



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized item.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

Statement on harmful and offensive content

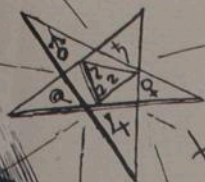
The Hunt Institute Archives contains hundreds of thousands of pages of historical content, writing and images, created by thousands of individuals connected to the botanical sciences. Due to the wide range of time and social context in which these materials were created, some of the collections contain material that reflect outdated, biased, offensive and possibly violent views, opinions and actions. The Hunt Institute for Botanical Documentation does not endorse the views expressed in these materials, which are inconsistent with our dedication to creating an inclusive, accessible and anti-discriminatory research environment. Archival records are historical documents, and the Hunt Institute keeps such records unaltered to maintain their integrity and to foster accountability for the actions and views of the collections' creators.

Many of the historical collections in the Hunt Institute Archives contain personal correspondence, notes, recollections and opinions, which may contain language, ideas or stereotypes that are offensive or harmful to others. These collections are maintained as records of the individuals involved and do not reflect the views or values of the Hunt Institute for Botanical Documentation or those of Carnegie Mellon University.

About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.



Peace to all Mankind
Goodwill to the Earth

Zea
perennis

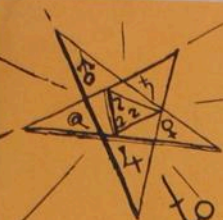
Perennial

Teosinte ♀

Ciudad Guzman,
Jalisco, Mexico

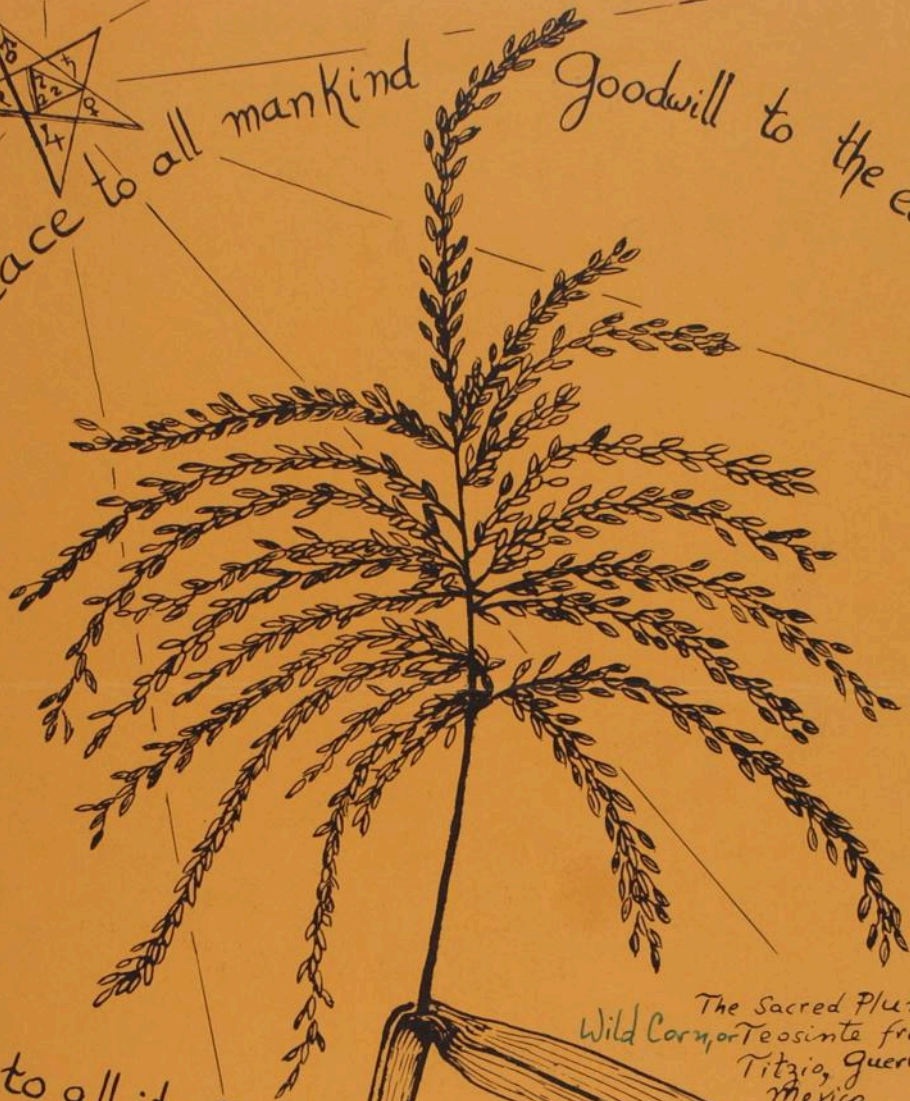
Extinct in
the
wild

To all its flowers, birds,
and children, both young
and old, and to you —
A Happy New Year 1976
to George & Ilitis
with love
Hugh
from Hugh



