From: spycher@hbt.arch.ethz.ch
Subject: Fwd: Remedies for an ailing world...
Date: 27. February 2007 12:33:40 GMT+01:00
To: GNNTDC@sabin.org
Cc: minglis@ei.columbia.edu

(re: Jeffrey D. Sachs, The Neglected Tropical Diseases, Sustainable Development, Scientific American, January 2007, p. 19B)
Free remedies for an ailing world...?!:

*In favor of the Neem (Arobaini) tree
*Artemisia Annua: Malaria Cure from China
*MERCK on Onchocerciasis (river blindness): The Merck MECTIZAN Donation Program
*Endod Berry cure for Schistosomiasis (Bilharziosis)
*Spirulina (Green-blue Algae) Spirulina, the blue green micro algae, cleaning highly toxic waste water in South Africa
*'Chaya' The Mayan protein wonderplant
*Titanium Dioxide: Environmental White Knight?
*Colors as Insect Repellent: a case for yellow or pink mosquito nets
Appendix: 'Spirulina' research papers

Neem, Artemisia Annua, Mectizan, Endod Berry, Spirulina, Chaya, Titanium Dioxide and Colors (caution: galenic to be observed)

In favor of the Neem (Arobaini) tree

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http://www.neemfoundation.org
http://www.neemfoundation.org/research%20papers.htm
Books: 'The Neem tree Azadirachta indica A.Juss. and other meliaceous plants : sources of unique natural products for integrated pest management, medicine, industry, and other purposes' / ed. by H. Schmutterer; in close coop. with K. R. S. Ascher ... [et al.]. Weinheim ; Basel [etc.] : VCH ; 1995.. XXIII, 696 S. ; 25 cm : Ill.. [001488286]
<<Neem is an evergreen of the tropics and sub-tropics. It belongs to the family Meliaceae and is becoming increasingly popular for its insect repellent traits and unique property of inhibiting the nitrification process in the soil.
...Scientists have now turned their attention to this wonder tree and are studying the chemical composition of extracts from its leaves, seed kernel, bark and other parts. Several Neem-based biological pesticides are available today. Scientists suggest mixing of Neem extracts with prilled urea to increase the efficiency in use of nitrogen in wetlands.
...Neem fruits, seeds, oil, leaves, bark and roots have such uses as general antiseptics, antimicrobials, treatment of urinary disorders, diarrhoea, fever and bronchitis, skin diseases, septic sores, infected burns, hypertension and inflammatory diseases. Neem oil and its isolates - nimbidin, nimbidiol and nimbin inhibit fungal growth on humans and animals. Neem leaf extracts and teas can treat malaria. The anti-malarial action is attributable to gedunin, a limonoid.
Contact of kissing bugs, Rhodnius prolixus, vectors of Chagas' disease in Latin America, with Neem extracts or azadirachtin "immunizes" them against the protozoan parasite Trypanosome cruzi, opening up new possibilities of controlling the diseases. (Vietmeyer 1992).
...Over 30 patents have already been granted, and this seems to have whipped a north-south confrontation. The issue at the core of the worldwide debate appears to be who controls genetic resources - traditional cultures or transnational corporations?
...While this debate seems set to continue for sometime the Neem tree seems determined to carry on its good work...>>

Artemisia Annua: Malaria Cure from China
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http://www.who.int/tdr/diseases/malaria/update.htm
http://www.who.int/tdr/publications/tdrnews/news72/lapdap.htm
Qing-Hao Artemisin Annua: '...the chemical giants do not produce for a man who cannot pay his shoes...' Mark Honigsbaum
<<Qing-Hao- Quing-Haosu 7 years after Mao ordered this chinese weed to be reexamined for its said (350 A.D. in China) malaria property it hit like a bomb = Artemisia Annua Artemisin (weed) does it.
As this then could not be patented, in 1984 the US based Walter Reed research center nevertheless unlocked the secret about qing-hao (endoperoxide): When artemisin comes into contact with iron-rich heme the molecules fall apart triggering the release of free radicals that are toxic to the parasite (malaria). Artemether group ARTEMOTIL reached Europe as medication only after 20 years after Mao redisdovered this chinese wormwood therapy.>>(Riamet at Novartis)
Dutch registration for artemotil injections: On 22 May 2000, the Dutch registration authorities approved two new artemotil (β-arteether) in sesame oil products for the treatment of severe Plasmodium falciparum malaria by intramuscular injection, which produced by the Dutch company ARTECEF BV, that started in 1991 as the Artemisia Project. Artemotil is a semi-synthetic derivative of artemisinin, a compound first isolated by Chinese scientists from the plant Artemisia annua in 1972. Since then, a number of derivatives have been developed and registered and have entered use in a variety of countries. Artemotil is the first artemisinin derivative to be registered as a single entity according to European standards...>>

