
# Carnicom Institute Research

2014

# Acknowledgements

## Mission Statement

Carnicom Institute is a non-profit organization working solely for the benefit of humanity. Our goal is to provide the public with beneficial and responsible information through scientific, educational, environmental, and health research for the public welfare. The Institute has devoted significant effort to the important issues of geoengineering and bioengineering.

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# The New Biology – Carnicom Institute

carnicominstitute.org/the-new-biology/

## The New Biology

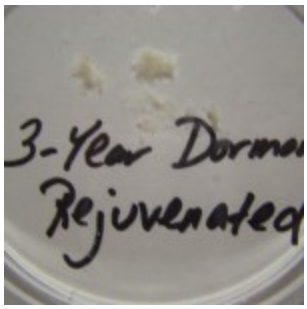
### Clifford E Carnicom

**Jan 18 2014**
**Edited Apr 09 2014**
**Edited Nov 28 2015**

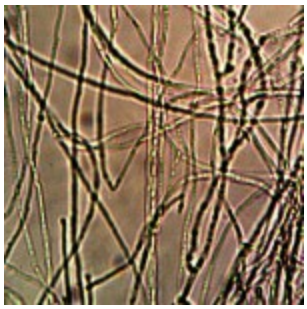
It is generally perceived that the so-called “Morgellons” issue is primarily, if not exclusively, a human condition. It is not. It will be found that this condition actually represents a fundamental change in the state and nature of biology as it is known on this earth. The evidence now indicates and demonstrates that there is, at the heart of the “condition”, a new growth form that transcends, as a minimum, the plant and animal boundaries.

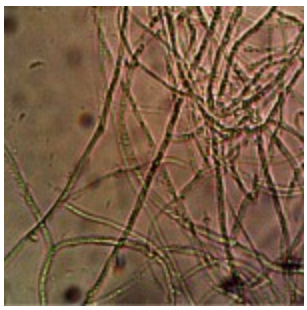
The precedent for this argument was made some time past in the paper entitled “Morgellons: A New Classification” (Feb 2010); the central theme of that paper remains valid at this time. The very classification of the domains of life is central to that paper. Readers may also wish to refer to the papers entitled, “Animal Blood” (Jan 2010) and “And Now Our Children” (Jan 2008), where additional precedents were established. The August 2011 video presentation, “Geo-Engineering & Bio-Engineering: The Unmistakable Link” is also relevant here.

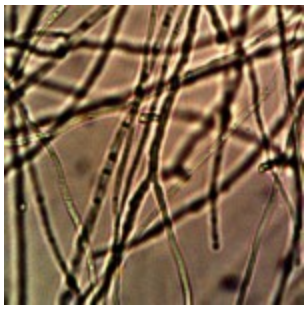
It is to be accepted that this growth form appears to be ubiquitous in the environment, food supply, plants, and animals and that the reference frame for its existence must be fundamentally changed to be in accord with this reality.

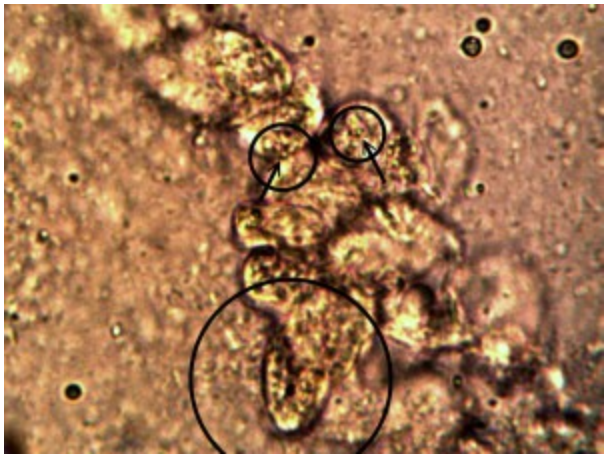

Macro view of variable source culture growths. Human oral filament culture to left, potato filament culture in middle and to the right, the rejuvenation of a dormant culture from a three year old lye extract solution. Dormancy is established with extremes in temperature, lack of moisture, or caustic chemical environments, as reported earlier. Growth medium in all cases is a fructose and iron sulfate solution under incubation. The cultures are identical in view, structure and growth characteristics. Period of development and growth is approximately 2 weeks. Click on photos to enlarge.

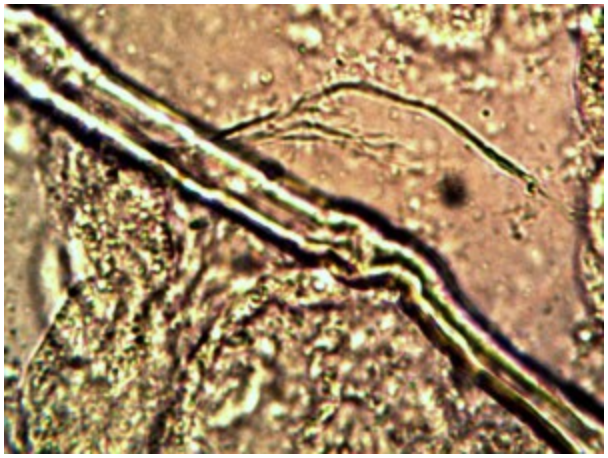


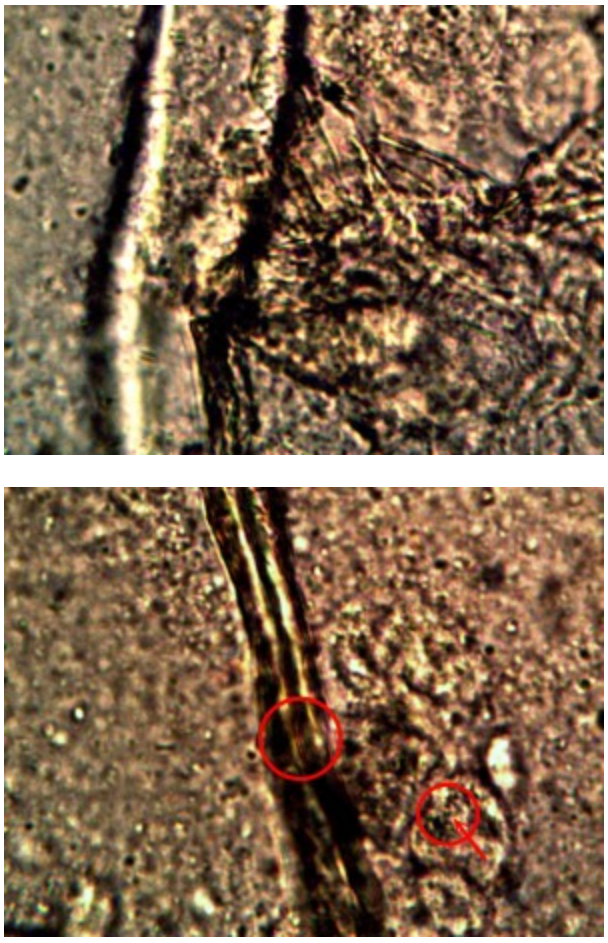




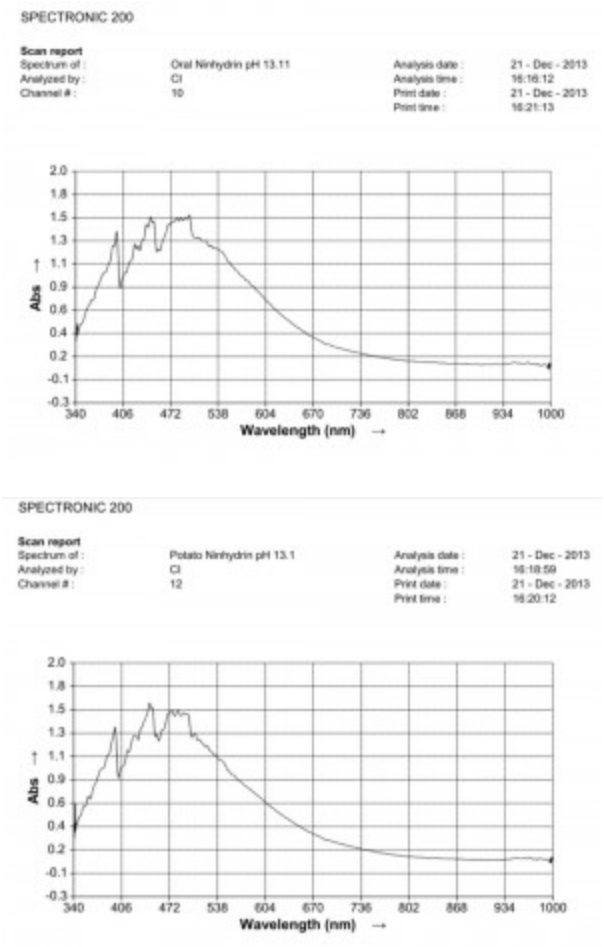
Microscopic views of the three variable culture types from above (left-oral sample culture, center- potato culture and right-rejujvenated dormant culture) under high magnification.  All cultures are identical to the sub-micron level including external sheath and internal bacterial-type form.  Click on photos to enlarge.  Magnification : approx. 5000x.



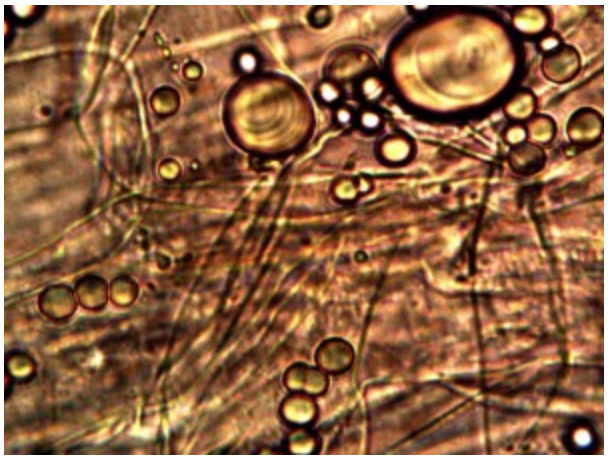


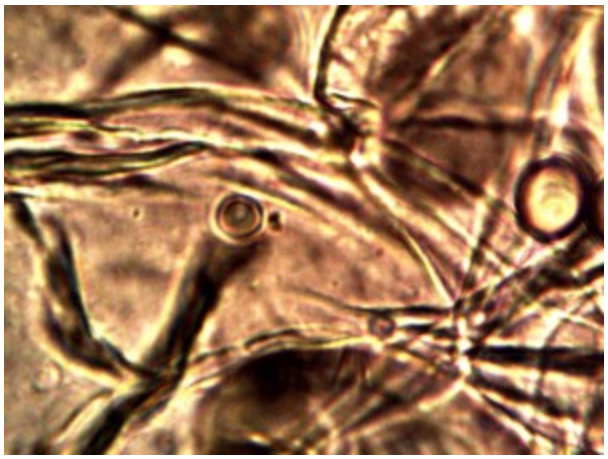


Calf liver examined.  Calf liver shows presence of identical filament and bacterial-like structures.  Growth forms are not unique to the human species; the food supply, animal and plant kingdoms are under equal consideration for the presence of the live form.  Abundant fat cells observed embedded with countless bacterial structural form, as in top left image.  Image to top right shows presence of filament form, fat cells and embedded bacterial forms in large numbers.  Lower left photograph demonstrates primary filament form with secondary filament structure under development.  Lower right photograph shows sub-filament structure within primary filaments.  All forms and structures identical to those observed within human samples. Two separate slide preparations examined; filament structures located after extensive study of both slides. This liver sample has also rapidly produced a viable and representative filament culture growth within the span of a few days.  Click on photos to enlarge.  Magnification : approx. 5000x.

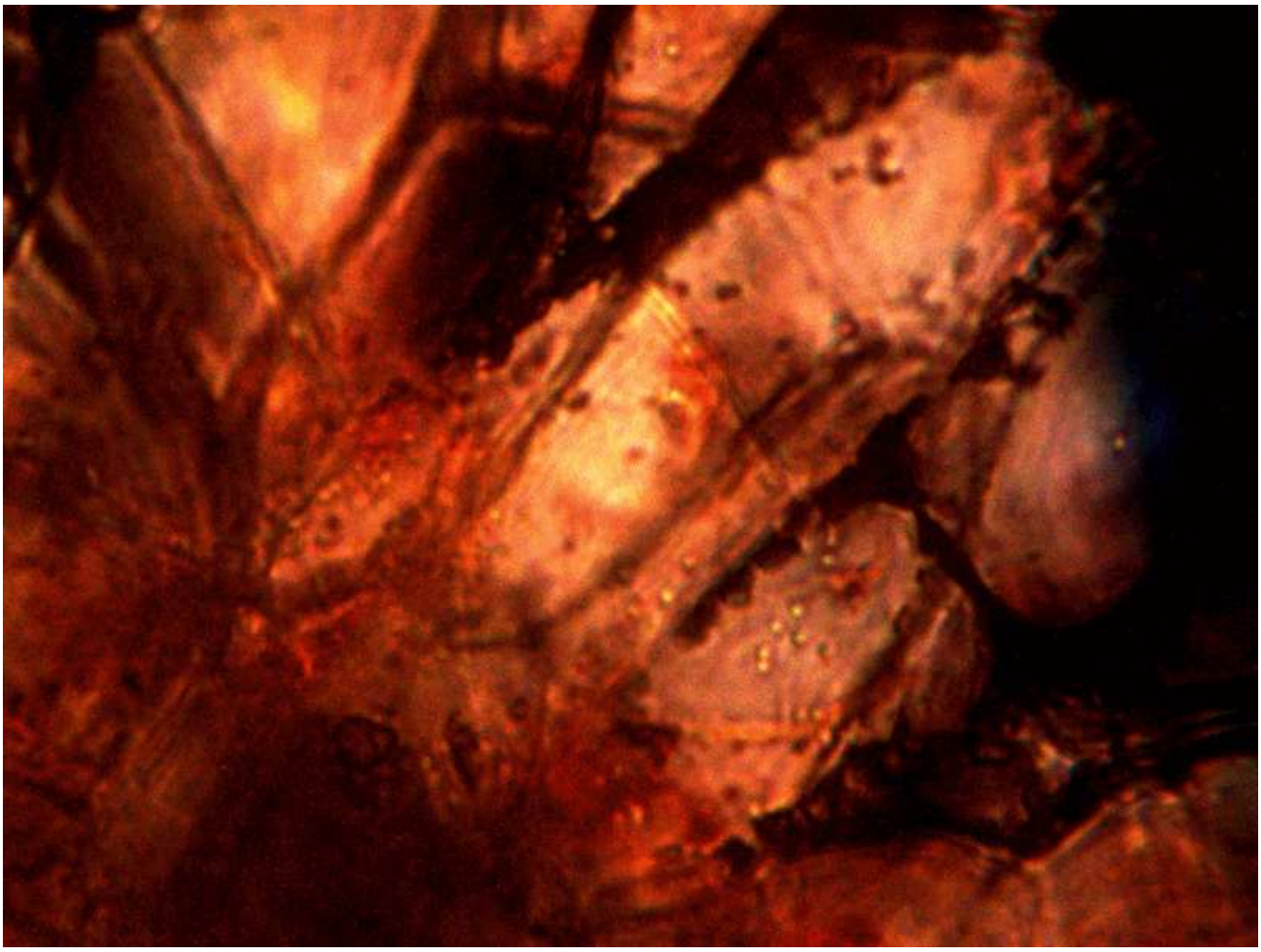



Comparison of ninhydrin visible light spectrometric analysis of oral filament sample culture and potato filament culture. Results are identical to a remarkable level. Method involves: 1. Incubation of cultures for approximately 2 weeks in a fructose-iron sulfate solution. 2.Cultures extracted and placed within a sodium hydroxide-potassium hydroxide boiling water bath for approximately 15 minutes; a rich burgundy solution will result from the essentially colorless filament form (refer to paper entitled, “Environmental Filament Penetration, C.E. Carnicom, Jan. 2013). 3. Further extract approx. 15 drops of this colored solution into approx. 4 ml. distilled water with 5 drops ninhydrin solution added; heat again for approx. 15 minutes in hot water bath. 4. Second deep-colored reaction will occur due to amino acids present in solution; spectral analysis is then conducted at this stage. This method further substantiates the identical visual, metric, and chemical comparisons of the incubated oral and plant based filament culture forms.

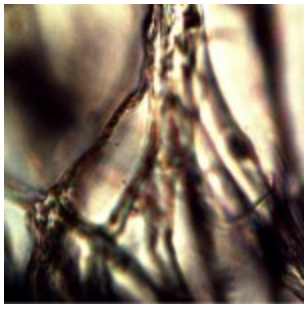


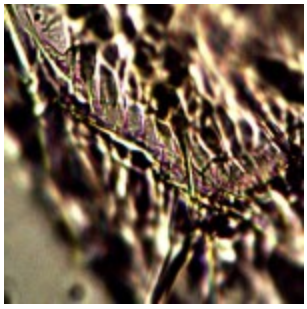


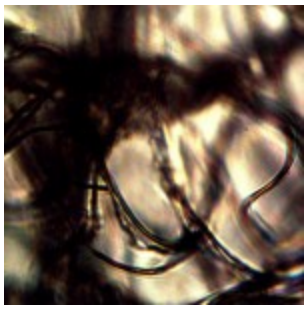
Examination, to the left, of thin (”organic”) potato slice showing background cellular structure and several starch cells in the upper right quadrant.  Notice presence of intermeshed filament stucture overlayed or crossing cell wall boundaries.  Microphotograph to right demonstrates equally the presence of an internal sub-micron filament network.  This photographic examination prompted the more thorough investigation of plant and food supply issues, and the development of alternative cultures for comparison to human sample cultures.  Click on photos to enlarge.  Magnification : approx. 5000x.

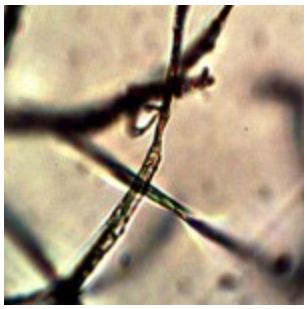


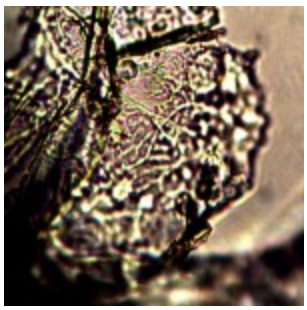
Time lapse microscopic views of carrot cells.  Motile bacterial-like structures are especially visible and evident in cell in lower right quadrant.  Click on photos to enlarge.  Magnification : approx. 5000x.