Peace to all mankind

Goodwill to the earth,



The Sacred Plume of
Wild Corn, or Teosinte from
Tizia, Guerrero,
Mexico.

to all its flowers,
birds and children,
both young and old,
and to you -

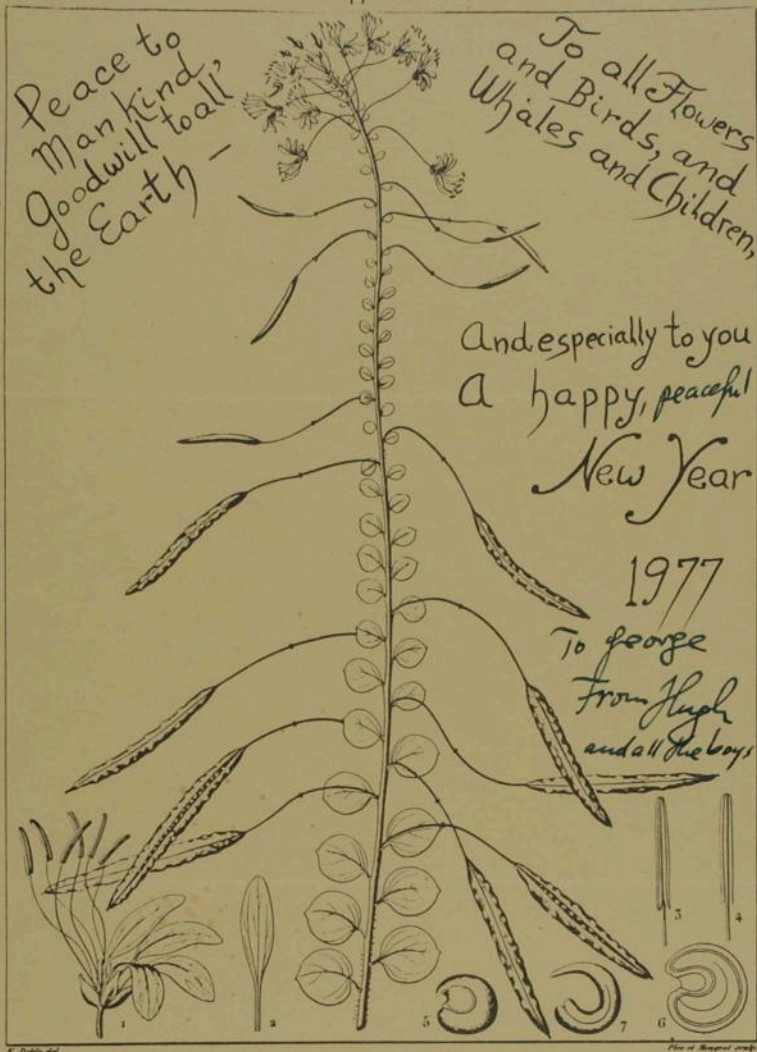
From all of us
- a Happy New Year!

To you with love and
affection from Hugh and the
boys

H ILTIS
2784 MARSHALL PKWY
MADISON WI 53713



Dr. J. B. Van Schaack
1964 Harris Street
Eugene,
Oregon 97405



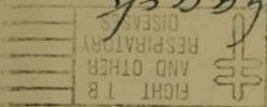
CLEOME nummularia, DC.

(DC. Prodr. syst. nat. veg. vol. 1. pag. 239.)

