanov A.S., Gektin Yu.M., Chemodanov V.P. *et al.*, TV Experiment on the Venus Surface // *Kosmicheskiye Issledovaniya*, Vol. 14, No. 5, 1976, pp. 674-677.
2. Selivanov A.S., Gektin Yu.M., Gerasimov M.A. Continuation of the TV Investigation of Venus surface by means of landers // Kosmich. Issled., Vol. 21, pp.176-182, 1983.
3. 3 Ksanfomality L.V. Possible Detection of Life on the Planet Venus.// ISSN 1028-3358, Doklady Physics,57, No. 9, 367-372, 2012.
4. 4 Ksanfomality L.V. Possible Signs of Life on the Planet Venus // International Journal of Astronomy and Astrophysics (IJAA), Vol. 3, pp. 57-79, 2013.