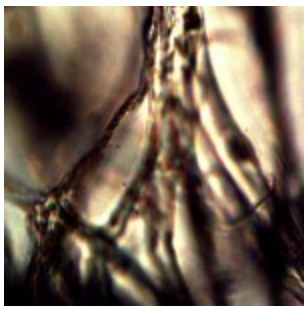




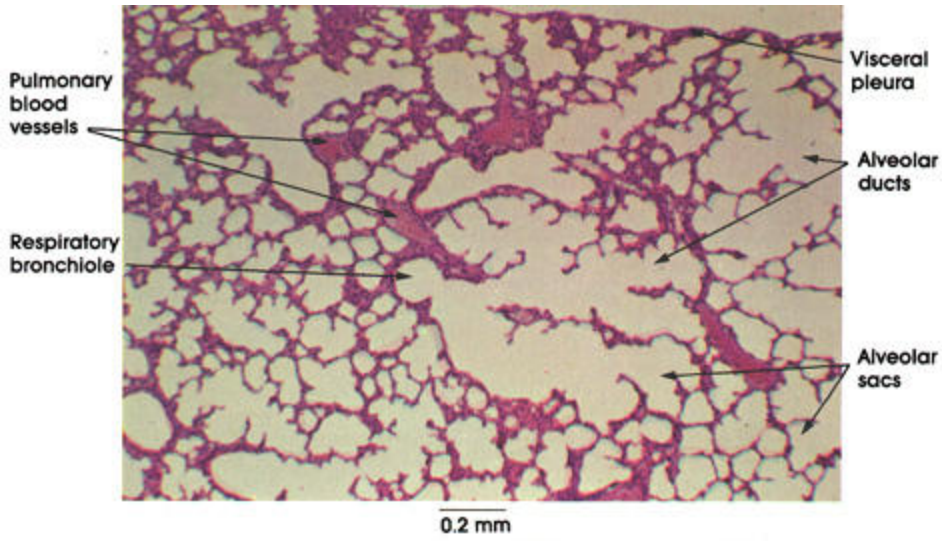






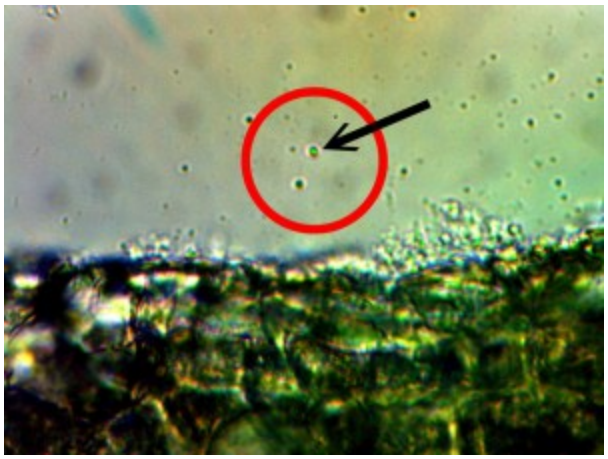


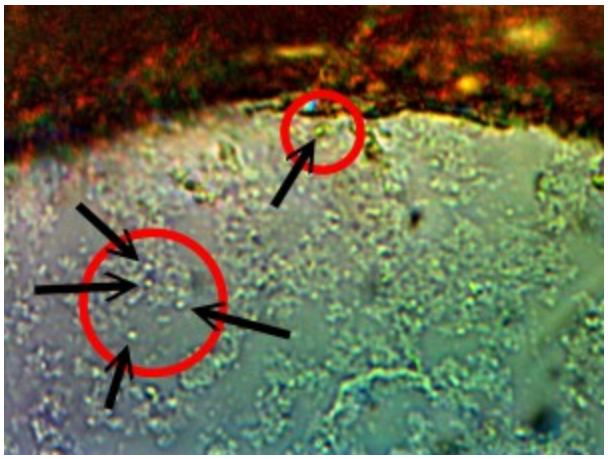
Microscopic views of dried swine lung sample.  Extensive filament network exists within sample; the filament forms are identical in structure, form and size to plant, human and animal samples.  The pig lung also rapidly produces a viable and identical filament culture within the sucrose-iron fluid environment.  Click on photos to enlarge.  Magnification : approx. 5000x.




Reference prepared slide of lung tissue from www.anatomyatlases.org. No extensive filament network visible at this level of magnification or known source for its existence in a control photograph.

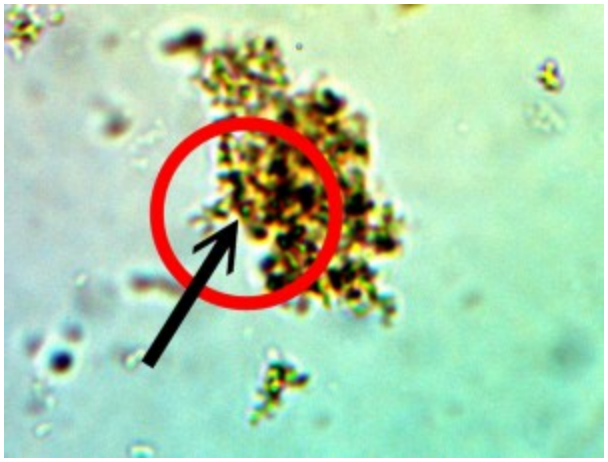
Diseased rhododendron leaf received for observation and study with respect to the bacterial-like forms. This sample is to be examined under the microscope to further assess the extent of distribution on the conditions reported above.





Identical bacterial-like forms located within the rhododendron sample. The rhododendron leaf is a more difficult sample to prepare due to the thickness and density of the leaf; sufficient visiblity was acquired, nevertheless, with the use of the microtome. Ease of observation and examination occurs primarily at the leaf edge, and numerous regions of the bacterial-like forms were identified. Isolated examples are shown above as outlined. Magnification approx. 5000x.

Perpetuation and confirmation of the original growth form within the rhododendron leaf through the culturing process. The existence of bacterial-like forms within an additional plant form, i.e., ornamental, is confirmed. The age of the culture is one day. The rhododendron culture has also produced the filamentous form within approximately one week of time; it is therefore in keeping with all observations and conclusions stated on this paper. Original magnification approx. 5000x.



This work demonstrates that the “Morgellons” situation has been completely understated and underestimated in its significance and distribution. It is no longer to be considered as unique to any life form or species. The term itself, as commonly interpreted to represent a condition or disease, is inadequate to encompass the scope of impact to the biology of the planet. The nominal attention to classification and nomenclature of the life form by the scientific

community is also long overdue, and this community will soon be forced to enter into that review process.  It is recommended that such nomenclature capture the true nature of this life form, as it is now known to cross the domains of biological existence on this planet.

Note: Appreciation is extended to Ryan Hannigan for his provision of the rhododendron sample for comparative analysis.  Readers may wish to stay attuned to any further developments from Ryan's research that is under development, including that of botanical study.  CEC

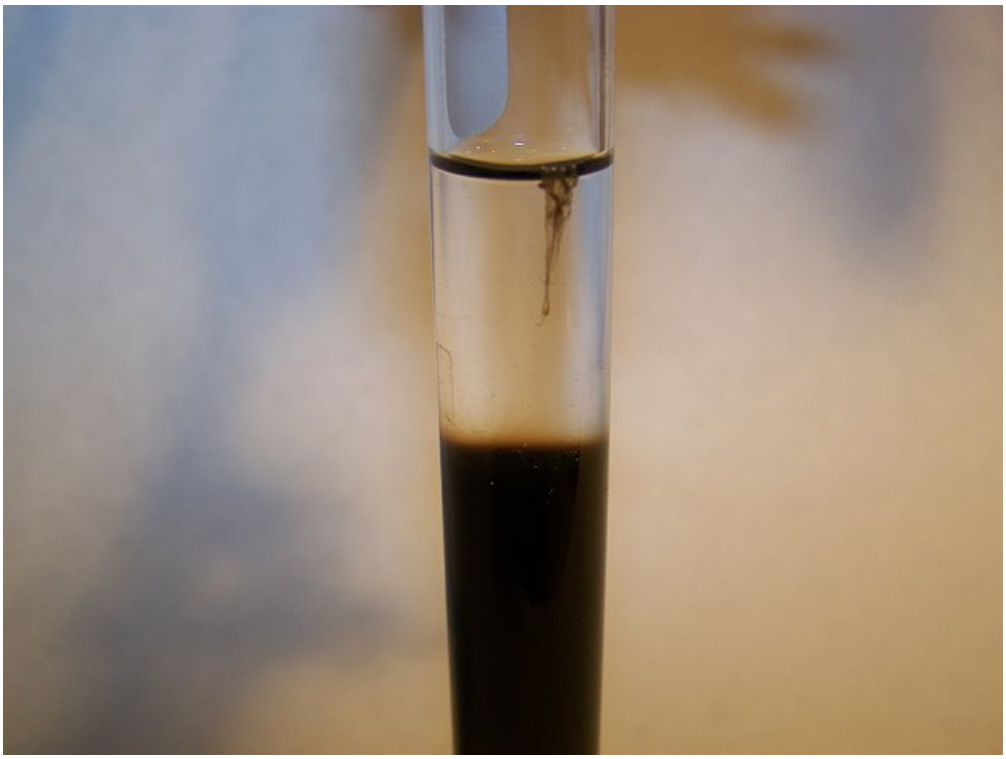
# DNA Isolated



**DNA Isolated**

Clifford E Carnicom
January 24 2014

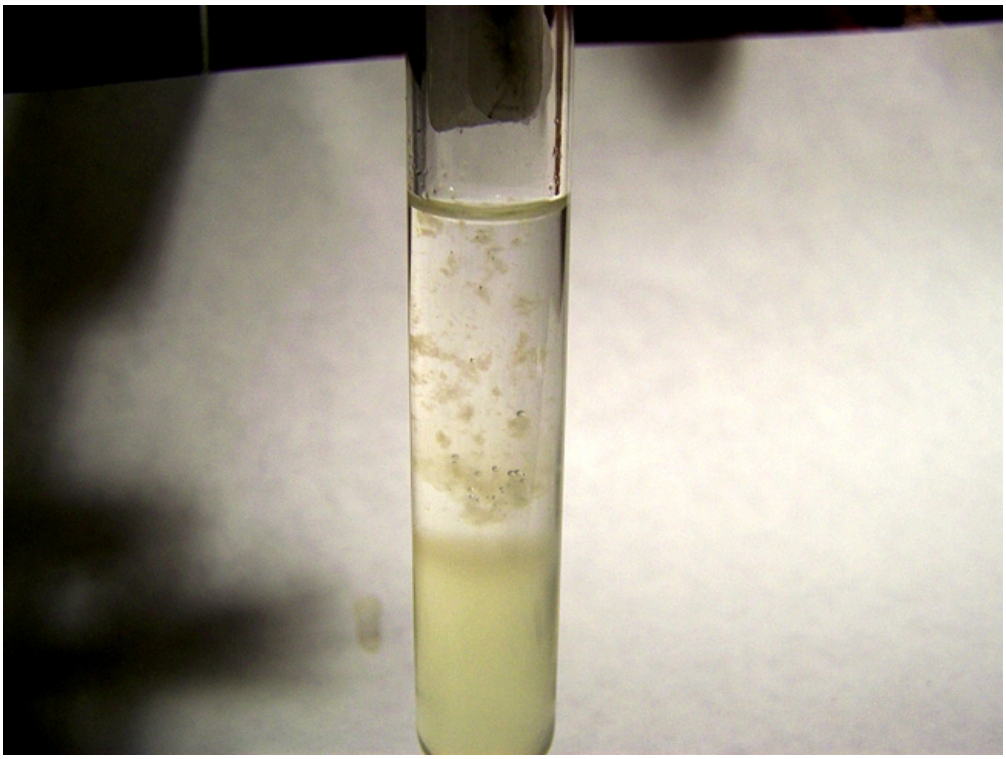
DNA has been successfully isolated from cultures that have been developed. The samples are based upon the cross-domain bacteria isolation methods referred to previously. The tests have been repeated on numerous occasions with identical positive results. The methods use classical methods of DNA extraction. These methods involve the mechanical or chemical decomposition of the original biological material and the use of salt, ice, detergents, enzymes and ethanol.



The material at the upper portion of the test tube shown, in ethanol, is DNA extracted from a culture based upon oral filaments in association with the so-called “Morgellons” condition.

Second sample test of DNA isolated from oral filament culture.

Collected DNA from several cross-domain bacteria culture sample runs.



Control photograph of the DNA isolation process with onion. Identical results of DNA production with the same chemical techniques involving breakdown of original biological material, use of salt, detergents, enzymes and ethanol. A more dense layer of DNA material is visible immediately above the alcohol-onion solution interface. DNA separates with this process, as shown, into the alcohol layer at the top of the test tube.

# Growth Inhibition Achieved



**Growth Inhibition Achieved**

Clifford E Carnicom
January 31 2014

*Note: I am not offering any medical advice or diagnosis with the presentation of this information. I am acting solely as an independent researcher providing the results of extended observation and analysis of unusual biological conditions that are evident. Each individual must work with their own health professional to establish any appropriate course of action and any health related comments in this paper are solely for informational purposes and they are from my own perspective.*

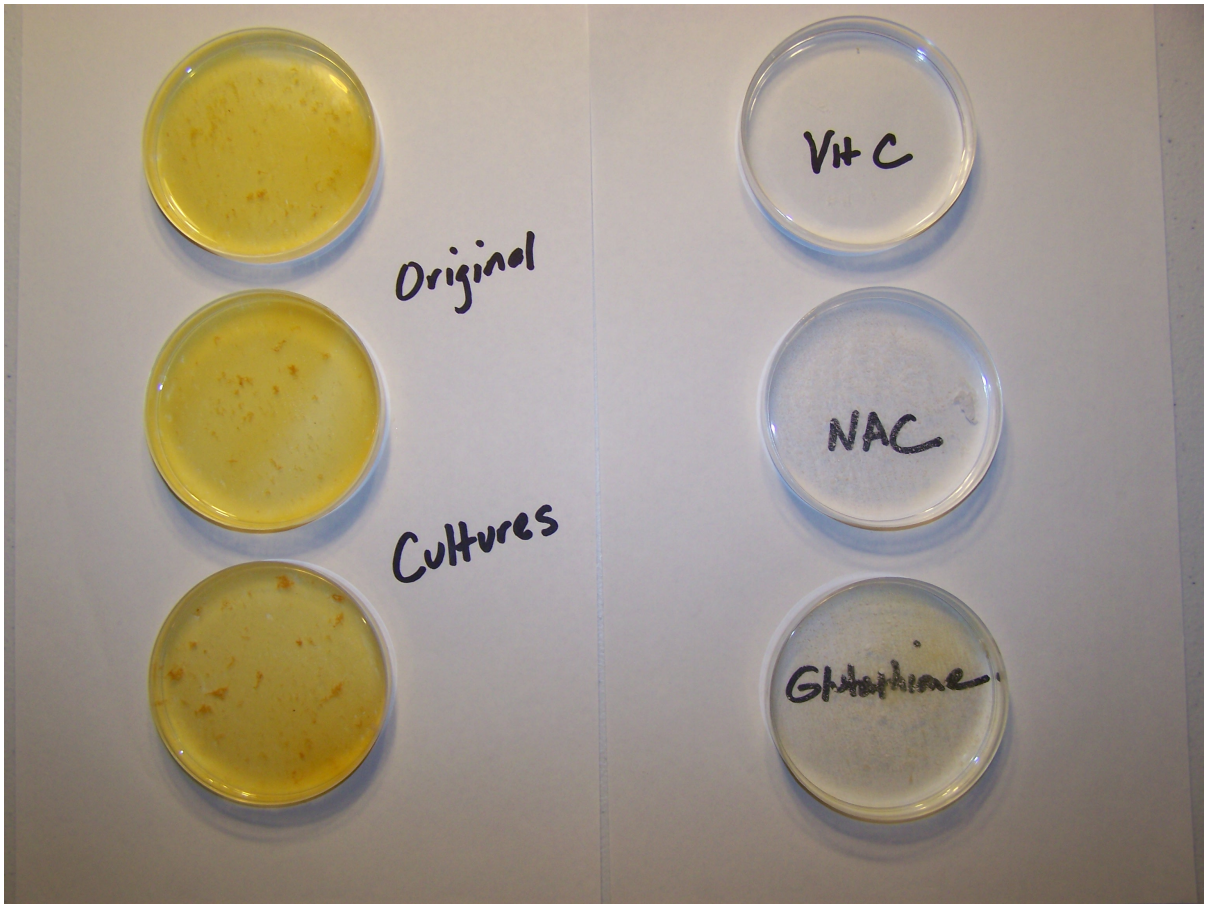
Inhibition of growth of the so-called “Morgellons” condition in a cultured environment has been achieved. The primary agents of reduction here, both literally and chemically, are a series of powerful antioxidants. These include ascorbic acid (vitamin C), N-Acetyl Cysteine (NAC) and glutathione. The photograph below shows the result of a culturing process which has been subjected to these antioxidants and their impact upon growth; the effects are rapid and repeatable. The source of this culture is the result of a series of incubation, collection, isolation, extraction and purification processes applied to previous cultures. The original cultures are based upon the use of a variety of human, animal and plant samples, each of which produces identical growth forms. One of many precedents for this work is contained within a previous paper entitled, “Morgellons : A Discovery and A Proposal” (Feb 2010). The basis of the current work is a significant advancement in the development of culture methods.

At the heart of this “condition”, from the perspective of this researcher, is the presence of a sub-micron *cross-domain* bacteria that is extremely resistant to extinction. This postulated bacteria has the property of developing the growth of an enclosing sheath, or filament which further serves to house, protect and transport these same bacteria. This sheath, or enclosing filament, also exists in its most primitive form at the sub-micron level. This protective and resilient sheath appears to be composed largely of a keratin

(protein) construct, but it also remains impervious and inpenetrable in comparison to other keratin structures such as hair. It is also known that iron is a core constituent of the bacteria composition, as well as amino acids. A more detailed analysis of the organic nature of the life form is available and has been presented within the paper, "Morgellons – A Working Hypothesis" (Dec 2013). Additional important health considerations and strategies are integrated within that paper, and the issue of antioxidants are one of many central themes presented therein. Readers are seriously advised to become familiar with that work; many equally important issues beyond that of oxidative stress are discussed in detail there.

DNA from this life form has been isolated and it exists as a priority of research for Carnicom Institute; please see the paper, "DNA Isolated" (Jan 2014).

It has been stated that the term "Morgellons" is completely insufficient to describe the nature of this life form and its ubiquity in the environment and biology of the planet. The scientific community will be forced to address this deficiency in our future and adequate nomenclature will need to be developed. Ubiquity within biological domains and permanence of existence, even under adverse conditions, will be central to the more complete and scientific characterization and understanding of the life form. Please refer to the paper entitled, "The New Biology" (Jan 2014).




A comparison of the original culture growth with the same growth subjected to a series of powerful antioxidants : ascorbic acid, N-acetyl cysteine, and glutathione. The culture growth and treatments span a period of approximately 18 hours. The early stage of culture growth is dominated by a rapid increase in the growth of the bacteria-like form; the filament sheaths represent a more advanced stage of growth to come later in the process. The culture mediums are composed of water, carbohydrates (fructose) and a chelated metal complex that includes iron, manganese and zinc. The culturing methods are rapid and repeatable and they eventually lead to DNA extraction and isolation. One primary mechanism at work in the effectiveness of the antioxidants is the reduction of iron complexes (specifically, ferric to ferrous) within the bacteria.

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Clifford E Carnicom , Jan 31, 2014
(Born Clifford Bruce Stewart, Jan 19, 1953)

# Alfred Stites Joins the Institute – Creating “History of the Written Word”



## Alfred Stites Joins the Institute

## Creating “History of the Written Word”

**ANNOUNCEMENT**

Carnicom Institute is very pleased to announce a collaboration and association with Foliophiles Publishing, LLC., Alfred W. Stites, President, Santa Fe, NM. The project is entitled *History of the Written Word*.  Mr. Stites is working with the cooperation of the Indiana University Lilly Rare Book Library.

