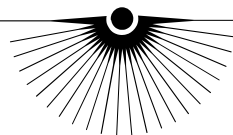


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HERBALIST & APOTHECARY

SPECIALITY & WILD HARVESTED HERBALS



UNDERSTANDING MEDICINAL MUSHROOMS

2020



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No medicinal or therapeutic claims are being made or meant to be implied in this book. The information provided herein is for general information & to provide insight into mushroom mycelium & fruiting bodies & how they can be used as a viable medicine source. Use your best judgement, seek out good advice & use the mushrooms moderately. In this way you will enjoy them immensely & may benefit in many ways.

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AT OUR BOTANICAL DISPENSARY WE INTEND TO EXPAND
PEOPLES HORIZONS TO THE MEDICINAL BENEFITS
OF PLANTS & MUSHROOMS FOUND
THROUGHOUT SOUTH AFRICA & THE WORLD.

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TABLE OF CONTENTS

WHAT WE DO	01.
INTRODUCTION TO:	02.
HISTORY OF MUSHROOMS	
LIFE CYCLE OF MUSHROOMS	03.
DISSOLVING THE MYTH:	05.
MYCELIUM VS FRUITING BODY	
STERILE VS WILD GROWN	07.
THE MEDICINAL MUSHROOMS	08.
AFRICAN MESHIMA	09.
ARTIST CONK	12.
CHAGA	15.
CINNABAR BRACKET	18.
CORDYCEPS	21.
LIONS MANE	24.
OYSTER	27.
REISHI	30.
SHIITAKE	34.
SPLIT GILL	37.
TURKEY TAIL	40.
WOOD EAR	43.
UNDERSTANDING THE SCIENCE:	46.
CHEMICAL VARIANTS	
MUSHROOM SHOWDOWN	48.
BACK TO OUR ROOTS	52.
QUICK MUSHROOM GUIDE	53.



WHAT WE DO

Aether Herbalist & Apothecary offers exceptional quality cultivated & wild-harvested herbs as well as mushrooms for those who desire to improve their health & wellbeing . By providing a full range of herbal formulations made from some of the best natural medicines in the world, we believe that our herbals can contribute in a profound and substantial way to the health of all those who seek a holistically improved level of wellbeing.

We supply many different options in our armamentarium including tinctures, powdered herbs, mushrooms & more

BELOW: SOME OF OUR STOCK -
POWDERS, MUSHROOMS &
TINCTURES



INTRODUCTION TO

HISTORY OF MUSHROOMS:

HUMANS HAVE CONSUMED MUSHROOMS FOR AS LONG AS WE CAN REMEMBER. OUR ASSOCIATIONS WITH FUNGI DATE BACK TO PRE-HISTORIC TIMES, WHEN MUSHROOMS WERE OFTEN CONSIDERED SPECIAL & EVEN SACRED. THIS CONNECTION WITH MUSHROOMS SPANS THE WORLD OVER - FROM THE AMERICAS TO THE DEEPEST PARTS OF AFRICA, THE FARAWAY LANDS OF CHINA & EVEN EUROPE.

ARCHAEOLOGICAL EVIDENCE PROVES THAT VARIOUS MUSHROOMS HAVE BEEN USED THROUGHOUT PREHISTORIC HISTORY. THE NATIVES OF MESOAMERICA & AFRICA HAVE HISTORIES INTERWOVEN WITH PSYCHEDELIC MUSHROOMS - CULTIVATING THEIR EXPANSION OF CONSCIOUSNESS & DOCUMENTING THEIR EFFORTS IN CAVE ART. ASIA & EUROPE FOCUSED THEIR TIME ON BROADENING THE UNDERSTANDING OF MEDICINAL VARIETIES INSTEAD.

OUR BRONZE AGE ANCESTORS HAVE ALSO BEEN FOUND TO HAVE USED MUSHROOMS AS FOOD & MEDICINE TOO. OUR EARLIEST DOCUMENTATION OF MUSHROOM CONSUMPTION OTHER THAN CAVE ART COMES FROM THE PALEOLITHIC "RED LADY" OF CANTABRIA, SPAIN WHO WAS BURIED MORE THAN 19 000 YEARS AGO - HER REMAINS WERE RECENTLY DISCOVERED WITH AGARICUS & BOLETE SPORES LODGED INTO HER TEETH THUS SHOWING SOLID PROOF THAT MUSHROOM HUNTING GOES FAR FURTHER INTO THE PAST THAN WE EVER IMAGINED