This drawing is a very faithful rendition of the type specimen of *Cleome nummularia* DeCandolle, kept in the herbarium of the Paris Natural History Museum and collected in Brasil by an unknown collector. This specimen, curiously enough, is but the upper portion of the type of *Cleome psoralenifolia* DeCandolle, the base of the former and the top of the latter fitting together precisely. We have here thus an interesting case where two pieces of one and the same plant each served as the type of a new species, in this case both published side by side on the same page by Augustin Pyramus de Candolle in volume 1, page 239 of his *Prodromus Systemis Naturalis Regni Vegetabilis* in 1824. So much for poor DeCandolle, who would turn around in his grave if he knew! The drawing is from J.P.B. Delessert's *Icones Selectae Plantarum* vol. 3, plate 3, of 1837. The illustrated plant is *Cleome serriflora* H.B.K. ssp. *psoralenifolia* (Elliott) Hitchc. native to tropical South America.

Here is wishing you a healthy
flowering 1977. Sorry about the terrible
english syntax - Frank (11/73 that is) just
bawled me out for it. But such is
life - nothing is perfect. Love JK

D. J. B. Van Schaack
1964 Harris Street
Eugene, Oregon.
97405



man first? man last?

the paradox of human ecology

BY DR. HUGH H. ILTIS

Botany Dept., University of Wisconsin, Madison

(The following is an excerpt from the speech presented at the Portland meeting of ASLA)

The ubiquitous conservation speeches and environmental panels of today are dealing mainly with urgent problems of population, pollution, and crowding. That the priorities are given to these big-city, strictly human, homocentric syndromes is obvious and understandable. People die of pollution, people go crazy with crowding, people starve and lay waste the lands through overpopulation.

Hopefully, we may yet solve the pollution crisis; we can, I think clean up our polluted nests. But if, in cleaning up the cities, we forsake the rest of life, if we, in our human preoccupation, let all but corn and cow slide into the abyssal finality of irreversible extinction, our species indeed will have committed ecological suicide.

However, there is no cause for optimism in the broader environmental crisis, for the specters of ecosystem collapse, of catastrophic extinctions of most living animal species and of a vast number of plant species, are on the horizon.

According to Talbot (BioScience, 15 March 1970), 3% of the world's mammals became extinct in historic times, not counting such prehistoric wonders as the Irish Elk or the Mammoth, and most of them during the past 50 years! Today, 10% to 12% can be considered endangered, extrapolating from the conservative 8% of species and subspecies listed as periled in the Red Data Book for Mammals of the International Union for the Conservation of Nature and perhaps 130 of the 400 United States mammal taxa are believed to be threatened with extinction. Birds are faring no better! S. Dillon Ripley of the Smithsonian Institution recently estimated that a majority of animal species will be extinct by the year 2000! And Kenneth Boulding suggests that, with the present rate of human reproduction, in another generation it may be economically impossible to maintain animals, except domesticated ones, outside of zoos.

Yet among all the many programs of the recent "Teach-ins" at the University of Michigan and at Northwestern University and other campuses, few spoke for the wild environment, for nature, for a Morpho butterfly in a Peruvian valley, for a timber wolf chasing caribou in Alaska.

This lack of concern is understandable, because man now occupies every bit of the earth and like a dictator, controls, or thinks he could control, if he wished, every living thing. As some see it, except for a few primitive tribes, as G.L. Stebbins stated in the Saturday Review, March 1970, "Man has . . . broken contact almost entirely with the ecological universe that existed before his culture developed. He no longer occupies ecological niches; he makes them."

But have our genes ceased to need the environment that shaped them? If we destroy ecosystems and species with abandon, ecosystems to which we are adapted, species whose values we do not yet know, and cannot predict we surely do it at our own peril.

Thus, the lack of focus on the natural environment, on the wild animals and plants, on the woods and streams, is frightening.

The ultimate question one has to ask is this: Shall man come first, always first, at the expense of other life? And is this really first? In the short run, this may be expedient; in the long run, impossible.

Not until man places man second, or to be more precise, not until man accepts his dependency on nature and puts himself in place as part of it, not until then does man put man first! This is the great paradox of human ecology. Not until man sees the light and submits gracefully and moderates the homocentric part of himself; not until man accepts the primacy of the beauty, diversity, and integrity of nature and limits his domination and his numbers, placing equally great value on the preservation of the environment and on his own life, is there hope that man will survive.

If we are to usher in an Age of Ecologic Reason, we must accept the certainty of a radical economic and political restructuring as well as ethical and cultural restructuring of society. No more expanding economics. No more expanding agricultures. No more expanding populations. No new unnecessary dams. No new superfluous industries. No new destructive subdivisions. We must stop and limit ourselves, now.