This project will be a unique collection of the most important writings since a mark on clay ca. 3400 B.C. to the present century. Such an undertaking has never before been attempted in presenting both a facsimile and explanatory text , and it cannot be duplicated.

There are two simple reasons for such an undertaking: books as we know them are disappearing because most of the volumes in the 640,000 libraries throughout the world were printed on acidic wood-pulp paper since ca. 1840, as most were, will have disintegrated within a few hundred more years.

The second reason is technical: Within this century, and most librarians say within the next decade or two, all books will be printed digitally to be read on a hand-held appliance that can store thousands of books. It really is probable that within a few decades libraries will become

“computer reading stations” Most major libraries throughout the world are digitizing their entire collection. The first library without books, Biblio Tech, opened a few months ago in San Antonio, TX.

The result: There will be no other place any can go and see how communication developed- a picture of an Egyptian Demotic writing, a Gutenberg page, the first page of Newton’s theories that changed our thinking, and illustrations of 181 books, the originals – that throughout the ages created our communication and developed our civilization in the fields of education, physics, medicine, religion, literature, psychology, and others. The Collection will first be offered to university and major public libraries throughout the English-speaking world. It will be printed on acid-free paper to last 500 years, and includes 18 major languages, with pictorial images from papyrus hieroglyphs, and illustrations, early woodcuts, and on and on to the present. There is now no other single library or group of libraries that have examples that are in this collection of 181 influential examples of the development of communication.

We are pleased that this project will eventually provide even small rural public school libraries with this Collection, as part of our charitable program.

Carnicom Institute anticipates collaboration with numerous projects and endeavors in the future that support humanitarian and educational causes. Carnicom Institute is proud to announce the initiation of these efforts with Alfred Stites as a consultant to the Institute.

# Biofilm, CDB and Vitamin C

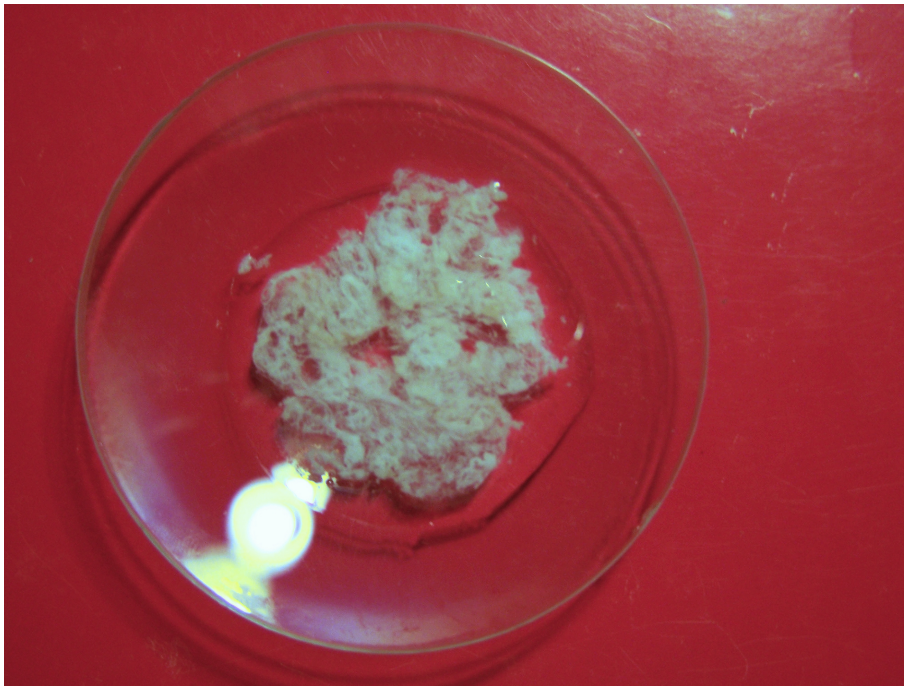


**Biofilm, *CDB* and Vitamin C**

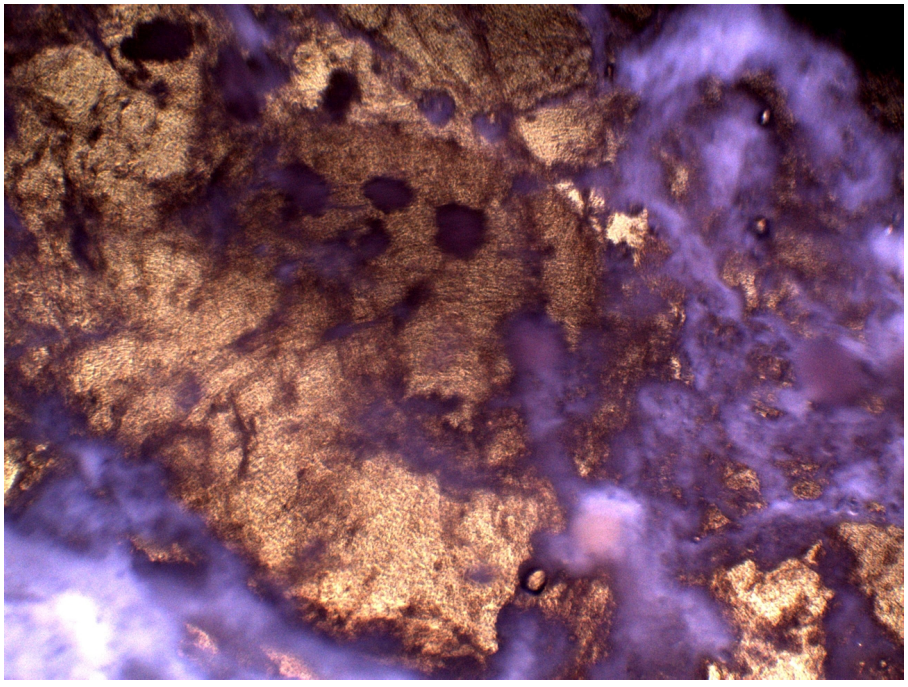
Clifford E Carnicom
Apr 22 2014
Edit Jun 13 2014

*Note: I am not offering any medical advice or diagnosis with the presentation of this information. I am acting solely as an independent researcher providing the results of extended observation and analysis of unusual biological conditions that are evident. Each individual must work with their own health professional to establish any appropriate course of action and any health related comments in this paper are solely for informational purposes and they are from my own perspective.*

A method has been established that shows promise of being effective in removing significant masses of biofilm that encapsulate large quantities of the *"cross-domain bacteria"* (CDB) as they have been identified and designated by this researcher. This method applies to oral cavities only and it is simple to investigate as to its efficacy. The identification of the CDB has been confirmed by microscopy; one unique feature of this organism is the frequent co-linear arrangement of the bacteria within an encasing filament. The various stages of growth of this life form have been documented extensively on this site, and a progression of development is understood. The term "Morgellons" as popularly used, is insufficient to characterize both the uniqueness of the life form and its ubiquity in the environment. The term *"cross-domain bacteria"* (i.e., CDB) has been established as being intrinsic to the origin of the life form; attention has been called to the the fact that the scientific nomenclature for this 'new biology' remains woefully inadequate. Any perception that this so-called "condition" is restricted to the human species is false; planetary consequences are before us. Please refer to earlier discussions that elevate the seriousness of this need for increased participation by the scientific and health communities.

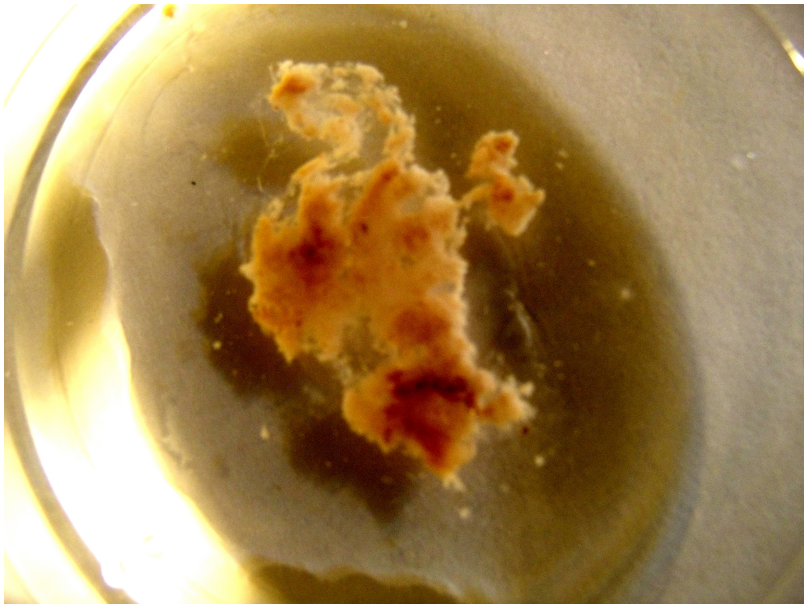


A representative example of the biofilm removed from the gum-dental line region of an individual using ascorbic acid as outlined in this report. This particular biofilm encases massive numbers of the *cross-domain bacteria* that are are centric to the organism's growth and development.

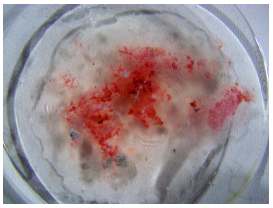


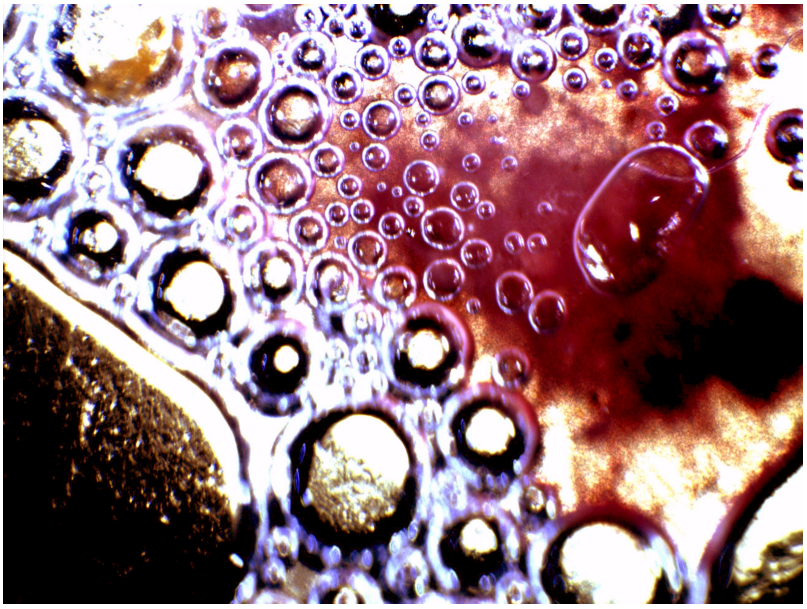
A low power observation of the biofilm sample; bottom and top lighting combined. Magnification approx. 200x.

The biofilm was extracted from an oral cavity by subjecting the gum line to a fairly concentrated solution of ascorbic acid in water (approx. 1 gm. in 30 ml of water). The solution was held in place for approximately 15 minutes and the test procedure was repeated three times for an accumulation of material. There was some local tooth discomfort at the region of collection for this individual.



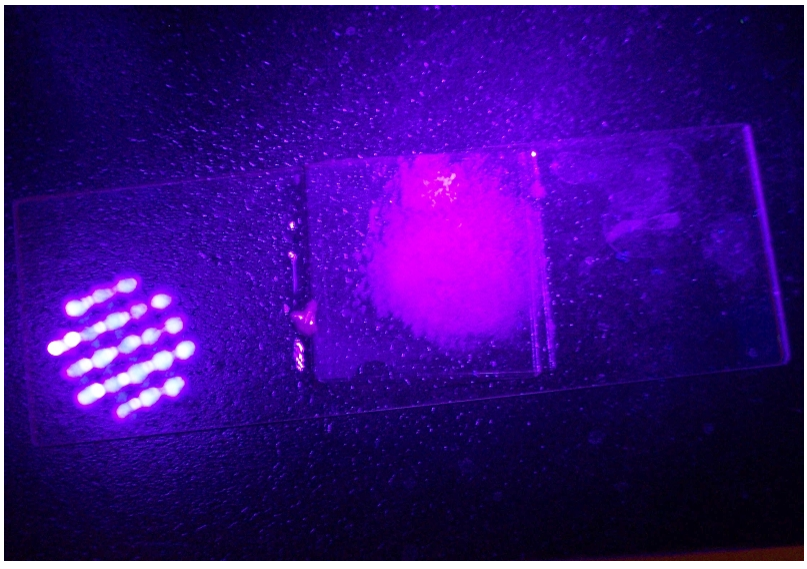
A reddish hue and formation that develops within the biofilm after approximately three days. This color formation has been observed on more than one occasion and it remains to be identified. Iron complexes and hemoglobin production are topics that are under consideration; please review earlier papers that involved tests for hemoglobin within advanced cultures. Contrast on photograph has been increased to emphasize the visible color change.



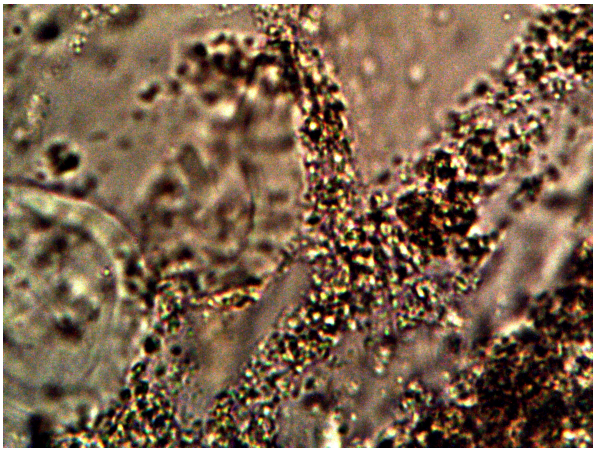


The biofilm extract after 1-2 weeks of development.
Highly developed reddish color is evident.

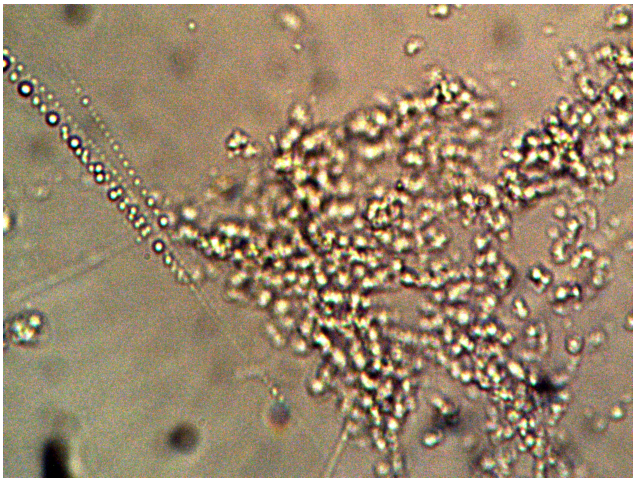
A very strong reaction of the developed red biofilm extract to a hydrogen peroxide (3%) solution. The investigation of hemoglobin existence from previous papers or current catalase tests are under further consideration here. The “erythrocytic” formations, however, are not prominent in this biofilm extract development.



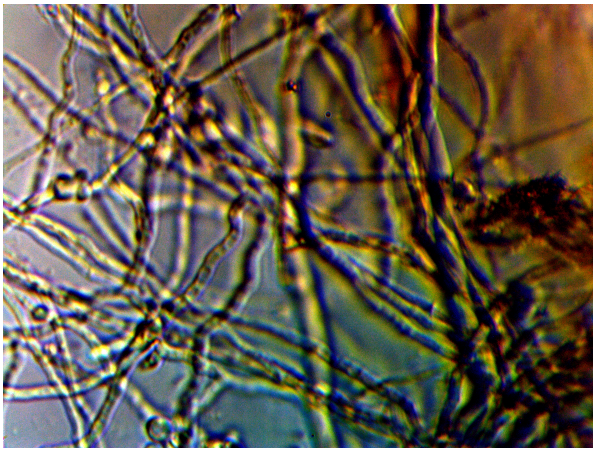
The sample above subjected to UV radiation. The pink-magenta fluorescent hue is highly distinctive. This particular characteristic of the CDB, its association with the biofilm and the more advanced stages of CDB growth is an important subject that is deserving of additional research in its own right. The same tint has been observed on the skin surface as well as with dental observations.



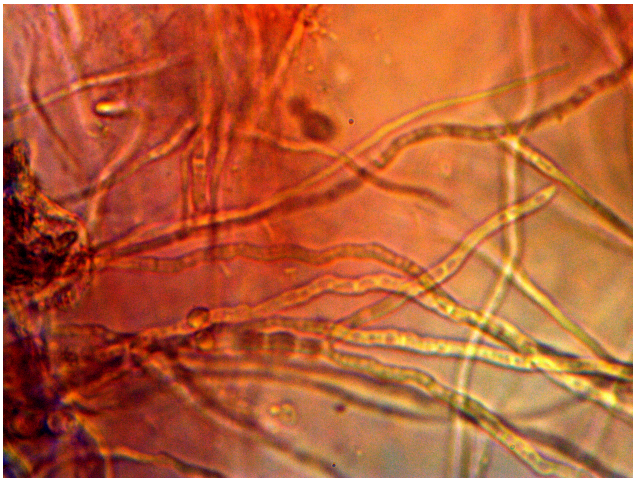
Microscopic examination of the biofilm extract. The existence of massive amounts of CDB within the extract are verified with this inspection. The biofilm extract is dominated by the presence of the CDB, and not the filament form. The filament form of growth is a more advanced stage of growth and occurs later in the development cycle of the organism. Magnification approx. 5000x.



An additional microscopic view of the biofilm and excessive CDB existence within. Microscopic The presence of the co-linear arrangement of the CDB within a filament structure is also visible. The early stages of linear formation of CDB, also referred to as the 'pleomorphic' form' are also occurring within this sample. The sample upon collection is primarily whitish in color as is shown above. Magnification approx. 5000x.



The filament form as it has developed from the biofilm extract and culture after approximately 2 weeks. This systematic development will be described in greater detail within a separate paper. Magnification approx. 5000x.



A microscopic image at the boundary of the reddish formation within the biofilm extract after a period of approximately 2 weeks. An extended filament network exists at this stage along with extensive rich color development. The variations of formation within the filament structures will also be discussed in greater detail within a separate paper. Magnification approx. 5000x.

Readers may also wish to review a paper entitled "Growth Inhibition Achieved" (Jan 2014) that examines the role of ascorbic acid and various antioxidants in the culture growth process. Articles under this same topic exist several years prior to the current studies of antioxidants. In addition, the Morgellons : A Working Hypothesis (Neural, Thyroid, Liver, Oxygen, Protein and Iron Disruption) (Dec 2013) also extensively discuss the role of antioxidants within the studies of the growth process.