MERCK on Onchocerciasis (river blindness): The Merck MECTIZAN Donation Program
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http://www.merck.com/cr/enabling_access/developing_world/mectizan/
The Power of Partnerships: The Merck MECTIZAN® Donation Program
Commemorating 20 Years of Commitment: 1987 - 2007
<<Diny Slamet, 'Seeing the Light', Qantas inflight magazine, No. 93, March 200, pp. 113-118. Quote from p. 116: <<...Taylor played a prominent role in the research for the treatment of river blindness, which is caused by a parasitic worm. The treatment? The common pet worming drug, Ivermectin, (MECTIZAN) given once a year. MERCK, the company that developed the drug in 1987, knew they had a fabulous drug for this disease, but it cost $3 a pill. There were no way these poor African countries could afford it because their total health expenditure was $ 1 per person per year. So the CEO of MERCK showed great leadership and, instead of letting this drug just sit on a shelf, he decided the company would give it away to however many people needed it, for however long they needed it, anywhere in the world. We tested the drug on 20 people in the first study, and now it's given out free to 3 million people a month...>>

Endod Berry cure for Schistosomiasis (Bilharziosis)
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http://chora.virtualave.net/lema2.htm
http://people.africadatabase.org/en/person/11649.html
http://www.aklilulemma.com/11632.html?*session*id*key*=*session*id*val*
Madhusree Mukerjee, 'The Berry and the Parasite':.'The Berry and the Parasite': a 30-year struggle to control schistosomiasis has revealed much about patents and profits'. The sad story of the late Dr. Aklilu Lemma, Ethiopia and his Endod berry against Bilharziosis

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Spirulina (Green-blue Algae) Spirulina, the blue green micro algae, cleaning highly toxic waste water in South Africa

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http://de.wikipedia.org/wiki/Spirulina
research paper see appendix

'Chaya' The Mayan protein wonderplant

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http://www.hort.purdue.edu/newcrop/proceedings1996/V3-516.html
Book: "Magic of Chia: Revival of an Ancient Wonder Food", James F. Scheer;Paperback;
-Potential Nutritional and Health Benefits of Tree Spinach, Joseph O. Kuti and Eliseo S. Torres >

Titanium Dioxide: Environmental White Knight?

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http://www.ehponline.org/docs/2001/109-4/innovations.html
<< Lance Frazer, Abstract: Titanium dioxide (TiO2) is a potent photocatalyst that can break down almost any organic compound it touches when exposed to sunlight in the presence of water vapor. Today, companies are developing a wide range of products that seek to capitalize on TiO2's reactivity, including self-cleaning fabrics, auto body finishes, and ceramic tiles. Also in development is a paving stone that uses the catalytic properties of TiO2 to remove nitrogen oxide from the air, breaking it down into more environmentally benign substances that can then be washed away by rainfall. Other experiments with TiO2 involve removing the ripening hormone ethylene from areas where perishable fruits, vegetables, and cut flowers are stored ; stripping organic pollutants such as trichloroethylene and methyl-tert-butyl ether from water ; and degrading toxins produced by blue-green algae. It remains to be seen, however, whether the formation of undesirable intermediate products during these processes outweighs the benefits offered by TiO2's photocatalytic properties...>>

Colors as Insect Repellent

Faber Birren, Color psychology and color therapy chapter 8: Invertebrates and Vertebrates, Insect Repellents, Citadel Press, USA, 1978, ISBN 0-8065-0653-9, pp. 94-95
Insect repellents
<<...Experimenting with night-flying insects, L. C. Porter and G.F. Prideaux have found that brightness is a dominant factor in attraction power. Next to this, the more a source of illumination approaches the blue end of the spectrum, the more insects it will gather; the more it approaches the red end, the fewer it will gather. ,'The substitution of yellow lamps for white lamps of equal candle power reduces the number of insects attracted by approx. 50 %.'' Consequently, blue is the preferred hue, while red and yellow the least noticed. Thus a yellow lamp of low wattage over the porch, with a blue lamp of high wattage placed at a distance, will effectively divert invasion on a summer night.
For daylight insect traps, however, using paints and not light bulbs, yellow seems to be most useful. Frederick G. Vosburg reports, , For some reason a yellow trap will catch more Japanese beetles than any other color.''