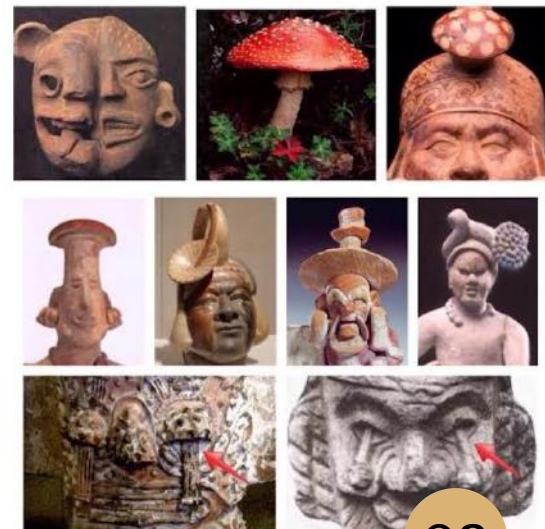
ABOVE: ROCK ART IN TIN-TAZARIFT ROCK ART SITE, AT TASSILI, FIGURES CARRYING MUSHROOMS

NOTABLE EVENTS IN HISTORY CONCERNING FUNGI HAVE ALSO BEEN DOCUMENTED BY SOME OF OUR GREATEST CULTURES & NATIONS INCLUDING THE PERSIANS, GREEKS, EGYPTIANS, SIBERIANS, NATIVE AMERICANS & MORE. THE ANCIENT EGYPTIANS CALLED MUSHROOMS "SONS OF THE GODS" & "PLANTS OF IMMORTALITY". THE GOD OF STORMS, SET CREATED THEM BY HURLING LIGHTNING BOLTS COATED IN MUSHROOM-SEED TO EARTH. CONSUMING MUSHROOMS WAS THE EXCLUSIVE PRIVILEGE OF THE PHARAOH & HIS DINING COMPANIONS. HIEROGLYPHS CARVED SOME 4,600 YEARS AGO FORBID COMMON MEN FROM EVEN TOUCHING MUSHROOMS BECAUSE THEY WERE STRICTLY PROVENDER FOR THE HIGH-BORN. THE PHARAOH KHUFU, WHO BUILT THE GREAT PYRAMID OF GIZA AROUND 4,575 YEARS AGO, ADORED TRUFFLES & MADE SURE THE ROYAL TABLE WAS ALWAYS SUPPLIED WITH THESE RARE DESERT-BORN FUNGI



LEFT BELOW: LINE DRAWING OF THE "MUSHROOM SHAMAN" FIGURE DEPICTED IN AN ANCIENT CAVE PAINTING IN TASSILI N'AJER ALGERIA 4713 B.C.E

RIGHT: MUSHROOM ARTIFACTS FOUND THROUGHOUT THE WORLD AGES VARY HOWEVER ALL ARE ANCIENT



LIFE CYCLE OF MUSHROOMS:

THE FUNGAL KINGDOM IS DIVIDED INTO SEVERAL SUB GROUPS, OR PHYLA, EACH WITH ITS OWN UNIQUE LIFECYCLE & CHARACTERISTICS. ONE OF THESE GROUPS, KNOWN AS BASIDIOMYCETES, INCLUDES ALL OF THE SPECIES WE ASSOCIATE THE TERM MUSHROOM TO.