# Cross-Domain Bacteria Isolation



***Cross-Domain Bacteria* Isolation**

Clifford E Carnicom
May 17 2014

A sufficient time period has elapsed to allow for the identification, classification and designation of a novel and ubiquitous life-form that is known to exist in association with the so-called “Morgellons” condition. This call has thus far gone unheeded within the scientific community and more rapid progress is required. It has been stated, by discovery (ref. The New Biology Jan 2014), that this informal nomenclature is no longer sufficient to characterize the situation; that of an extensive, repeating and culturable life form with known properties and characteristics.

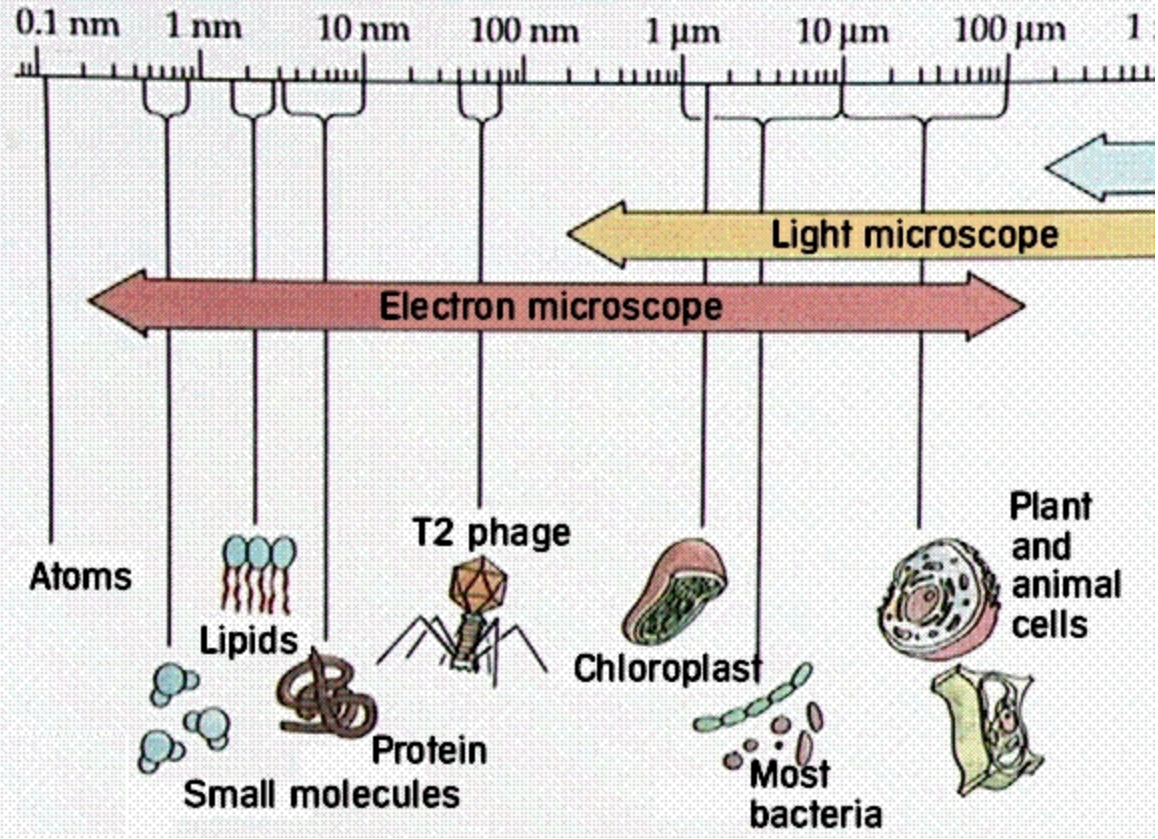
It is known that a primary form of growth is an encapsulating filament sheath which is dominated by a keratin nature; this portion has many similarities to various fungal growths. The internals of the sheath are, however, without doubt the more captive interest of the matter and they have been studied extensively over a period of several years by this researcher. Interest throughout this period has focused on a particular sub-micron structure that I have continually characterized as “bacterial-like” or “chlamydia-like” over the years. This particular structure appears to originate the growth process and is therefore of the greatest importance and attention in study. In the absence of formal participation by the scientific community in the nomenclature process, progress must be made and certain liberties will be taken until they can be refined by more formal procedures. Henceforth, terms such as ‘bacterial-like’ will no longer be promulgated as they are now more ambiguous than is necessary or called for. These internal structures will, for the sake of forcing the issue, be designated as a “***cross-domain bacteria***” (CDB) until further information or correction calls for any change.

The will be given this designation for several reasons, one of which is to no longer condone the extended procrastination that is referred to above. The additional reasons are based upon years of study and observation. When and if additional information comes to light that justifies change, that change can and will take place. In the meantime, however, the rationale for the deployment of this terminology is as follows:

1. Size. The work has continually focused on the smallest identifiable living and propagating unit, and this is the sub-micron spherical structure. The best size estimate on this structure ranges between 0.3 and 0.8 microns, or an average of 0.5 – 0.6 microns. This measurement

is limited only by the capability of the microscope and the imaging equipment that is being used. As the equipment has improved the size measurement has trended toward the lower end of the scale as the means of focusing improves. It is difficult to work with what cannot be seen (e.g, virus, prion, molecule, atom, etc), and it has always been stated that there are expectations of additional discovery when such means become available.

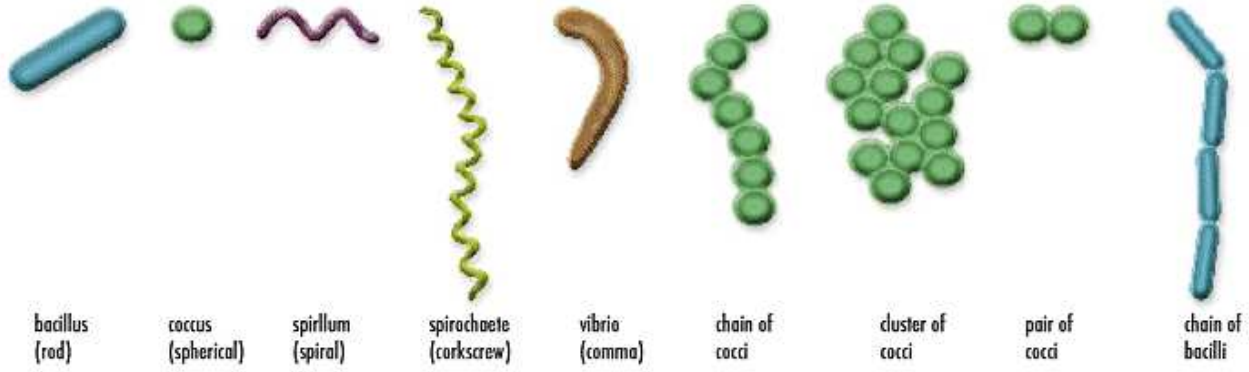
One of the first classification systems for living organisms is size, and so here it is that we must begin:




A chart of the approximate size ranges of organisms, biological structures and cells. It will be noticed that most bacteria range between 1 and 10 microns in size. Two of the smaller bacteria that are known to exist are mycoplasma and chlamydia pneuomoniae; these are on the order of 0.1 to 0.4 microns in size. Image Source : Estrella Mountain Community College.

In lieu of additional information and as an obvious point of reference, it is more than reasonable to suggest a bacterial nature (modified or otherwise) for the organism and unit under study. As mentioned, structural units beneath the current limit of observation and measurement are difficult to propose within this scope of the study.

2. Shape. The next most obvious approach (again, within the means available) to classification is that of shape. The requirement to maintain the argument for a bacterial nature must include the existence of the observed spherical form. This condition is not difficult to meet, as bacteria commonly exist in the following major shapes or forms: spherical, rod like, spiral, , or as combinations or aggregates of these forms.




A chart of the shapes and geometry of known bacteria. The organism under study clearly falls under the coccus, or spherical shape. The subsequent development of the *CDB* within an encasing filament adds an entirely different aspect of consideration to a more comprehensive classification and identification.
Image Source : Microbiology Online.

The measured size and observed shape of the organism is sufficient, in itself, to advance and justify the use of “bacterial” terminology in a classifying sense at this stage of the investigation. Clearly, there are additional dimensions of growth form and development that will eventually transcend this current reference point. Readers may wish to review the papers entitled, “Morgellons : A New Classification” (Feb 2010) and “The New Biology” (Jan 2014) for the more immediate “complications” of this simplification.

There remains, nevertheless, more that can be offered within the scope of conventional consideration that supports the “bacterial” proposal.

3. Gram Stain. The following statement, from the University of Maryland Pathogenic Microbiology division, is provided to exemplify the importance of the Gram staining procedure in the world of microbiology.

“The Gram stain is the most important and universally used staining technique in the bacteriology laboratory. It is used to distinguish between gram-positive and gram-negative bacteria, which have distinct and consistent differences in their cell walls.”

The procedure, therefore, is a major tool in seeking an understanding of a primary difference in the morphology of bacteria; it is highly relevant to the current need to classify and identify the primary and primitive (i.e., original) observable form of the organism. We must start somewhere and eliminate the vacillations and ambiguity that have obfuscated progress over the last two decades; a greater sense of definition is required and I will assertively advance that motion.

The first question on the Gram stain issue is whether or not it even applies. Does this particular organism accept the stain and, if so, with what results? It does, and the tests indicate a Gram-negative result. The interpretation of that test remains an outstanding need and it will undoubtedly play a larger role within the current work involving protein examinations.

Investigations of this nature will be found as far back as 2008; readers may wish to visit the earlier papers entitled, "And Now Our Children" (Jan 2008), "Morgellons : 5th, 6th and 7th Match" (Jan 2008), "Morgellons : Pathogens and the General Population" (April 2008), and "Morgellons : A Status Report" (Oct 2009) for the earlier work on this primary classification method.

This current paper and the results presented herein continue to support that earlier work.

4. Positive Membrane Lipid Test. A test has been developed for the presence of lipids in the outer membrane. The test results are positive. This test result is consistent with a gram-negative test for bacteria. The results of this test are shown and described in more detail in a separate paper entitled : "*CDB* : General Characteristics". This test result has significant ramifications that are likely to affect the future study of the internal nature of the *CDB*.

5. Cultures. The next rationale for the use of "bacteria" terminology (albeit, modified) is that of observation of the culturing process. Again, **restricting our consideration to the *originating* observable form** of the organism (subsequent developments are, as mentioned, an entirely more complex issue which suggest highly sophisticated biological engineering), the cultures under development demonstrate a response that is perfectly in accord with any bacterial expectations. The cultures are highly responsive to temperature and nutrient variations. The growth curve is one of rapid increase at the onset, followed by diminishing returns with the corresponding decrease in available nutrients. The logistical form of population growth is one model that can be reasonably applied to the observations, and it is accord with population modeling. The responses of the cultures to both Fenton's reaction as well as inhibition methods that have been described are in further accord with a bacterial element to the life form.

6. Biofilm. The next topic relating to bacterial consideration is that of biofilm development. Recent work indicates significant masses of a biofilm product can be produced from affected oral cavities using a relatively simple method; this description is in process at this

time. The production of biofilm is a protective measure taken by many bacteria to insulate themselves from effect by the local surrounding biological environment. The biofilm under investigation in this case can easily be verified by microscopic means to contain significant numbers of the very same *CDB* that are under examination here Biofilms are an attribute of most microorganisms; they are especially notable in the bacteria and archaea domains. The purpose of biofilm is "to protect the organism from a hostile environment or to act as a trap for nutrient acquisition" (see Biofilm Formation in the Industry – VTT Research). Biofilm is a polymer composed primarily of DNA, proteins and polysaccharides.

7. Proteins. Certain laboratory tests, specifically Coomassie Blue stain, ninhydrin tests, UV absorbance and Biuret tests, confirm the existence of proteins within the *CDB*. The known characteristics of many of the bacteria and archaea classes are in accord with the investigations underway that involve metallic protein complexes as an important aspect of their structure. It is known that iron is one of the essential elements of the proteins under examination.

8. DNA. The apparent successful isolation of DNA from the cultures under development is direct evidence of a viable, reproducing and unique life form. This aggregate of information, i.e., size, shape, stain properties, growth behavior, biofilm production and DNA existence continues to support the argument for the most primitive form of existence as that of a "modified" bacterial class.

9. *"CDB"*. The modifier "cross-domain" to the bacteria terminology has been intentionally and deliberately introduced by this researcher. The purpose of the term is to force the consideration and discussion of the more complex issues that arise when the more 'mature' stages of growth of the organism are examined. The issues include the subsequent development, under favorable environmental and nutrient conditions, of an encapsulating sheath, or filament, that contains the bacterial forms. This pattern and form of growth has been extensively described and reported on within this site. It is here that we must step outside of the originating form, and we will undoubtedly be forced to develop new and additional terminology to encompass these unusual circumstances. **The use of the term '*cross-domain bacteria*' is simply to provide a reference point for further discussion, the rationale of which is hopefully agreed upon to be consistent with classification systems up to and including the existence of the originating form ONLY.** The issue becomes only increasingly complex from the filament production level onwards, as the erthyrocytic question develops (again under increasingly favorable environmental and nutrient conditions) from there, whether we wish to confront this fact or not. *Clearly, we are dealing with a remarkable construct of biology here, and it will eventually be impossible to ignore it as it makes it mark further upon this planet.*

There is nothing sacred or dogmatic about the proposals in terminology here. There is precedent for the terminology in the literature as will be found; the act of crossing the domains of biological life forms is known to exist. As one example, please note the

Symposium of 2007 entitled, “Cross-Domain Bacteria : Emerging Threats to Plants, Humans and Our Food Supply” by the American Phytopathological Society. One of the primary questions here is whether this particular form is of natural or engineered origin; the evidence speaks to the latter. The primary purpose of this controversial injection into the discussion is exactly that – to force the issue of proper scientific analysis and nomenclature by the responsible and competent parties within society. It is to no longer condone the acceptance and use of ambivalent, ambiguous and obstructive cultural lexicons as a perpetual subsititute to honest and open research and disclosure. When these circumstances improve and when the benefits are apparent and known to the public, I will amend my own ways and discussion to reflect the progress that humanity deserves.

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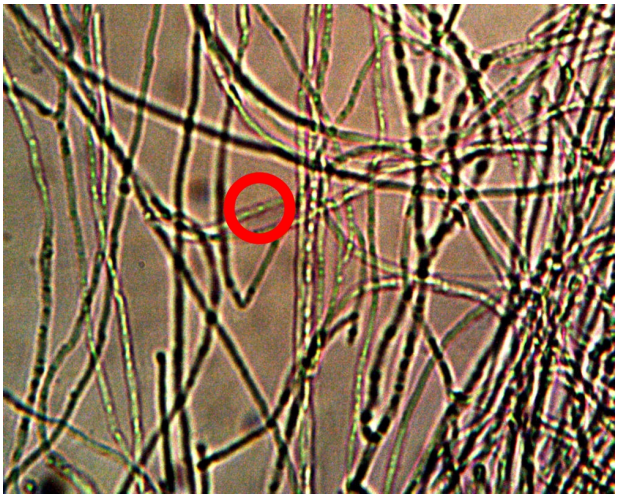
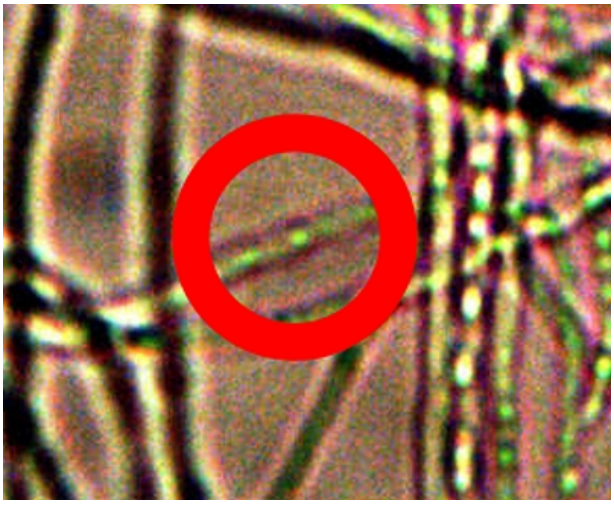
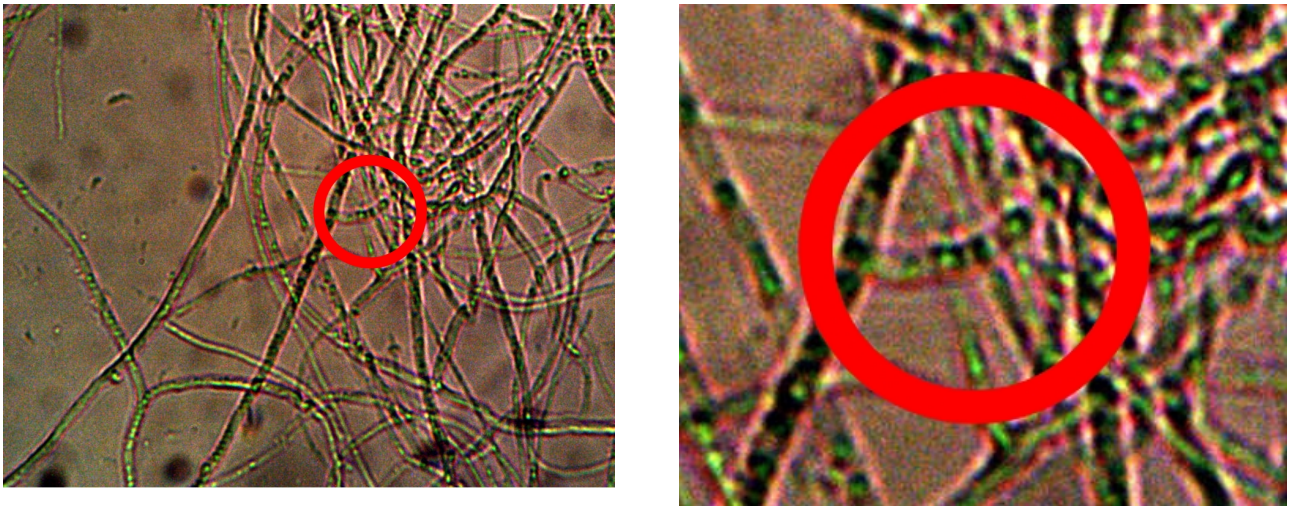
Additional Notes:

The following images derived from culture growths are representative examples of this external and internal known structure:

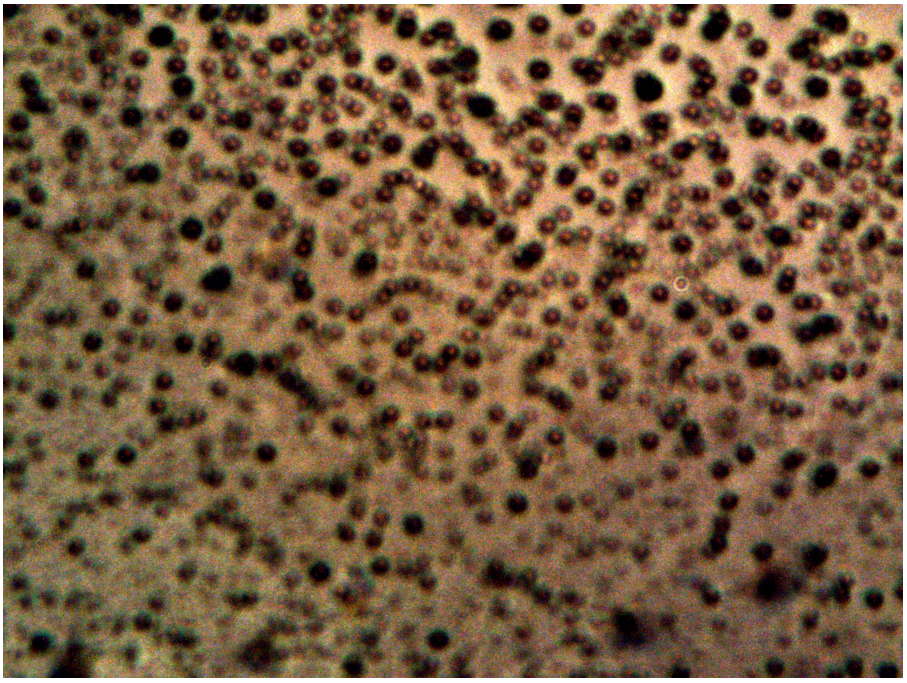




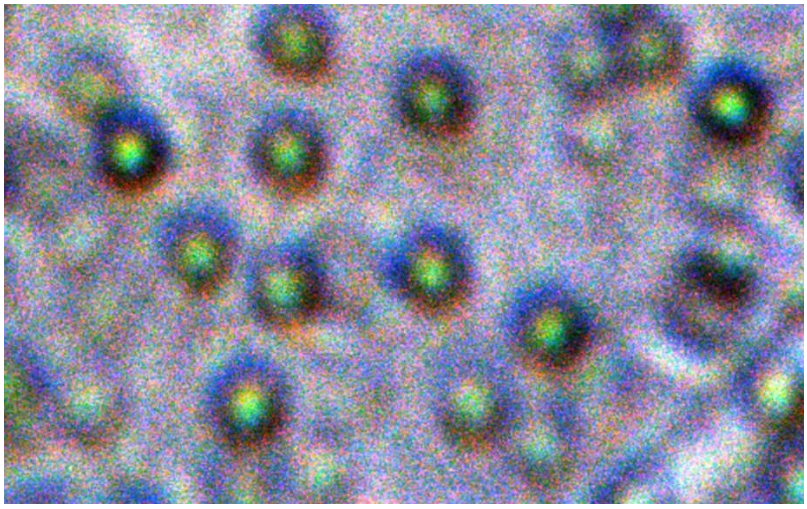


Original magnification of images to left: approx. 5000x. Images on right are at original magnification, approx. 7000x.