The ,likes' and ,dislikes' of flies and mosquitoes have been carefully studied with practical ends in view. The results given below are obtained from notes assembled by Deane B. Judd and presented in News Letter 45 of the Inter-Society Color Council.

For houseflies, several investigations have led to contradictory results. E. Hardy, for example,

found yellow to be avoided and white to be preferred. On the other hand, P.R. Awati considered yellow to have the greatest attraction, red and violet the least. O.C. Lodge found no preference at all. S.B. Freeborn and L.J. Perry found the fly repelled by pale colors, while R. Newstead had reason to conclude that light colors were preferred to dark colors. Something must be wrong somewhere. Either the methods of research are unreliable, or the flies with haunts in different parts of the world have different ideas about the matter. Possibly, the safest conclusion is that flies are more attracted to lightness than to darkness, for the weight of evidence seems to indicate as much.

In Holland, at least, horse stables and cow stalls are frequently treated with blue to get rid of the pests. So in Holland the flies must dislike that hue.

Regarding mosquitoes, however, the authorities are in far better agreement. Here light colors are the repelling ones. G.H.F. Nuttall and A.E. Shipley found that the common European malaria-bearing mosquito alighted most on dark blue, red, and brown, and least on yellow, orange, and white. (Subsequent to this particular report, the U.S. Army withdrew its regulation shirts in malaria districts and substituted lighter colors).

During five years in South Africa, Shariff found that pink and yellow mosquito curtains did not harbor insects. When boxes were lined with navy blue, pink, gray, and yellow flannel, the interiors of the blue and gray boxes were thickly covered with mosquitoes, while but two or three were found in the pink or the yellow boxes. Hoodless also found that New Caledonia mosquitoes prefer blue and avoid yellow. >>

Appendix

‘Spirulina’ research papers:

Record Number 02364093, Title: An algal biosensor for the monitoring of water toxicity in estuarine environments. Authors Campanella, L.; Cubadda, F.; Sammartino, M.P.; Saoncella, A. Address Universita di Roma 'La Sapienza', Dipartimento di Chimica, P Le A Moro 5, 00185 Rome, Italy. E-Mail : campella@axrma.uniroma1.it

Source Water research, Vol 35, Issue 1, p. 69-76 Language English Publication Date Jan, 2001 Total Pages 8 Keywords Estuarine pollution; Toxic pollutants; Heavy metals; Triazine pesticides; Carbamate pesticides; Water quality monitoring; Toxicity; Biosensors; Microalgae; Equipment description; Equipment evaluation Additional Keywords Italy; Copper; Mercury; Atrazine; Carbaryl; Spirulina subsalsa Subject Categories Pollution of Coastal and Estuarine environments Equipment and Instrumentation Document Type Journal article Holding Library (initial) Water Research Commission (Pretoria)

Record Number 02231956, Title: Beta-cyanoalanine production by marine bacteria on cyanide-free medium and its specific inhibitory activity toward cyanobacteria. Authors Yoshikawa, K.; Adachi, K.; Nishijima, M.; Takadera, T.; Tamaki, S.; Harada, K.-I.; Mochida, K.; Sano, H. Address Nippon Suisan Kaisha Ltd, 559-6 Kitano-machi, Hachioji-shi, Tokyo 192-0906, Japan. E-Mail : yoshi3@nissui.co.jp Source Applied and environmental microbiology, Vol 66, Issue 2, p. 718-722 Language English Publication Date Feb, 2000 Total Pages 5, Keywords Biocides; Biological production; Marine algae; Screening; Direct effects; Cyanobacteria; Freshwater algae; Algal growth inhibition; Bacteria growth inhibition Additional Keywords Biotoxins; Cyanoalanine; Oscillatoria amphibia; Synechococcus; Entophysalis; Spirulina; Microcystis aeruginosa; Microcystis viridis; Chlorella; Nannochloris; Brachiomonas; Prorocentrum; Skeletonema; Ditylum; Asterionella; Nitzschia; Ulva conglobata; Balanus amphitrite; Artemia salina Subject Categories Microbiological

techniques and studies Document Type Journal article Holding Library (initial) CSIR (Pretoria)