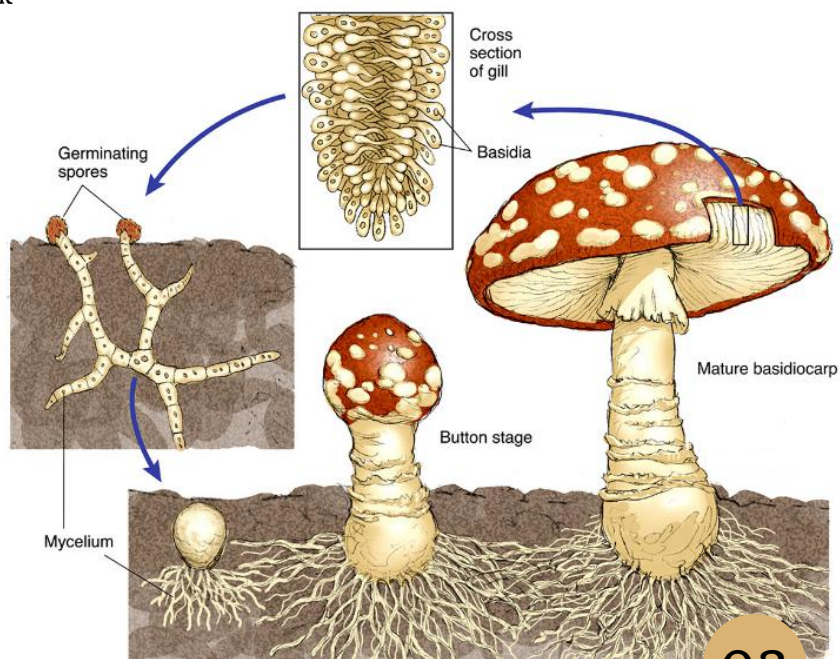
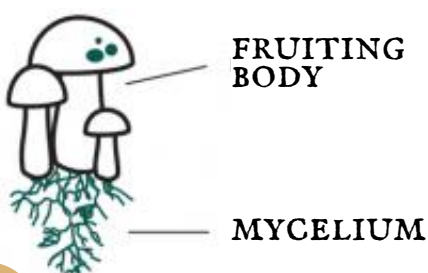
THE MUSHROOM WE SEE GROWING FROM THE GROUND OR TREE IS THE END RESULT OF A MUSHROOMS FANTASTIC LIFE CYCLE KNOWN AS THE FRUITING BODY - TO BEST UNDERSTAND HOW A MUSHROOM DEVELOPS WE SHOULD BEGIN WITH THE SPORES. SPORES ARE BROADCAST INTO AN ENVIRONMENT BY A MUSHROOM FRUITING BODY, THESE LAND IN A SUITABLE HABITAT, & QUICKLY GERMINATE, PRODUCING A SINGLE-CELL FILAMENT, OR HYPHA (PLURAL HYPHAE). THE HYPHA BEGIN TO GROW THROUGH ITS SUBSTRATE, OR FOOD SOURCE, IN SEARCH OF A GENETIC MATE (SPORES CONTAIN ONLY HALF THE GENETIC INFORMATION OF THEIR PARENT & THUS NEED TO JOIN WITH THE HYPHA OF ANOTHER SPORE IN ORDER TO BE GENETICALLY WHOLE) ONCE THE SPORE DOES ENCOUNTER A MATE, THE TWO HYPHAE FUSE INTO A JOINED NETWORK, WHICH IS THEN REFERRED TO AS MYCELIUM. THIS MYCELIUM NOW HAS ALL THE GENETIC INFORMATION IT NEEDS TO SUCCESSFULLY GROW THROUGH ITS ENVIRONMENT & ULTIMATELY PRODUCE MUSHROOMS.

ABOVE: PERSEPHONE & DEMETER ADMIRING MUSHROOMS - ANCIENT GREECE

THE GREEKS WERE AMONG THE FIRST WESTERNERS TO WRITE ABOUT MUSHROOMS & EXPLORE THEIR ORIGINS & POTENTIAL. ARISTOTLE, SOCRATES, & HIPPOCRATES ALL WROTE OF MUSHROOMS - BELIEVING THEM TO BE FROM THE GODS, POSSESSING SACRED GIFTS THAT COULD BESTOW KNOWLEDGE & HEALTH TO THE CONSUMER. THE INDIANS AS WELL AS SIBERIANS BOTH CONSUMED THE SACRED AMANITA MUSCARIA IN SPIRITUAL PRACTICES TO GAIN STRENGTH, LONGEVITY & CONNECTION WITH THE GODS (DOCUMENTED IN THE SACRED TEXTS THE RIG VEDAS & FOLKLORE OF THE KORYAK TRIBES RESPECTIVELY).

MODERN MUSHROOM HISTORY HOWEVER CAN BE TRACED BACK TO THE FIRST CHINESE PHARMACOPOEIA CALLED THE SHENNONG BENCAO JING WRITTEN IN 200 CE WHICH CONTAINS SEVERAL MUSHROOM SPECIES USED FOR MEDICINAL PURPOSES. THIS HIGHLY RESPECTED PHARMACOPOEIA WAS THEN UPDATED BY THE FAMOUS TAOIST MASTER & PHYSICIAN, TAO HONGJING IN 536 AD - MORE MUSHROOMS WERE ADDED. AROUND 1000 AD CULTIVATION TECHNIQUES WERE DEVELOPED TO GROW POPULAR STRAINS LIKE SHIITAKE & REISHI TO MEET EVER GROWING DEMANDS.

TODAY MUSHROOMS ARE GROWING IN POPULARITY THANKS TO AN INCREASED PUSH TO CLEAN OUR PLANET, FIND HEALTHIER FOODS & DEVELOP BETTER MEDICINES.





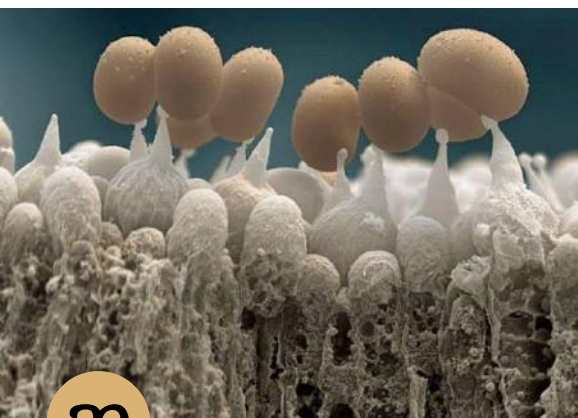
BEING ONLY ONE CELL WALL THICK, THE MYCELIUM HAS NO OUTER BARRIER TO INFECTION OR CONTAMINATION & THUS HAS EVOLVED NUMEROUS PHYTOCHEMICAL COMPOUNDS TO HELP DEFEND ITSELF FROM HARMFUL BACTERIA & COMPETITIVE FUNGAL ORGANISMS.