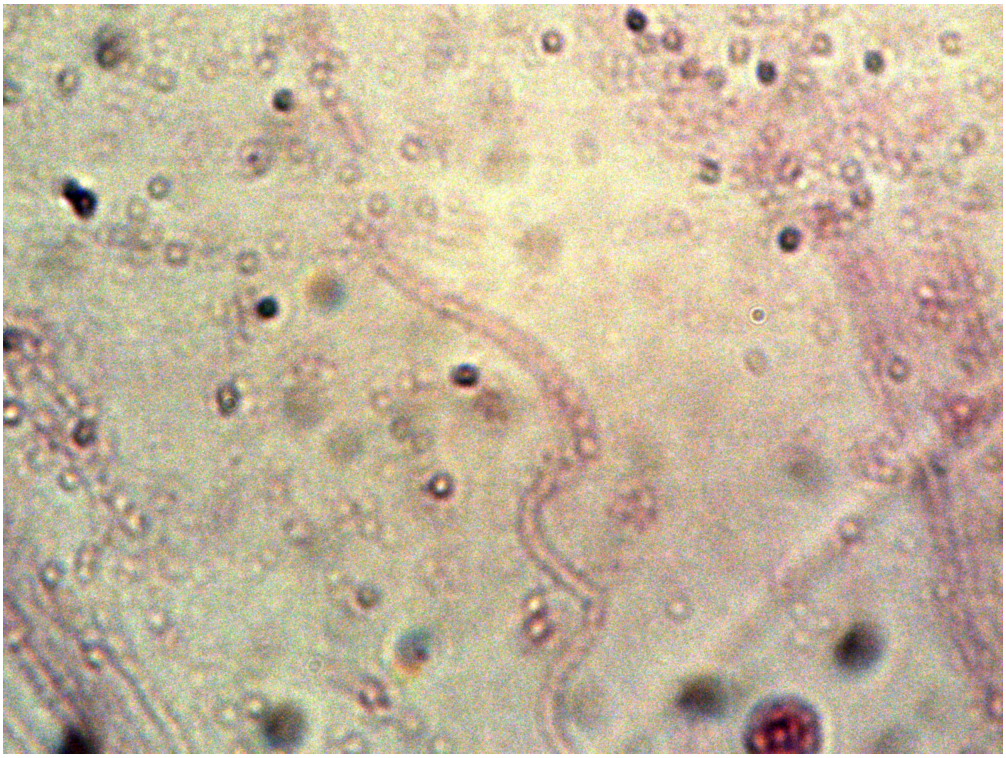
The means to separate and isolate the *cross-domain bacteria* has been achieved. The method uses a combination of caustic solutions, heat and iron ions; evidence of that separation is presented below. The presence of iron ions in solution appears to be a very important factor in making the cross-bacteria readily visible. A definite chemical reaction takes place between the isolated and purified culture in alkaline solution subjected to heat and the addition of either iron sulfate or chelated iron. Chemically, there appears to be an immediate reaction between the bacteria and the iron and this is verified with microscopic examination. Iron as a part of the culture medium is what has allowed this discovery to eventually take place.



A good example of pure isolation of the cross-domain bacteria, as separated from the encasing filament. Original magnification approx. 5000x.



An oil immersion image of the cross-domain bacteria at maximum magnification. A colored attribute of the bacteria does appear to exist. Magnification approx. 13,000x.



The Gram stain process applied to the cross-domain bacteria. All indications are that the cross-bacteria stains Gram stain negative due to the pinkish color apparent. This is in accordance with results achieved several years ago with preliminary investigations. An excellent example of the bounding filament enclosing the cross-domain bacteria is central to the photograph. Original magnification approx. 5000x.

# CDB: Growth Progressions



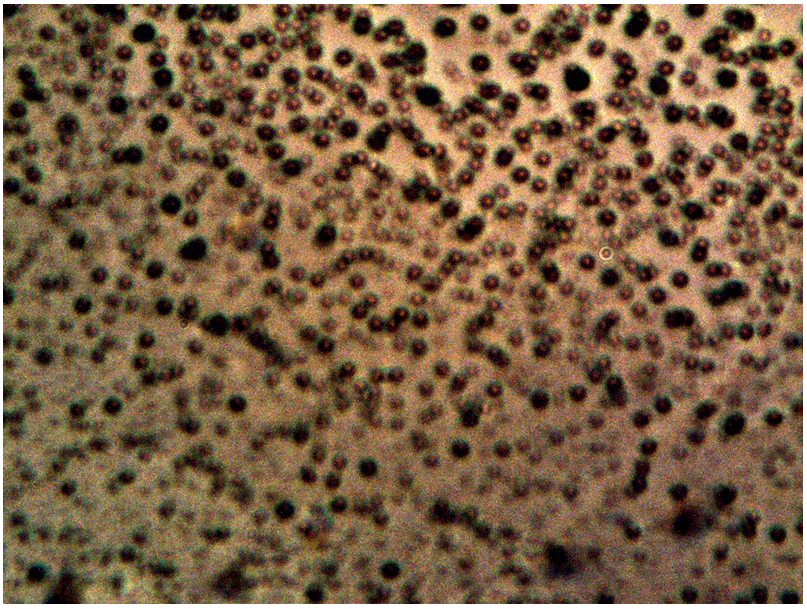
***CDB :* Growth Progressions**

Clifford E Carnicom
Jun 13 2014

*Note: I am not offering any medical advice or diagnosis with the presentation of this information. I am acting solely as an independent researcher providing the results of extended observation and analysis of unusual biological conditions that are evident. Each individual must work with their own health professional to establish any appropriate course of action and any health related comments in this paper are solely for informational purposes and they are from my own perspective.*

This paper will outline specific, identifiable and repeatable growth stages of the *cross-domain bacteria* (CDB) and its associated forms. It will be seen that a wide variety of growth forms will ultimately emerge from what appears to be a simple, non-descript spherical living entity; as such the term 'pleomorphic' is fully justified in this presentation. This is the case even when the study is restricted to the most primitive form of existence (i.e., the CDB) and this sets the stage to for us anticipate a high level of survivability and adaptability for the organism. Thus far, this has certainly been proven to be the case, as the means to eradicate or destroy the organism in any meaningful way appears to be unavailable under the current state of knowledge.

The outline of presentation is based primarily upon chronology. The simpler and more primitive states of existence will be introduced first; these will be followed by more complex or advanced stages of growth. In general, the time period of examination here covers up to approximately two months of time under controlled culture conditions. It is understood that abundant reports of even more diverse and less understood growth formations exist, and those studies await us by the moment. The objective here, however, is to introduce in a systematic way that which can be replicated and documented under known conditions.

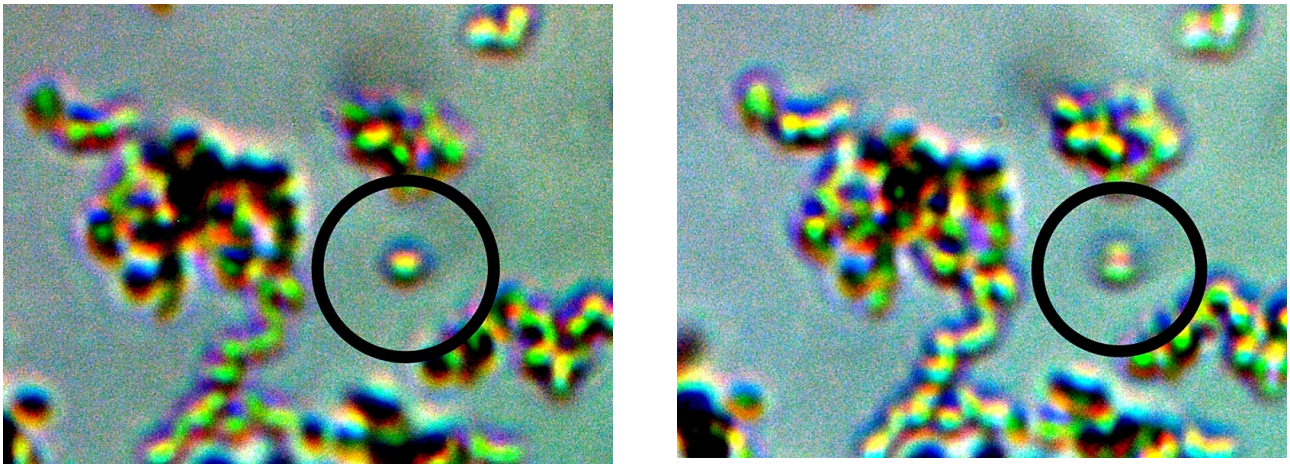


CDB – Primitive Form
Original Magnification Approx. 5000x

This image above represents the basis of all subsequent work here. It is an explicit image of the cross-domain bacteria (CDB) themselves, as the term has been tentatively adopted by this researcher. The evolution of that terminology, along with the rationale for its use, has been described in greater detail within the paper entitled Cross-Domain Bacteria Isolation (Mar 2014). The terminology, as expressed, is not intended to be restrictive in any sense and future discretions should and will allow this terminology to modify itself should circumstances and knowledge dictate. What has been done is to introduce and force into the discussion a reference point from which earnest discussion and progress in the scientific community, and in society as a whole, can be made. Fair-minded terminology at this stage of waiting (i.e, more than a decade) does not restrict us; in contrast, it will force us to discover what is true or not. If the educated propositions turn out to be incorrect and require revision so be it; we will ultimately be the better for it as it means that the actual progress that is required and overdue will have been made. The process of CDB isolation is also described in more detail in that same paper.

The above image is a clear and unhindered presentation of the CDB as they have been isolated. They are visually not of dramatic form or impact and they could easily be passed over as one of the nuances of the microscopic world. As in the case of the filament studies described exhaustively on this site, however, there appears to be an important story and set of events that are held ***within*** the simplistic structure above and it is our duty to make these characteristics, behaviors and capabilities known. It is not an overstatement to say that such

advanced knowledge appears to be at the heart of understanding the changes in biology now underway on this planet and that we should make haste and be earnest in the pursuit of it.



CDB Cellular Division Captured.  Two Hour Time Interval.
Original Magnification Approx. 5000x

The photograph above is an important one and it has been difficult to capture.  The existence of this image makes the case for a form of reproduction and growth that is understood and accepted within conventional biology, i.e., cell division.  All efforts to understand the nature of this organism are to be based upon such conventional knowledge, reason and processes unless the circumstances or situation requires otherwise.  Any observations or processes that fall within conventional reference frames of knowledge of science will allow certain assumptions to be more readily considered and they will act as a governor to unwarranted or disproven speculative discourse. If the situation requires an extension of our creative and imaginative talents they will be employed, but not without due and fair consideration to the eons of effort and hard work that has been given to us by our scientific predecessors.  The issue of artificial constructive devices to growth are not required at this point based upon the demonstration of cellular division above; all evidence collected to date continues to support the argument for a living organism operating under the framework of known biology.  This biology may hold numerous surprises for us and they may well involve processes of manipulation (e.g., human, genetic, engineering, etc.) but any such proclamations will need to be supported by rational and convincing scientific presentation.  The unknowns here obviously are many, and it is to our advantage to use known science to understand and interpret our discoveries instead of imaginative discussion that can lead to confusion and misinformation and that causes more harm than good.

What are the known methods of reproduction? How does the above observation fit within that spectrum? Is the observation above consistent with the primitive form designated as a "*cross-domain bacteria*"?

The perpetuation of life is based upon the reproduction of cells, or cell division[1].

Two types of cells exist : prokaryotic and eukaryotic. Prokaryotes are non-nucleated and, in general, single celled organisms but there are some exceptions such as cyanobacteria and myxobacteria. The prokaryotes include the bacteria and archaea domains of life; these domains have been introduced elsewhere on this site (see Morgellons : A New Classification (Feb 2010)).

Eukaryotes are nucleated and contain organelles within the cell and are therefore generally more complex in nature. Eukaryotes include all life except the prokaryotes, such as plants, animals, fungi, algae, and protists (most protists are unicellular and all are eukaryotes).

We can see that classification systems themselves have their own complications, and these difficulties were undoubtedly a driving force toward the three-domain system developed by Carl Woese in 1978 (as referenced in the mentioned paper).

Three types of cell reproduction exist : binary fission, mitosis and meiosis. Binary fission, as the name implies, refers literally to the division of a single cell into two parts and is asexual. Mitosis is the division of the nucleus[2] and is also asexual. Meiosis is also a process of nuclear division (sexual) that reduces the number of chromosomes in new cells to half the number in the original cells[3].

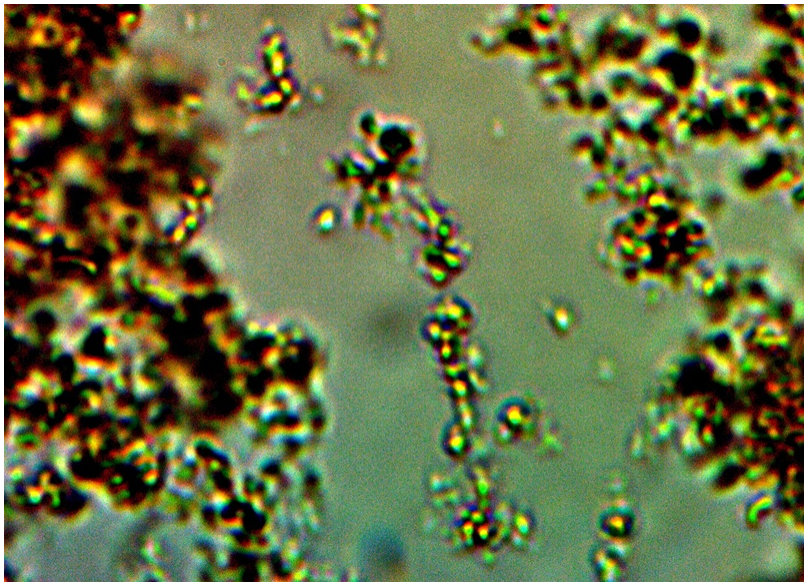
For the current situation, we need to find what fits best with what is observed. For the time being, this is binary fission, which happens to occur under the domains of the Bacteria and Archaea. We have in our case an apparent single celled non-nucleated organism without organelles of an appropriate size that is splitting in two. Again, our discussion is restricted at this stage to the most primitive known form of the organism, i.e., the CDB. The most common form of reproduction by bacteria is that of binary fission. Additional arguments for the introduction of the cross-domain bacterial terminology (primitive form of the organism only) are substantial and they are outlined further in the *Cross-Domain Bacteria Isolation* paper. In addition, a great deal more information has accumulated over history on the Bacteria vs. Archaea (5,000 – 15,000 species vs. a few hundred; these represent a small fraction of the total thought to exist) and the Archaea domain itself is a relatively recent taxonomic creation.

Bacteria can also vary their state of existence and their genetic nature[4] by a process known as *recombination*. This comes in three forms : conjugation, transformation, or transduction. Conjugation involves the transfer of genetic material between bacteria through a tubular physical connection. Transformation involves the assimilation of DNA from the environment.

And lastly, transduction is an exchange of DNA through bacteriophages, a type of virus that is specific to bacteria. The methods of observation for these advanced methods of alteration does not exist within the Institute at this time.

Archaea also reproduce by binary fission, and they remain under consideration from that perspective as well as others. As we shall see, the term “cross-domain” has been introduced ***specifically for the prospect of allowance, if not expectation, of sharing other significant attributes of the remaining domains of life***. This argument is presented in force within the *Morgellons : A New Classification* paper referenced earlier. The discussion before us will only become increasingly complex as we proceed, and it is the reason that the discussion and study remains so highly focused on this most primitive form of existence of the organism that has been identified to date.

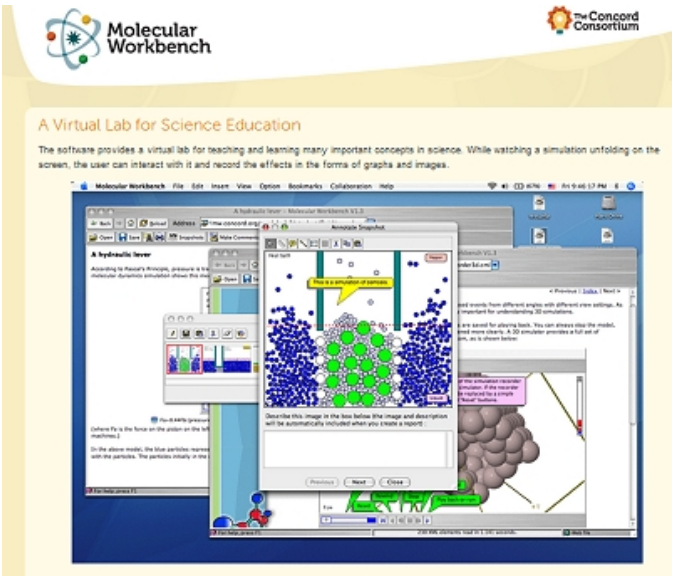
Eukaryotes cells divide by the processes of mitosis and meiosis, which involve a nucleus within a cell. At this point there is not the means or observational equipment to identify a nucleus within this primitive form (because of its size); in addition, an expanded discussion on the case for tentative bacterial classification (primitive form only) has already been made. At the current level of knowledge, a binary fission characteristic of a prokaryote is sufficient and reasonable to propose as the the form of cell division for the CDB. The photograph above provides further justification for this argument.