Record Number 02384108, Title: Toxicity of triphenyltin to Spirulina subsalsa. Authors Zhihui, S.; Guolan, H. Address Nankai University, College of Environmental Sciences and Engineering, Tianjin 300071, China. Source Bulletin of environmental contamination and toxicology, Vol 64, Issue 5, p. 723-728 Language English Publication Date May, 2000 Total Pages 6 Keywords Organic metal compounds; Estuarine pollution; Marine pollution; Pollutant effects; Marine algae; Freshwater algae; Salt tolerance; Biomonitoring; Toxicity tests; Feasibility studies Additional Keywords Organotin compounds; Triphenyl tin Subject Categories Pollution of Coastal and Estuarine environments Pollution effects on the Environment Toxicity tests and studies Document Type Journal article Holding Library (initial) University of Stellenbosch

Record Number 01745069, Title: Paper 3C-5. A continuous process for the biological treatment of heavy metal contaminated acid mine water. Authors Van Hille, R.P.; Boshoff, G.A.; Rose, P.D.; Duncan, J.R. Address Rhodes University, Department of Biochemistry and Microbiology, PO Box 94, Grahamstown 6140, South Africa. Sponsors Water Institute of Southern Africa [WISA] PO Box 6011, Halfway House 1685, South Africa Source p. 1-8 Conference Information WISA 98. Biennial Conference and Exhibition of the Water Institute of Southern Africa [WISA]. Papers. Volume 3, 4 to 7 May 1998, Cape Town, South Africa. Publisher Water Institute of Southern Africa [WISA], PO Box 6011, Halfway House 1685, South Africa. Language English Publication Date 1998 Total Pages 8 Keywords Acid mine drainage; Demineralization; Metals removal; Heavy metals; Biological treatment; Primary treatment; Algal cultures; Alkalinity; Chemical treatment; Secondary treatment; Anaerobic digestion; Sulphate removal; Process details Additional Keywords Iron; Zinc; Lead; Spirulina; South Africa Subject CategoriesWastewater and Sewage and Sludge Mining and Minerals Document Type Conference paper Holding Library (initial) Water Research Commission (Pretoria) C3231 Dept of Water Affairs (Pretoria) WPAM7816 WA050

Record Number 01624415, Title: Algae used for treating water and making money. Alge suiwer water en maak geld. Authors: Claassen, J. Address Claassen, J, South Africa. Source Landbouweekblad, Vol 982, p. 20-22 Language Afrikaans Publication Date Feb 28, 1997 Total Pages 3, Keywords: Wastewater treatment; Aerobic treatment; Cyanophyta; Tannery wastes; Wastewater treatment plant design; Algae harvesting; Waste to feeds; Economic feasibility Additional Keywords Algal Integrated Pond System; Spirulina; Southern Africa Subject Categories Wastewater and Sewage and Sludge Document Type Journal article

Others:

Record Number 85110189, Title: TERTIARY WASTEWATER TREATMENT USING THE BLUE GREEN ALGA, SPIRULINA. Authors LYON, S.R.; ELKINS, B.V. Address SAN DIEGO REGION WATER RECLAMATION AGENCY, 10887 WOODSIDE AVENUE, SANTEE, CALIFORNIA 92701., Sponsors AMERICAN WATER WORKS ASSOCIATION.