Henceforth, the laws to govern man must be the laws of ecology, not the laws of a self-destructive laissez-faire economics. And what the laws of ecology say is that we, we fancy apes, are forever related to, forever responsible for the clean air, for the green, flower-decked, and fragile earth.

Indeed, what ecology teaches us, what it implores us to learn, is that all things, living and dead, including man, are interrelated within the web of life. This must be the foundation of our new ethics.

If you love your children, if you wish them to be happy, love your earth with tender care and pass it on to them diverse and beautiful, so that they, 10,000 years hence, may live in a universe still diverse and beautiful, and find joy and wonder in being alive.

Can One Love A Plastic Tree?

Hugh H. Iltis
Dept. of Botany, University of Wisconsin, Madison

Every planner, landscape architect or human ecologist should read Martin Krieger's "What's wrong with plastic trees?" (*Science*, 179: 446-455. Feb. 2, 1973) if he wishes to catch a glimpse of the nightmare future that technology is preparing for man and nature. His article discusses the titanic events of the environmental crisis, of Man vs. Nature, totally outside of the framework of biological reference; hence, one of his conclusions --- that plastic trees and all sorts of nature substitutes have a valid place in planning --- reads like a bad fairy tale. If he had only contemplated Hans Christian Anderson's "The Emperor's Nightingale" in which a mechanical nightingale is given the emperor to substitute for the real one whose song the emperor had loved. Eventually, of course, the clockwork breaks. Death comes and sits on the emperor's bed. But the real nightingale reappears and sings so sweetly that the emperor recovers. It is an old moral --- you can't make a real nightingale out of wheels and diamonds, an idea quite lost on our author.

If there is nothing wrong with plastic trees, if plastic trees can "give most people the feeling that they are experiencing nature", why not invent plastic dogs instead of live ones? Why not plastic corsages with synthetic perfumes, instead of orchids or gardenias? Why not substitute plastic dolls which need no diapers instead of babies? Why not 3,000 giant Disneylands, one in each county, and then develop the rest of the country to grow more food and build more cities?

Why worry about the extinction of the African giant sable antelope or the Indian tiger? Or the preservation of the weedy Mexican grasses ancestral to corn or Peruvian wild potatoes? Why protect the Amazonian Rain Forest, or preserve the arctic tundras? According to Krieger, such proposals are "imperialistic at worst, unrealistic at best" (p. 447). But if biologists and ecologists or, for that matter, planners, won't concern themselves about the fate of Nature, who is there that will?

*Your comments would
be appreciated*

AN ANNOTATED BIBLIOGRAPHY ON "MAN'S NEEDS FOR NATURE"
A preliminary research progress report of a project supported by
the Horticultural Research Institute, Inc.

by

Sharon Decker and Hugh H. Iltis

A bibliography is being compiled documenting man's need for nature. His attempts to recreate a more "natural environment" within his technological inventions is but one reflection of his apparent needs. The greatest difficulty in this task rises, not from a lack of suitable material, but from having to choose which direction and what scope the study should follow, and then screening the available material.

Man, as an animal arisen in nature, is a component of nature. As a religious thought of ancient India states, "All that out there is you, yourself (Tatvam asi!)" (quoted in Survival Through Design by Richard Neutra, p. 9). Since everything man does or thinks is in some way a reflection of the natural environment of which he is a part, it is imperative that some specific criteria be set up which will help identify what is applicable to this study. The problem is how to identify what these needs are, and how they are expressed in man's activities.

One of the first steps needed is to define "nature" and "natural environment." What is this environment that man needs, and what is "natural?" In one sense "nature" and "natural" are clearly understood by the use of the words themselves. But in another sense, such static and concise definitions are insufficient for the purposes of this study. The many elements that, when combined, produce "nature" or a "natural environment" are highly

POLLUTION AND ADAPTATION: WHAT HOPE FOR MAN ?

HUGH H. ILLTIS¹

Man cannot adapt to culture;
culture must adapt to man.

To George U.S.
Manning
from J.H.L.
Thanks!