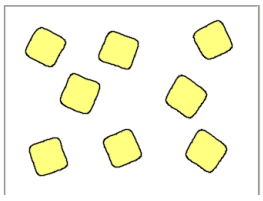


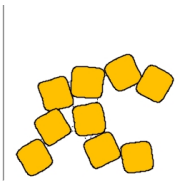
CDB – Linear Alignment Process Prior to Filament Formation
Original Magnification Approx. 5000x

The next photograph above ushers in an important transitional state, and this is the alignment of the individual cocci into a linear arrangement. The knowledge and observation of the transformation process towards the filament form is a crucial piece of information to acquire and this has now been captured on repeated occasions. The specific process by which this alignment takes place is not known, however, it can be projected that biochemical charge dynamics could easily be at play here.

The term 'self-assembly' has certain connotations that may be helpful to discuss and elaborate upon. The term 'self-assembly' is often used with that of an 'artificial' process implied, frequently to the point of insinuating robotic, engineered or mechanical methods in the 'construction' process. If such mechanisms are observed and documented they will be reported on. There is, however, a biochemical reference and interpretation for the term which is much closer at hand and that is more sensible and rational to introduce with the photograph above. The vast majority of the dynamics of chemistry (and bio-chemistry, for that matter) is governed and determined by charges; i.e., the classic interaction between positive and negative charges that are at the very essence of dynamic interactions within the cosmos. The understanding of the essence of those forces remains enough of a mystery to mankind,; we may not need to seek a human or 'artificial' construct to explain states of nature that are not completely understood by humans to begin with. The explanation here may best be made with example and simulation (which, incidentally, has been helpful to my own understanding) as to what 'self-assembly' actually means from the conventional biochemical perspective. The following demonstration that is available at the Concord Consortium replaces much of a verbal discussion with simple and observable dynamics; it is suggested that the reader become familiar with both the simplicity, magic and power of this process in nature. Self-assembly is likely to become an important aspect of future research and discussion as it relates to the growth stages of this organism.



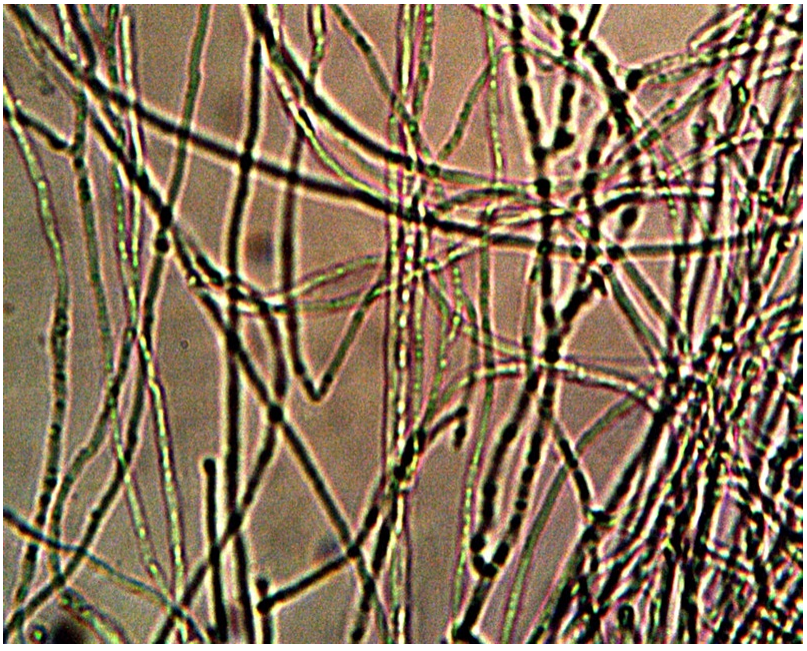


Visit the Concord Consortium to view the self-assembly simulation using the Molecular Workbench software (Java based).

Excerpts from a simulation of self-assemblage at the Concord Consortium with the use of the Molecular Workbench Software. (Link to the Concord Consortium here)

The forces at work in the ‘self-assembly’ discussed here are the fundamental attractive and repulsive forces of electrons and protons. Since these forces drive the vast majority of chemical reactions and energy transfer within living organisms, it should not come as a surprise to us that we will encounter this process in our future study. Clearly, there remains much work to be done to identify the nature, location and driving mechanisms of any charge interactions and this research remains immediately before us. With that knowledge also comes the prospect of interfering with those charge dynamics that are likely involved in the growth of the organism; this offers potential benefits that are not difficult to recognize. In fact, there are numerous prospects for disruption and interference to the the life cycle of the organism, and the knowledge sought by this Institute and other researchers hopefully will be supported by those that understand these potential benefits.

Electromagnetic studies of the CDB that are underway do indicate a possible separation of charge within cultures that are under investigation. If this charge separation is verified there may be a relationship between this and the ‘assembly’ or alignment process that is shown above.



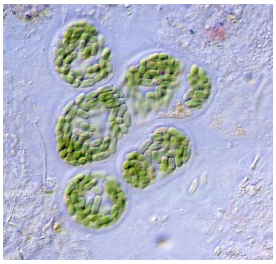
Filament Development with Internal CDB
Original Magnification Approx. 5000x

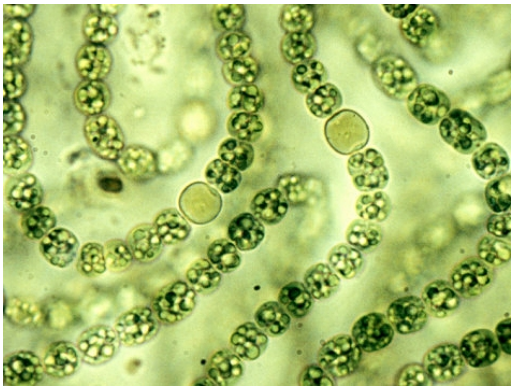
The next stage of growth that is shown above represents an important transgression from the usual propagation of a bacteria within its own species. We see in the case above that not only is there an alignment process that can take place; there is also the development of a filament structure that eventually can encase the CDB and ultimately create a more complex and protective form of growth. The CDB have shown themselves to be quite resistant to traditional methods of breakdown or disintegration; the appearance of a surrounding filament sheath makes this even more so. It is not impossible for filaments to associate with bacterial development but it is not especially common. It is for this and other reasons that the modifier and extension of "*cross-domain*" has been added once we begin to examine beyond the primitive and original form of growth and existence. CDB terminology is proposed simply as a common reference point for discussion and further study and as the original, most primitive, known and identifiable form of existence for the organism.

Let us start by identifying some of those cases where filaments are known to be associated with bacterial growth:

The first case that I am aware of that shares this property is that of some fossilized remains. In *Tortora's Microbiology, An Introduction*[5], a photograph (copyright protected) of a fossilized filamentous prokaryote from western Australia that is 3.5 billion years old is shown. We know, therefore, that filamentous prokaryotes can date back essentially to the origin of the earth. Whether or not coccus forms can be seen internally in that particular case is a different matter, as the image of the remains is simply not of sufficient quality to determine this.

There is another novel case of filamentous bacteria found recently deep underground in a South African mine and this likely indicates an ancient origin as well. Under more contemporary circumstances, the cyanobacteria exist as a rather unusual class of "nonproteobacteria gram-negative bacteria". This group is unique in that they are morphologically and physiologically distinctive from other bacteria and their classification is based upon genetic origins per the breakthoughs by Carl Woese discussed in earlier papers. They were once called blue-green algae but they are currently classified as bacteria, however, and they can exist in at least three different forms. Photographs are, as usual, helpful to visualize the level of variance involved here:



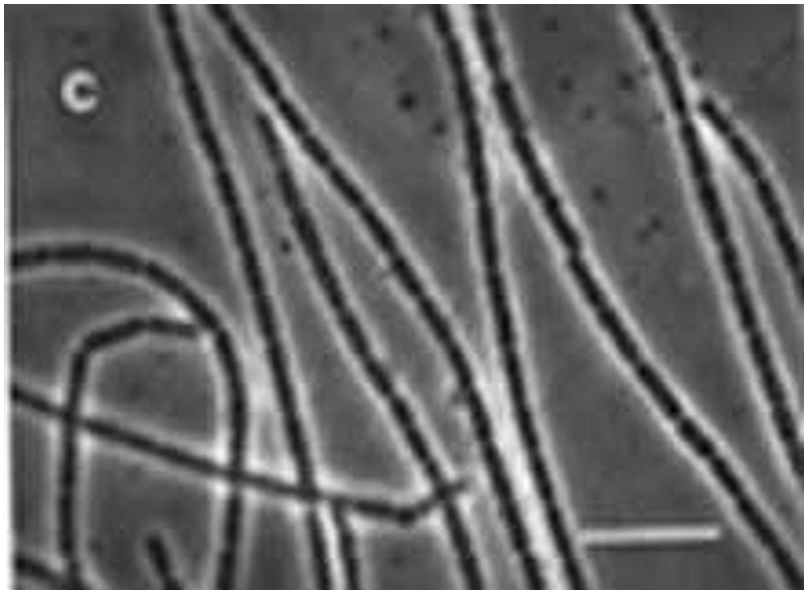



The non-filamentous form of cyanobacteria. As this form of the bacteria is approximately 8-10 microns in diameter, it is clear that this remains a separate species from that under study. Image source : wikimedia.org.

The filamentous form of cyanobacteria. This image shows that various bacteria can indeed develop into a filament form. In addition, there appears what are called heterocysts (the larger and more circular cells) which are specialized for fixing nitrogen gas. This type of variation can be important within the current studies as will be seen later within this paper. Image source : waterboards.ca.gov.

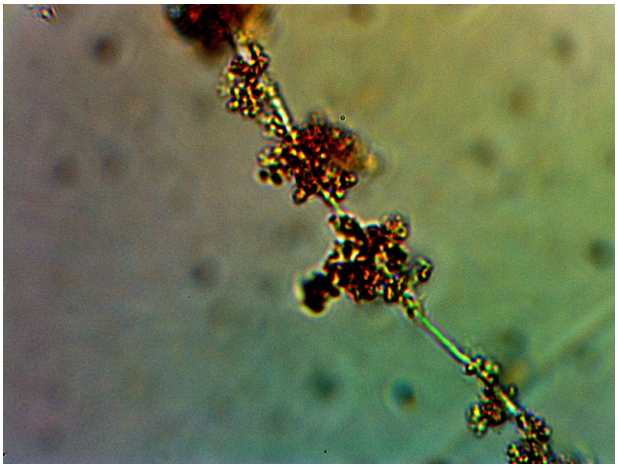
This is the branching form of cyanobacteria. Although the dimensions of this species are radically different from that of the CDB, the variation of form is nevertheless especially interesting and calls to attention the broad diversity of structure and form that can occur within the bacterial domain. Image source : world.edu.

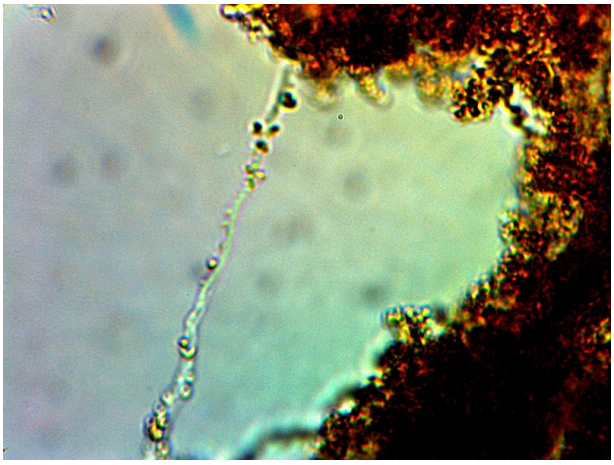
There is also a case of a ‘sheathed’ bacteria that is interesting and potentially relevant to introduce. The species is that of Sphaerotilus natus and it appears as follows:



Sphaerotilus natans bacteria. This bacteria is rod shaped and, therefore, does not match the CDB in form as well as in size. It is of interest, however, in the fact that it produces an enclosing sheath in which to live. The sheaths are of a protective nature and it is thought that they aid in nutrient accumulation. It also stains as Gram negative and has an alternative common name of “sewage fungus” as it is often found in sewage locales. Image source : vt.edu.

What we can see in these cases, therefore, is that the bacteria can actually vary fairly widely in their form and structure. Some bacteria create filament structures, some create unique and specialized cells, and some rarely encase themselves in a protective sheath; these cases are exceptions to the rule but we see that they are possible and known to exist. It certainly is more typical to regard filament structures and multi-celled structures as representative of the fungi and eukaryotes but that presumption must be reserved until additional information becomes available. The lines of definition have already become blurred at this stage. The introduction of genetic classification systems has radically altered our views that are based upon visible morphology and physiology. We can see that the “classification of life” is under a state of continuous revision and that exceptions abound to the attempts that are made to place the biology of the planet into a set of tidy boxes. The introduction of genetic manipulation by human beings has opened up its own Pandora’s Box in this regard, and it is unlikely that the classification systems of the past will ever entirely serve the complexities of our future.



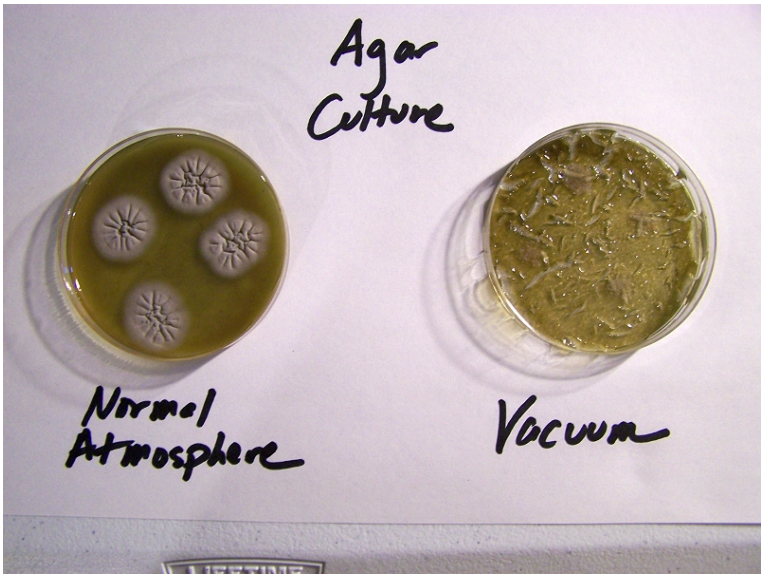


Early Stages of Filament Development with Internal CDB. Development of reddish (probable protein aggregation) conglomerates along filaments. Original Magnification Approx. 5000x.

The stage of growth shown above appears to be important in the development of structural mass for the organism. In this case, additional material of a reddish-brown color can be seen to accumulate around and within the CDB-filament complex that precedes it. The composition of this material is unknown at this time. There is, however, a presumption in place that this material could easily be of a proteinacous nature. The color of the material is also highly suggestive of an iron complex that is included; it is known that iron compounds eventually become a significant compositional compound of the organism growth. This particular material is not especially reactive to hydrogen peroxide but further developments that are highly reactive to hydrogen peroxide will be described below. A reasonable supposition, for the time being, is that this material may be dominated by the presence of an proteinaceous-iron complex. It is also known from previous work and studies that the filaments themselves are most likely constructed largely of proteins, with keratin based materials as the strongest candidate. In terms of function, it is reasonable that proteins will be a major component to the growth processes that are being recorded here. The nature and identity of such proteins is a major pursuit of research for Carnicom Institute.


Time Lapse of CDB – Filament Growth Stage on Agar Culture
Original Magnification Approx. 500x

The animated image above represents a time lapse capture of the filament growth under relatively low magnification. This particular growth has been recorded from an agar based culture. The period of time covered by the time lapse movie is two hours and it is compressed into an interval of 40 seconds. The growth appears to be uniform and substantial. The rate of growth for the organism at this stage and under these conditions is estimated at approximately 200 microns per hour. This growth rate, if undisturbed and unrestrained, translates to approximately 5 inches in length per month of time under the conditions shown. The impact of this type of growth within a suitable environment or within a host organism (e.g., a human body) is obviously of serious concern. Any knowledge or or means to inhibit such growth can equally be of obvious benefit; it may be of interest and value for the health professions and communities to evaluate and further research the inhibition and mitigation strategies that have been developed within this site.




Agar Culture Vacuum Testing.
CDB readily progress to filament form directly.
Vaccum environment does not promote growth.

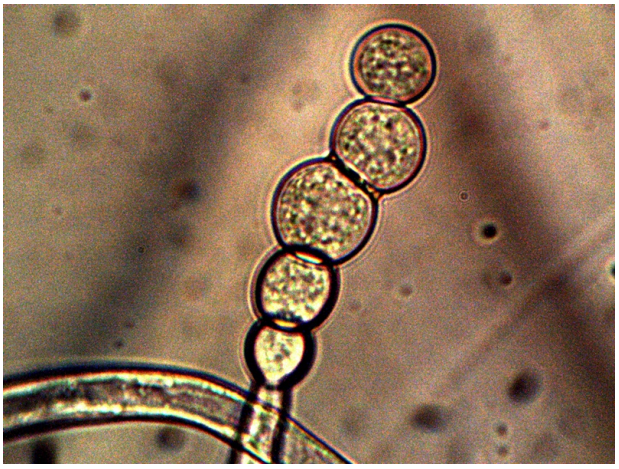
Agar Culture Growth Stage –
Approx. 7 Days
Filament Form.

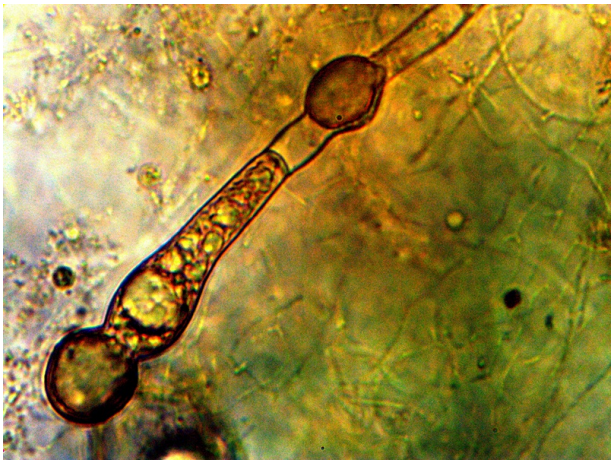
The images above are of agar culture trials and two points of interest, as a minimum, are demonstrated .. The first is the development of cultures in a highly specific fashion that are essentially free from contamination of other organisms such as common molds and fungi. This is the result of work and study that have gradually isolated a set of conditions that are

favorable for growth; these will be identified in greater detail within separate writing. Many non-specific culture environments, both liquid and agar based, have been investigated and the results presented on the site over a period of many years. One advantage of the current progress is that it allows for a more accurate assessment of the early growth processes that are specific to this particular organism. It is expected that this process can and will be refined further as the research extends itself within the health professions and laboratory environments.