Source 3RD WATER REUSE SYMPOSIUM PROCEEDINGS, AUGUST 26-31 1984, SAN DIEGO, CALIFORNIA. FUTURE OF WATER REUSE, VOLUME 2, p. 753-760, Publisher, AWWA, RESEARCH FOUNDATION, DENVER, COLORADO, USA., Language English, Publication Date 1985 Total Pages, Keywords: TERTIARY TREATMENT; WASTEWATER TREATMENT; CYANOBACTERIA; SINGLE CELL PROTEINS; PROTEIN PRODUCTION; WASTE TO FEEDS; PH; NUTRIENT REMOVAL; FEASIBILITY STUDIES; VIRUS INACTIVATION; RACEWAYS; SEWAGE TREATMENT, Additional Keywords: SPIRULINA; ALGAE CULTURES, Subject Categories Wastewater, Document Type Conference paper, Holding Library (initial) CSIR (Pretoria) COPY 417813; 628179WAT

An algal biosensor for the monitoring of water toxicity in estuarine environments. Authors:

Campanella, L.; Cubadda, F.; Sammartino, M.P.; Saoncella, A.
Beta-cyanoalanine production by marine bacteria on cyanide-free medium and its specific inhibitory activity toward cyanobacteria, Authors: Yoshikawa, K.; Adachi, K.; Nishijima, M.; Takadera, T.; Tamaki, S.; Harada, K.-I.; Mochida, K.; Sano, H.
Toxicity of triphenyltin to Spirulina subsalsa, Authors: Zhihui, S.; Guolan, H.
Kinetic response of photosystem II photochemistry in the cyanobacterium Spirulina platensis to high salinity is characterized by two, Authors: Lu, C.; Torzillo, G.; Vonshak, A. (*)
Paper 3C-5. A continuous process for the biological treatment of heavy metal contaminated acid mine water. Authors: Van Hille, R.P.; Boshoff, G.A.; Rose, P.D.; Duncan, J.R.
Paper 3C-7. Treatment of acid mine drainage water in an integrated sulphate reducing high rate ponding process. Authors: Rose, P.D.; Boshoff, G.A.; Van Hille, R.P.; Wallace, L.M.C.; Dunn, K.M.; Hart, O.O.; Duncan, J.R.
Biosorption of antimony and chromium species by Spirulina platensis and Phaseolus. Applications to bioextract antimony and chromium from, Authors: Madrid, Y.; Barrio-Cordoba, M.E.; Camara, C. (*)
Continuous cultures of Spirulina platensis under photoautotrophic conditions with change in light intensity. Authors: Hirata, S.; Taya, M.; Tone, S. (*)
The effect of solar UV and visible irradiance on the vertical movements of cyanobacteria in microbial mats of hypersaline waters. Authors: Kruschel, C.; Castenholz, R.W. (*)
An integrated algal sulphate reducing high rate ponding process for the treatment of acid mine drainage wastewaters. Authors: Rose, P.D.; Boshoff, G.A.; Van Hille, R.P.; Wallace, L.C.M.; Dunn, K.M.; DUncan, J.R.
Magnetic field effects on photosynthesis and growth of the cyanobacterium Spirulina platensis. Authors: Hirano, M.; Ohta, A.; Abe, K.
Sorption and desorption of Cu and Cd by macroalgae and microalgae. Authors: Zhou, J.L.; Huang, P.L.; Lin, R.G.
Algae used for treating water and making money. Authors: Claassen, J.
Microalgal colonization in a saltmarsh restoration scheme. Authors: Underwood, G.J.C.
Production of Spirulina sp. in sea water supplemented with anaerobic effluents in outdoor raceways under temperate climatic. Authors: Olguin, E.J.; Galicia, S.; Camacho, R.; Mercado, G.; Perez, T.J.
Recuperation of uranyl ions from effluents by means of microbiological collectors. Authors: Cecal, Al.; Rudic, V.; Gulea, A.; Palamaru, I.; Humelnicu, D.; Goanta, M.; Salaru, V.V.
Heavy metal removal from industrial effluents by immobilised yeast and algal biomass. (Paper No 52). Authors: Duncan, J.R.; Wilhelmi, B.S.; Stoll, A.D.; Makhale, T.C.; Brady, D.
High rate algal oxidation ponding for the treatment of tannery effluents. Authors: Rose, P.D.; Maart, B.A.; Dunn, K.M.; Rowswell, R.A.; Britz, P.
THE EFFECTIVE USE OF WATER BY MEANS OF AN ALGAL AQUACULTURE SYSTEM. FINAL REPORT. Authors: MITCHELL, S.A.

EXPERIMENTS ON SPIRULINA CULTURE ON WASTE-EFFLUENT MEDIA AND AT THE PILOT PLANT. Authors: AYALA, F.; VARGAS, T.