Why has pollution become such an important question today? Bad odors, noise, a few dead birds, and many dirty beaches are indeed unpleasant, but many of us seem to have successfully deluded ourselves as to their importance, or have merely learned to ignore them. It is perhaps for these reasons that the insidious beginning of ^{the} burgeoning pollution crisis went unnoticed, for the change has been continuous but largely imperceptible, like milk turning sour. Thus today we suddenly discover ourselves to be faced with a problem of global dimensions, the solution and amelioration of which we must perform in all haste, encumbered as we are with a stultifying agglomeration of antique ideologies and sociological complexities.

We often hear about the obvious manifestations of pollution, but do we really comprehend the seriousness and urgency of our situation? Today we ought to understand what we did not know 30 years ago. Pollution affects the physiological processes of the exposed individual and may even bring them to a lethal halt. This individual phenomenon, seen in aggregate, may work to maim the entire people of a city, rich and poor alike. The

¹ Department of Botany, University of Wisconsin.

Based in part on an address given at the University of Michigan "Teach-in on the Environment" (En-Act), at Ann Arbor, March 13, 1970.

Conservation, Contraception and Catholicism,
A 20th Century Trinity

HUGH H. ILTIS

Made in the United States of America
Reprinted from THE BIOLOGIST
Vol. 54, No. 1, February 1972
pp. 35-47

Shepherds Leading Sheep to Slaughter

The Extinction of Species And the Destruction of Ecosystems

By HUGH H. ILTIS

• Second part of a two-part article. The first part (with biographic footnote) appeared in the March issue.

The widespread and catastrophic extinction of species and ecosystems occurring on all continents but especially in regions previously untouched by technology—the tropics and the oceans—is the second concern I wish to discuss. To stop this immense calamity has acquired an urgency absolutely beyond belief. If you pick up Vincenz Ziswiler's *Extinct and Vanishing Animals* (1967), Fisher, Simon, and Vincent's *The Red Book: Wildlife in Danger* (1969), or any of the many similar studies you will find pages and pages with nothing but lists of animal species and subspecies close to extinction. Here are some figures for surviving individuals: blue whale (including the pygmy blue whale) about 6,400 in the Antarctic, 1,000 to 2,500 in the North Pacific (Gambell and Brown, 1971); mountain gorilla 1,000 to perhaps 5,000; tamarau (a water buffalo of the Philippines) 200; Florida Key deer 235; giant sable antelope 500; Sumatran rhinoceros 150; Indian rhinoceros 600; Indian tiger 1,700; and on and on into the night of everlasting extinction. Plants are equally vulnerable, and, as a forthcoming book edited by R. Melville of the International Union for the Conservation of Nature and Natural Resources shows, there is no time to lose. Not only are species by the thousands threatened with a fate as irrevocable as that of the marvellous dodo, but whole ecosystems of

This paper (in its entirety) is adapted from the keynote address to the annual convention of the National Association of Biology Teachers, 14 October 1971, in Chicago. Author's address: Botany Dept., University of Wisconsin, Madison 53706.

great ecologic and economic value are being "developed"—a euphemism for exploitation with hardly a thought to the future.

The Forests of the Amazon

One can only shudder at the devastation of tens of millions of acres in western Australia, heavily subsidized by a major American bank; at the destruction of parts of Africa by the ill-conceived British peanut-sunflower scheme; of Russia's disastrous plowing of the virgin prairies; and especially of the devastation of the vast Amazonian rain forests, recently described in *Time* and *Newsweek* magazines (1971). Amazonia may be Brazil's last frontier, but it is as well the world's richest ecosystem: it contains fully 30,000 species of flowering plants, of which over 5,000 are trees (!), and about 200,000 insects—a diversity that staggers the imagination. It is estimated that a very large number of species (in some animal groups 80%) are yet to be described. Yet Peru, Venezuela, Colombia, and Brazil, with urging from the United States, the U.N. Food and Agriculture Organization (FAO), and private exploiters are all at work, blindly and rapaciously obliterating the Amazonian rain forest from the face of God's good earth.

Said a Brazilian minister: "We have to conquer Brazil completely and [building roads and cutting the forest] will do it" (*Time*, 1971, p. 36). With U.S. support, and no doubt much industrial interest from U.S. Steel—the world's largest deposit of iron ore is here—Amazonia may cease to exist (*Time*, 1971). Unbelievable? Read what William Denevan, a University of Wisconsin geographer, recently wrote in a paper (in press) entitled "Development and the Imminent Demise of the Amazon Rain Forest":