The second illustration is of the importance of both moisture and the atmosphere to the growth process. Significant decreases in atmospheric pressure have been applied to the culturing process and in all cases a corresponding marked decrease in growth and proliferation is observed. This leads us to understand that the composition of the atmosphere is, in some fashion, beneficial and important to growth. The most obvious and likely beneficial candidates to consider here will be that of oxygen and nitrogen. Additional work to be described further increases the evidence for favoritism towards an oxygen rich environment, but that result is not exclusive in any way to the potential importance or role of additional gases during growth.

It should also be understood that a growth *benefit* is an entirely separate issue than that of a growth *requirement*. ***The above information does not, in any fashion, demonstrate that the atmosphere is required for the existence or even perpetuation of the organism*** - only that it appears to be beneficial and favorable for growth or for growth to proceed more quickly. ***As a matter of act, the evidence to date indicates that the organism can exist in stasis indefinitely under especially harsh or severe environmental conditions***. These conditions could well include that of a vacuum, a complete lack of moisture, and extremes in temperature. The subject of exobiology may ultimately be relevant to this discussion as there remain many unknowns as to what that final limiting environment may be. Readers may wish to investigate the topic of the attempted destruction of microorganisms and how it relates to our own space exploration programs from earth. It may be a surprise to learn how ‘hardy’ life has shown itself to be and even the role of humans themselves in ‘seeding’ the cosmos, let alone studying the prospect of cosmic intrusion of life forms onto and into this planet. Ames Research Center, as one of the early visitors to the body of research here, may be a place to start the inquiry. There is, obviously, room for discussion on these subjects and on the origins of life in general. It is probably of benefit to us a species that we no longer regard the theories of panspermia as being novel.





Advanced Filament Form – Cellular Production. Cells amass additional CDB within. Also note the CDB saturated filament form in addition to cellular production. Sheathed bacterial forms, heterocytes and '*erythrocytic*' related formations are under current consideration. **All** possibilities that provide for a transition from an apparent single-celled organism to a multi-cellular organism will be considered in the study process.
Original Magnification Approx. 5000x.

The images above show a series of remarkable developments that take place; it is at this point that the conventional boundaries of growth become radically challenged. What occurs, in general, is the transformation from an apparent single celled primitive form (CDB) to a multi-celled organism that demonstrates increasingly sophisticated growth forms and specialization. Many important unknowns immediately make their presence with the transformations that are shown above.

It is possible that we still remain in the domain of the heterocyst and the cyanobacteria, as it has been introduced, earlier in this paper. Certainly the variation in form of the cyanobacteria is a remarkable and unusual case in the study of bacterial evolution; we must recall that they were once called 'blue-green' algae in a period of earlier understanding. In either case, it can be seen that the case of the cyanobacteria required specialized and extensive study to account for the morphological changes, not the least of which required a knowledge of its *genetic* origin. It is expected to be no different in the case of the CDB, as the mysteries within are not likely to be evident from any conventional or external study. There is only so far that we will be able to go with the microscope.

What is shown above *appears* to be more than the case of a heterocyst. We also can recognize that there may be some similarities, however, so it is in our interest to understand the function and nature of the heterocyst. The primary function of the heterocyst (a specific form of cell development that is apparently unique to cyanobacteria) is to fix, or utilize, nitrogen. Nitrogen fixation is a process whereby a cellular form uses nitrogen from the atmosphere and converts it to ammonium that the organism can then use for nourishment. Nitrogen fixation is a definite field of study that is immediately germane to the investigations underway with the CDB. We recall from the vacuum studies mentioned above that both nitrogen and oxygen are at the forefront of nutrient investigation and they are of equal interest. Therefore, the creation of a specialized cell for the purpose of nitrogen fixation does exist as a distinct and real possibility. The following two points are also of high interest with regard to the development shown above:

1. All of the nitrogen-fixing organism are prokaryotes, i.e., bacteria[6]. This fact increases the interest and attention on the primitive form (i.e., CDB) as having a core of origin within the bacterial domain.

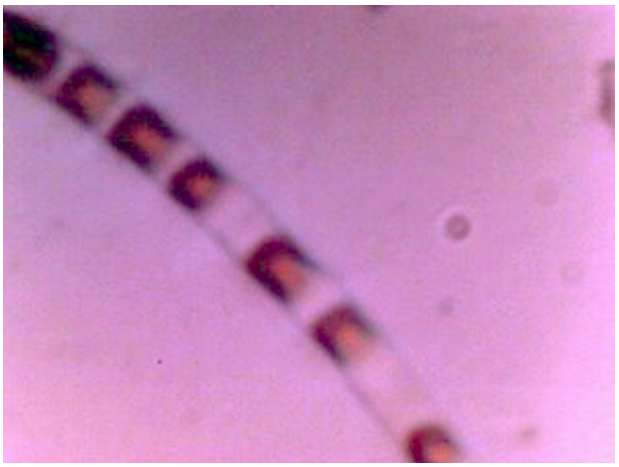
2. It is of special interest to note that iron-protein complexes (ferridoxins), in light of the previous statements made, play an essential role in the nitrogen fixation process by bacteria. Readers may recall that iron-sulfur proteins have been introduced as a subject for further study within earlier research papers.

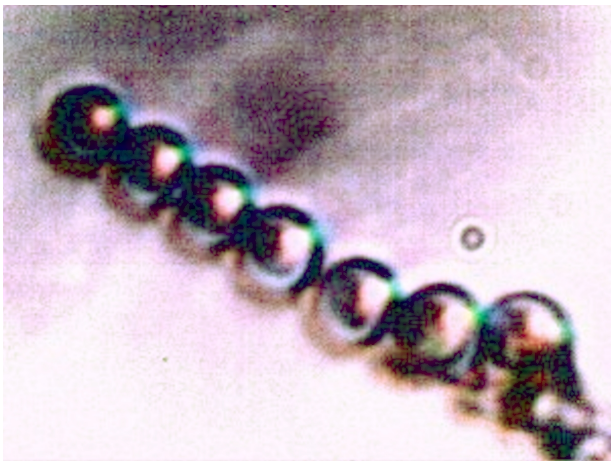
It does seem, however, that there are also some complications to this singular focus, based upon what we see and what is known about CDB behavior. The function, capability and form of the heterocyst does not appear to be sufficient to explain all that is observed as well as the subsequent development of the organism. The function of nitrogen fixation, however, could certainly be implicit within the transformations that are shown above. At this time, there simply remains no known visual documentation of the growth process that is shown above.

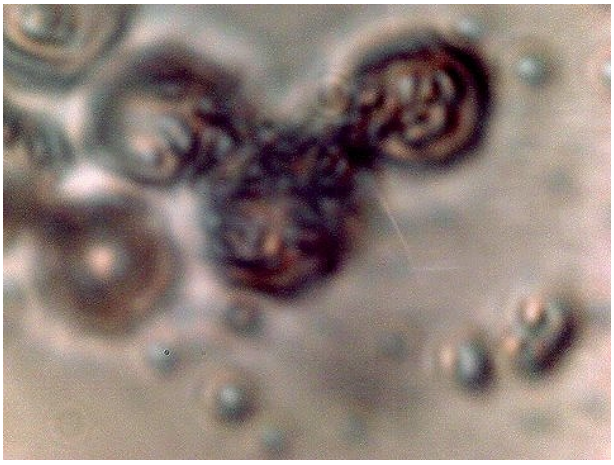
It also appears that the heterocyst is a specialized cell that develops separately and distinct from the non-filamentous cyanobacteria form. In our case, the three different entities: CDB, filament, and cellular construct, all seem to be joined and intermingled in about any way that is conceivable. In the case above, the filament has become densely packed with the CDB.

In the live view of this particular case, the CDB were so numerous as to form a ‘river’ or a ‘stream’ of continuous and flowing CDB within the filament. Subsequently what we see is the filament forming internal cellular divisions across its length. These cellular divisions eventually segregate from the filament in essentially perfect circular form. It will then be seen that the separated circular cells are in turn themselves densely packed with the CDB, where they continue to develop and and presumably accomplish additional function at a more sophisticated level. It should also be understood that the images above are not a normal and daily occurrence of development; they required protracted and difficult culture circumstances to develop. Any casual study made of the organism would not likely even reveal the potential, let alone the expression of the growth forms that have been documented above.

We must also, at this point, introduce the uncanny similarity and potential relationships to the ‘erythrocytic’ forms that have been repeatedly presented on this site within in earlier work (e.g., see “Blood Issues Intensify“, Apr 2009 and “Morgellons : 5th, 6th & 7th Match“, Jan 2008, “Artificial Blood?“, Aug. 2009). Any possible association between the unusual imagery immediately above with that of earlier work shown immediately below is not to be ignored. Let us recall some of that early work with the limited imaging equipment that was available at the time. It should also be realized that the culture methods employed in that work differ from the methods under current use and that the issue of pleomorphism, as it can be aptly demonstrated, must be taken into account with any comparisons that we can make from the limited knowledge base that is available to us.

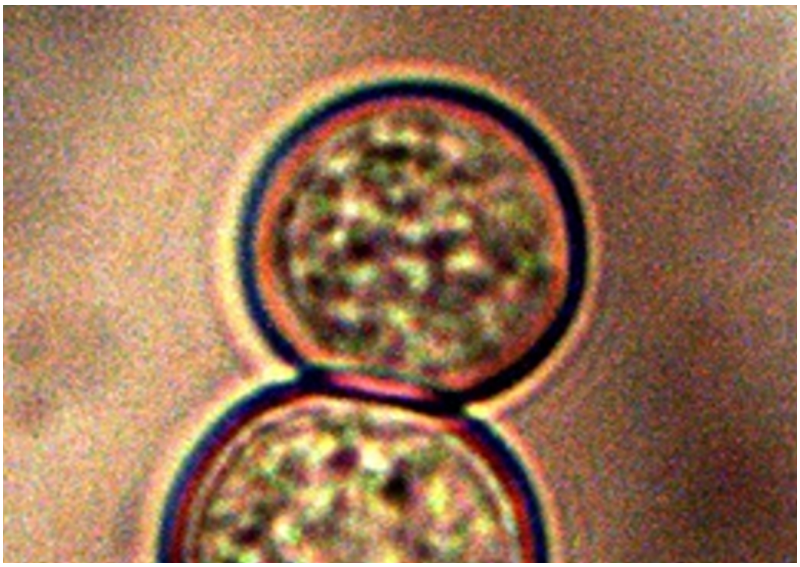


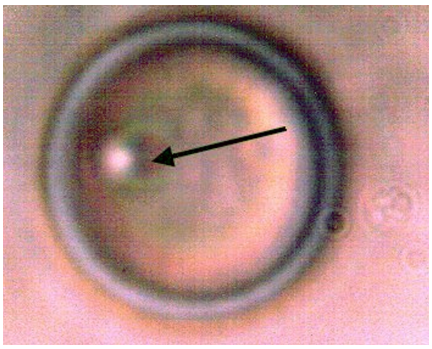




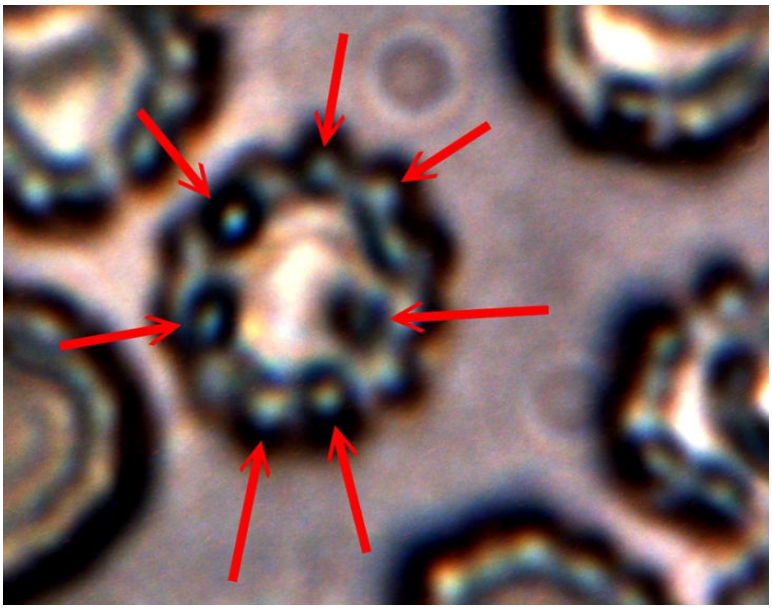
2008-2009 Filament – Erythrocyte Research Images.

Biconcavity visible in top right and lower left photos. Earlier tests for hemoglobin within these previous cultures produced a positive presumptive result by two different methods in addition to visual analysis and measurement. Image at lower right is of human erythrocytes subjected to the Gram stain process; excessive CDB are within. Please refer to earlier referenced papers for the details of those studies. Limited CCD imaging capability – Original magnification approx. 9000x.



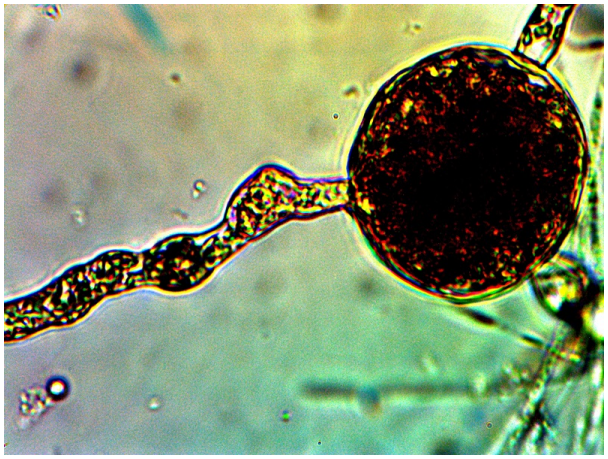


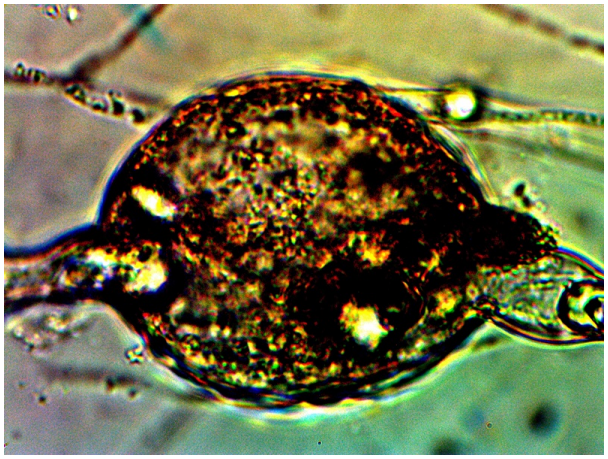
| | |
|---|---|
| Enlargement of cellular structure ("*heterocyte*" – see below) after separation from filament transformations and as based upon the current culture work (2014 : shown above). Similarity to "*erythrocytic*" forms as shown in 2008 – 2009 work is evident. Cellular structure is embedded with CDBs similar to human erythrocyte documented above (post Gram stain process). Original magnification approx. 5000x. | Reconstituted "*erythrocytic*" structure as described in the August 2009 paper entitled "Artificial Blood?". The similarity of size, shape, form and presence of CDB within to that of the current culture developments is evident and remarkable.<br>Original magnification approx. 5000x. |

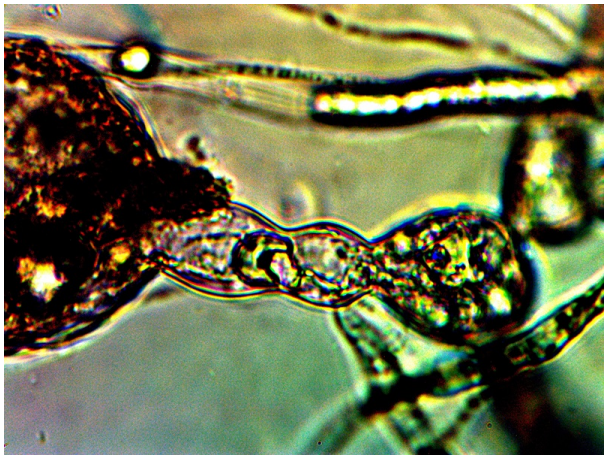


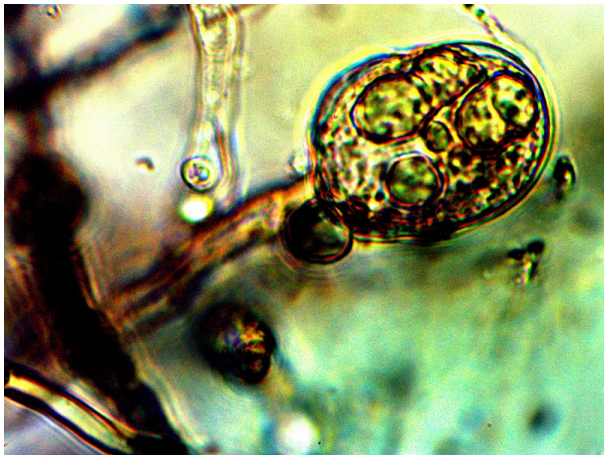
Human blood cell (erythrocyte) that demonstrates cellular and membrane damage from CDB (red arrows) adhesion and intrusion. Image excerpted from "Advances in Microscopy", (Nov. 2013). Original magnification approx. 12,000x.

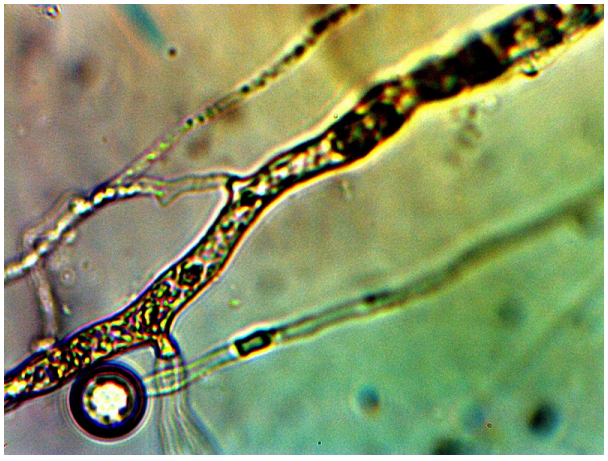
Studies to investigate any potential relationships between heterocysts, "*erythrocytic*" forms and hemoglobin tests will continue with respect to this novel life form and organism. **During this interim of understanding**, I shall refer to the unique cellular formation from the CDB as a "*heterocyte*" (i.e., as in a different, or other cell, and as opposed to heterocyst). It is now clear that these cells originate from the CDB and the term *CDB heterocyte* may also be used during this research stage.





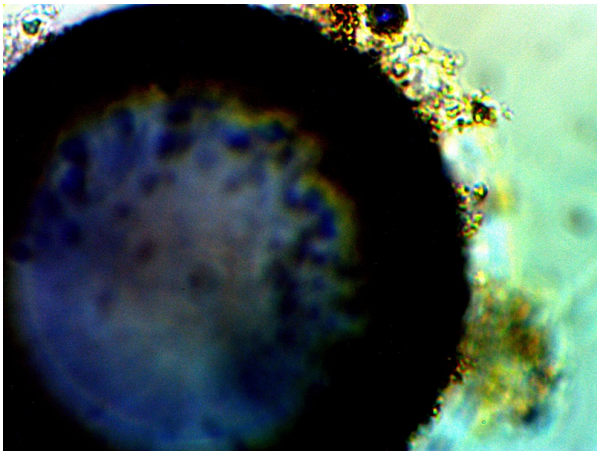


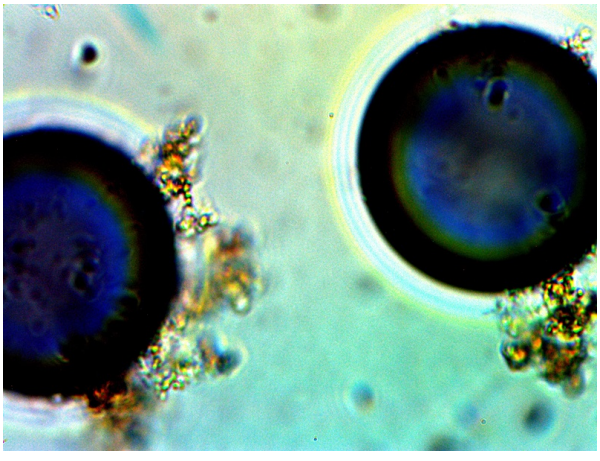




Advanced filament form – reddish aggregation (probable protein nature) with internal CDB and cellular production. Lower image shows combination of primitive CDB-filament form, larger filament dominated by streaming CDB and external cellular development. Original Magnification Approx. 5000x

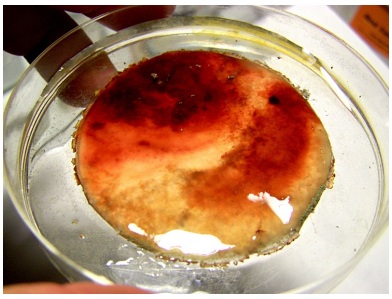
From this point on there appears to be increasing variability in the forms of growth that can be assumed by the organism. The CDB and the heterocytes appear to be at the root of each of these forms that subsequently develop and they remain, therefore, at the core of study. Some of the variations shown are repeatable and controllable; others are incidental and the conditions only partially defined. The combination of all circumstances shown above observed in a single session is more akin to the latter; the heterocyte cellular division from the filaments remains as a rare event thus far. In the filaments shown within these images the densely packed streaming and flowing version of the CDB does occur. This has been recorded on more than one occasion and it represents massive CDB production within the filaments. Heterocyte production within a filament appears to be enhanced under these concentrated CDB conditions; the heterocytes can be seen as units of division and development within the second row of the image set. What also makes this observation group unusual is the appearance of an enclosing sac which then *itself* contains a cluster of heterocytes. This can be seen most clearly in the right photograph of the second row. There is reason to believe, as mentioned before, that this reddish-brown material (most clearly demonstrated in the top left image) may well be an iron-protein complex. Work will continue on identifying the nature of the various forms and substrates that are being observed. The bottom image contains a representative cross section of various forms within one image: a primitive filament enclosing a single linear array of the CDB, a larger branching filament filled with concentrated and streaming CDB, a few isolated CDB in the interstitial space, and an isolated heterocyte in the lower left of the image. In the main, the patterns of growth are highly repeatable and identifiable, especially those that involve the CDB, the encasing filament structures and the production of the heterocytes.

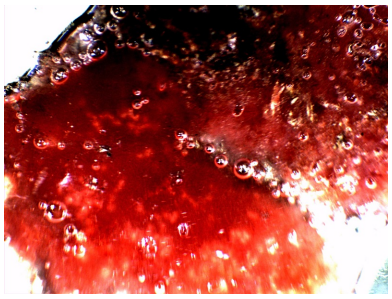


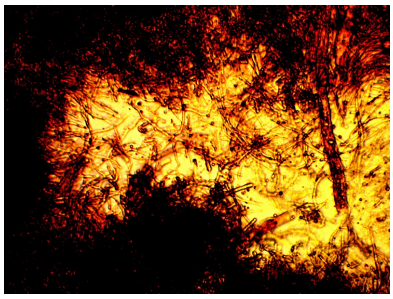


A blue compound that forms in combination with CDB cultures and growth forms. This compound has a direct affinity for oxygen; spherical structures in both images are oxygen pockets within an electrolysis culture. Notice that both red and blue hues are common with advanced filament production, especially those associated with skin growth samples. Original Magnification Approx. 5000x

The images above will be provided primarily as a matter of record while the phenomena is studied further. The case above falls within a culture that was subjected to electrolysis. Significant efforts have been extended to include a series of electromagnetic investigations upon growth behavior; these studies will need to be developed and presented in future days. For now, the immediate observation to record is that of an apparent preference by the CDB for an oxygen rich environment; this has been demonstrated by a migration of the CDB to the anode during electrolysis tests. It is a curious affair that the rich blue compounds were intermittently observed during this same period of testing. It is quite possible that oxygen pockets or bubbles are an important part of the process and color formation. There is also an interest in any role that copper (as well as other metals) may play within the growth process. This issue will simply be revisited as circumstances permit; the apparent preference for an oxygen rich environment will be discussed further in the more immediate future.







CDB – Advanced Culture Development

| | | |
|---|---|---|
| Gel Diameter Approx. 6 cm. | Hydrogen Peroxide Reaction with Gel Magnification Approx 200x | Original Magnification Approx. 5000x |

The final set of observations here record the culmination of culture studies over an extended time period. These results are biologically impressive but potentially quite dangerous because of the scale of growth. The photo on the left is the final stage of a liquid broth culture that was allowed to mature for approximately one month. This culture did progress with the onset of CDB growth and was followed by filament growth as it has been aptly demonstrated throughout this paper. At the more mature stage of growth, a gel like material formed at the top of the culture and is shown on a watch glass. The amount of sheer mass here is of consequence; what is shown is growth on on the order of inches rather than the customary microns or nanometers that are involved at the origin. Readers may wish to recall the time lapse record above to realize that the scale of growth postulated there is not hypothetical. This amount of mass developing within a favorable environment or host is of consequence. Reports of individuals with internal masses or filaments on the order of scale shown are to be taken quite seriously as this report proves that it can and will happen under the appropriate conditions. The nature of the material is partially ambiguous and partially known; further studies will hopefully present that result in due time. Material of a protenaceous nature is under strong consideration.

It will also be noticed that a bright red hue exists across a portion of the surface; this is an evolution beyond the ruddy reddish-brown compounds that have been mentioned above. It has been observed and reported on earlier; please see "Biofilm, CDB & Vitamin C", (Apr 2014). The photo in the center of the group shows the reaction of this reddish material to hydrogen peroxide, and the reaction is vigorous. The same reaction is shown in kind within the paper referenced above. The most direct interpretation here is that of a positive catalase reaction. Catalase is a common enzyme found in nearly all living organisms exposed to oxygen and it decomposes hydrogen peroxide into hydrogen gas and water[7]. Clearly, we may conclude that we are dealing with a living organism but this fact has already become evident. We are therefore each obligated to find out what the true nature and extent of this organism is, as it been equally and clearly demonstrated to be affecting the biology of the entire planet. It is of more than passing interest that this gel material is of a bright red color and that it combines with hydrogen peroxide to produce the vigorous reaction. Many readers may also be familiar with the reaction of hemoglobin with hydrogen peroxide and the similarity should not escape us since it also involves catalase[8]. This preliminary reaction with peroxide was the basis for additional presumptive hemoglobin tests during research of past years; it should be recalled that the results of these tests for the presence of hemoglobin within the cultures were positive. Regardless of where this research will lead to in future days, the nature of this material and this reaction should be of concern to each of us.

The final photograph on the right shows this same material under the microscope at reasonably high power. What we find is a structurally more advanced and rigorous construct of the crossing filament and CDB embedded network in a familiar display The reddish hue

material is also abundant here and these observations further support the hypothesis of an iron-protein complex that is under formation.

This paper has introduced a roadmap of increasing complexity to each of us. The path that emerges, regardless of the many branches that we choose, ultimately must return to the origin of growth as it is identified. This, in all cases examined thus far, is indeed the CDB, or *"cross-domain bacteria"* as they have been tentatively designated. This identified point of origin remains the focal point of current research by the Institute; each individual on this planet has the concomitant obligation to seek the truth on these matters and to make this same truth known to all.

Clifford E Carnicom
Jun 07 2014

Born Clifford Bruce Stewart, Jan 19 1953

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# Statement of Intent and Planning



**Statement of Intent and Planning**

Clifford E Carnicom
Aug 05 2014

I have the responsibility to provide a certain level of detail regarding the planned research and operations for Carnicom Institute during the upcoming year. The primary issue of discussion is the balance between active research and the presentation of that same research to the public. The current situation is that the pace of research during the first half of this year has exceeded the capabilities of the Institute to present and disclose the results of that same research to the public. It is something to be grateful for that such a body of work is in place. The situation is not problematic but the lag is probably on the order of four to six months of work at this time. This dilemma will force certain decisions to be made as to what must be sacrificed with the available resources to achieve the greatest good. The immediate instinct is often to pursue the research needs in the most earnest fashion, as discoveries of some type occur on almost every day of business within this laboratory and associated work. Some of these discoveries are compelling and profound from a scientific standpoint, but the scientific methods demand that such fascinations be held in reserve until they are reliably replicated over a period of time. This is the nature of the work and this has always been the case; however, we must also not assume that infinite time for review and deliberation of our questions and discoveries remain.

A recent paper produced by the Institute is an example of the type of situation that can develop. In the case of the paper entitled, "Morgellons : A Working Hypothesis – Neural, Thyroid, Liver, Oxygen, Protein and Iron Disruption" (Dec 2013), the actual basis for the work took no more than a few months to produce. The majority of even that time was not spent in producing actual data, but was spent in rejuvenating 30 year old technology along with building an education from the ground floor on the topic of infrared spectrometry and the errors associated with it. Obviously, there are more efficient means to get this data and result, especially if we are all willing to pay for it. The greatest devotion of time, however, was in the presentation of the research and in the subsequent interpretation and analysis of it. That single paper required approximately one year of time to complete and all other avenues of exploration or discovery were necessarily suspended and on hold while that writing was completed. Hopefully the benefits from the work will ultimately justify the excessive devotion to the task.

The immediate situation for the Institute is that approximately four research papers are in need to be written to keep in standing for only one project. There may be others that are both capable and inclined to assist with such papers based upon the available data and understanding, but this prospect is non-existent at this time. There are many complexities and nuances to the presentation of research work that are intimately tied in with the direct experience; it is very difficult to extrapolate that experience and it may be unfair to expect otherwise. If you believe that you have such talents, depth of knowledge and self-motivation then please contact this organization; I can promise that the demands upon you will be very high. I will certainly complete these papers in due time as circumstances permit. One of the challenges in shifting to the mode of presentation and writing vs. active research is that the momentum of the discovery process is interrupted and it may end up being halted altogether.

Carnicom Institute is also involved in a move of the facility from one location to another within the same town; the moving of equipment and the library takes a similar toll whether it is 100 feet or 100 miles. The benefits of the new location should easily outweigh the disruption in the interim. The lack of resources, human or otherwise, also requires the consolidation of administrative efforts to manage the essential functions of an organization. In addition, Carnicom Institute has been invited to participate in the National Freedom Health Coalition later this fall; please contact the Coalition or visit the donation page of CI if you wish to make that a reality and support that cause.

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The four papers of immediate interest and in need of completion are:

1. **CDB : General Characteristics** (this paper is currently in progress – estimated time of completion within two months of time once dedicated and available.

2. **CDB : Growth Requirements and The Influence of Metals** .

This paper will detail and document the various roles of major nutrient classes, metals, transition metals and trace metals in the growth process. Minimum growth requirements will also be tested along with comparison to established and effective means of culturing that now exist. The documentation of the laboratory work for this project remains to be done. Estimated time for completion is also approximately one month once the time is dedicated and available. This work is not intended to be exhaustive but it is intended to provide an important basis and reference for culture work accomplishments that are already in place.

3. **CDB : Lipids, Proteins and Endotoxins**.

Important work has already been accomplished that demonstrates the ability to penetrate the CDB and to extract both lipids and proteins from the life form. The methods that have been used to accomplish this are of great importance to future work to be done and it is required that the current discoveries be defined and documented. Other methods to accomplish the same result, of course, may also develop. An introduction to the benefits and applications of these separations and extractions will be made. A case for the possible existence of endotoxins within the structure will be presented and an appeal for the resources to conduct that specific research will be made. A simplified technical presentation of cellular stucture in conjunction with implications from current findings will be made.This paper is estimated to take three to four weeks to complete when the time is dedicted and available.

4. **CDB : Electromagnetics**.

A major topic of investigation that involves the impact and effect of electromagnetic energies upon the CDB has evolved over the past several months. A body of laboratory work does exist to support the work that is to be presented. All evidence of the current work indicates strong ties and association with the electromagnetic work that has been accomplished in years past. There is no documentation of this work at this time in any fashion other than my own understanding and observations of what has taken place with my work. This topic is much more open ended and complex than those above and it is likely to be pursued over many months if the time and dedication to the project is made. The objective of the paper at this point is simply to introduce the topic and some of the more interesting and potentially profound implications from the studies that have already been made.

It is a benefit to us that we are in the position to call for such papers to be written.

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On the research side, there is no end to the projects and needs before us. The active work is in partial competition (in time only) with the effort that is required to present work that *has already been* accomplished. There are four main projects that are driving the agenda of Carnicom Institute during the next one to two years:

**1. CDB Composition, Structure and Metabolism**

**2. CDB Protein and DNA Analysis (Introductory)**

**3. Environmental Filament Project**

**4. Morgellons Research Project (MRP)**

Each of above projects are major enterprises in their own right, even with adequate resources and means (they are inadequate). It was ambitiously hoped that a small degree of finality could be offered on these topics prior to the end of the year, but that schedule is unrealistic at this time and is to be doubled on a practical basis. Some very important progress has been made this year and it is important to consolidate it. Another worthy goal is to understand the entirety of the work as it developed; it is best that we not lose sight of the encompassing environmental studies that have taken place over a period of many years. It was the outgrowth and consequence of that environmental work that has forced us to devote equal effort toward understanding the biology of change that we now all share.

I am also approaching the stage of my life where certain changes in life style by both choice and circumstance will begin to manifest more prominently. This year is an especially important year for the staff of this organization to begin communicating the history and body of work that is available to all; it is an equally important year for the public to understand and assume their responsibility for improving the state of this world. The support and resources that are required to improve our state of knowledge and health are now long overdue, and this support is hardly restricted to Institute activities. Human beings are not in their rightful place unless they are able to think critically and independently, and unless they have the health that they deserve; it is also impossible to be spiritually grounded and impart goodness upon others without these. I hope that you will take your place, as you are in need. I will continue to balance these ‘conflicts’ of urgency vs. disclosure vs. resources as I have for the last decade and a half, albeit under likely different circumstances. The Institute exists solely because of your interest, participation and support; everyone on the staff of this organization is grateful for this and they are graciously assisting your cause. Please help them also. Thank you kindly, I will update and amend this statement as the call is made.

Sincerely,

Clifford E Carnicom
Aug 05 2014

# CI Collaborates with NHFC





**A Report by Kate Willens, Associate, Carnicom Institute**
**Dec 3, 2014**

Late on the night of September 23rd, Clifford Carnicom, founder and president of Carnicom Institute, set out by train from Spokane, Washington to attend the 2014 United States Health Freedom Congress in St. Paul Minnesota. He was invited by Diane Miller, JD, Director of Law and Public Policy for the National Health Freedom Coalition (NHFC), and the National Health Freedom Action. These organizations bring together leaders from across the country who are working toward health freedoms and the legislation which can secure these freedoms for people in the United States. Clifford was honored to be invited and to offer a view of his work to people unfamiliar with it. At the same time, he was eager to learn about the work of the other members. I interviewed Clifford upon his return.

KW: Clifford, you seem very eager to share your experience of the Health Freedom Congress. What happened there? What's it all about?

CEC: I am excited by my experience there. It was so encouraging to see that many other organizations are working along similar lines as Carnicom Institute. We each have our different focus areas, of course, but generally we are working to provide a climate in which people have access to health care of their choosing, rather than being forced into accepting health care that does not fit with their values and preferences. You've probably heard the stories about people losing their children because they refused a certain course of prescribed and mandated treatment. The National Health Freedom Coalition is at the forefront of a movement that will give people the rights to decide for themselves what kind of healthcare they want without being penalized for their choices. The NHFC also created the

legislation to protect healthcare practitioners in what are called Safe Harbor Laws. A safe harbor provides protection so that those providing alternative healthcare will not be penalized for practicing medicine which falls outside the domain of conventional medicine.

KW: That's impressive, Clifford. I hear about people whose practices have been closed down by the authorities for practicing medicine without a license, even though these people did have licenses or certifications in their chosen field of alternative medicine.

CEC: Conventional medical professionals have, in many cases, been given powers that far exceed what is reasonable and it was never intended to be so. It all depends on how you define medicine. Nine states have passed health freedom legislation that was spearheaded by the NHFC. This legislation is sweeping the nation and more than two dozen other states are working on similar legislation. These laws define the scope of licensing, as well as support the freedoms to which people are entitled. People have a right to informed consent and a right to choose.

KW: Why did they ask you to come?

CEC: They recognize that CI and scores of other organizations are working along the same lines. The focus of the organizations which make up the NHFC encompass a broad range of issues, including vaccines and GMOs. They are gradually increasing the scope of issues they are bringing to the table; this year they decided it was important to begin learning about geoengineering. CI extended the discussion to include the full range of the research, which includes bioengineering as well.

KW: How did you bring this issue to the people attending?

CEC: The conference was structured to allow for discussion in smaller groups. There were no presentations by voting members of the congress, of which I was one. But though I was not one of the speakers, I was working and making connections whenever I could… in the hallways, at the breaks, and in the small groups. Many connections and understandings were reached, but not to the depths that we will seek in the future. Many people showed an interest in our organization and would like to learn what we do. Likewise, I had an equal interest in understanding the other organizations and what they are working toward. We are all sharing the same interests here. What they didn't know when they invited me was whether CI was working along the same lines. They found out that we share common goals and a seriousness about the depth of the issues involved with health freedoms. However, our work is international in scope, while that of the other organizations is at the national or state level. It became overwhelming to many of them because it was outside of their normal turf.

KW: So now what, Clifford? Where do we go from here?

CEC: I want to forge a collaboration between CI and the other organizations that are part of the Coalition, and I want to bring the public into an understanding of all the issues at stake here. There is CI, there are the members of the Coalition, and there is the public. I am looking toward increased awareness, involvement, and action between all parties. I want to openly declare Carnicom Institute's advocacy and active support for the National Health Freedom Coalition. Additionally, the public has a responsibility to become educated in the shared principles of CI and the Coalition, such as informed consent, and to become aware of the work that is being done to benefit the public. This awareness will present the work of Carnicom Institute in relationship to the larger themes that involve the violations of basic human rights and the freedom of choice. What excites me is the potential for a more powerful network of public involvement through the collaboration of Carnicom Institute and the National Freedom Health Coalition.