AS THE MYCELIUM GROWS THROUGH ITS SUBSTRATE, THIS THREAD-LIKE STRUCTURE CONTINUOUSLY BRANCHES IN ALL DIRECTIONS, FORMING AN INCREDIBLY DENSE NETWORK. IN THE SEARCH FOR WATER & FOOD. AS THE MANY THOUSANDS OF MYCELIAL TIPS ENCOUNTER ORGANIC MATTER THEY EXUDE A MIXTURE OF COMPLEX ENZYMES UPON THIS FOOD SOURCE IN ORDER TO CONVERT THIS COMPLEX MATTER INTO FORMS THE FUNGUS CAN CONSUME. CONSTANTLY CODING NEW DNA SEQUENCES TO DIGEST NEW FOODS, THE MYCELIAL MAT HAS NEAR INFINITE OPPORTUNITY FOR EXPANSION.

THE MAIN ENERGY SOURCE FOR THESE FUNGI IS THE LONG CHAIN-LIKE MOLECULE OF CELLULOSE. SAPROPHYTES HAVE DEVELOPED AN ARRAY OF ENZYMES THAT CAN READILY SNIP THIS LONG CHAIN INTO SIMPLER, SHORTER CARBOHYDRATES THAT THE FUNGUS CAN THEN ABSORB & METABOLIZE. SOME SAPROPHYTES HAVE EVEN ADAPTED TO BREAK DOWN LIGNIN, THE HIGHLY COMPLEX COMPOUND THAT MAKES WOOD HARD & RIGID, SOMETHING FEW ORGANISMS ON EARTH ARE ABLE TO ACCOMPLISH. AS THE FUNGUS IS PRODUCING THESE DEGRADING ENZYMES IT IS ALSO RELEASING VARIOUS METABOLITES TO PROTECT ITSELF FROM SURROUNDING COMPETITORS IN THE ENVIRONMENT.

ONCE THE FUNGUS HAS EATEN THROUGH ITS SUBSTRATE OR A CHANGE IN ENVIRONMENTAL CONDITIONS ARISES (E.G. A TEMPERATURE DROP & INCREASE IN HUMIDITY), THE MYCELIUM WILL BE TRIGGERED TO PRODUCE A MUSHROOM. THE MYCELIUM WILL FORM MANY HYPHAL KNOTS, THESE KNOTS ARE THE PRECURSORS TO THE DEVELOPMENT OF FRUITING BODIES.

ONCE THE KNOTS GROW LARGE ENOUGH THEY FORM WHAT IS COMMONLY CALLED PINHEADS, OR PRIMORDIA. THESE PRIMORDIA THEN DEVELOP INTO SMALL BUTTONS OR CONKS DEPENDING ON WHICH SUBSTRATE THEY ARE GROWING - AFTER SOME TIME THE PRIMORDIA WILL MATURE INTO FULLY GROWN FRUITING BODIES (WHAT WE COMMONLY REFER TO AS THE MUSHROOM) AT WHICH POINT SPORES PROLIFERICALLY DEVELOP ON A MICROSCOPIC LAYER OF FERTILE (SPORE-PRODUCING) TISSUE KNOWN AS THE HYMENIUM. THIS TISSUE DEVELOPS IN MATURE MUSHROOMS ON THE SURFACE OF THE GILLS, TEETH, OR PORES OF THE MUSHROOM, WHICH THEMSELVES ARE OFTEN FOUND UNDERNEATH THE CAP. A MATURE MUSHROOM CAN PRODUCE THOUSANDS, OR EVEN MILLIONS OF SPORES IN A SINGLE DAY, ALL OF WHICH ARE EJECTED FROM THE MUSHROOM AT AN INCREDIBLY HIGH FORCE TO ENTER THEIR SURROUNDING ENVIRONMENT. THE MICROSCOPIC SPORES THEN LAND ON A SUITABLE FOOD SOURCE & THE CYCLE BEGINS ANEW.



ABOVE LEFT: HYPHAE FORM DENSE MYCELIAL MATS THAT SCOUR THEIR ENVIRONMENT LOOKING FOR ORGANIC MATTER TO CONSUME

LEFT: SCANNING ELECTRON MICROSCOPE IMAGE OF FUNGAL SPORES

DISSOLVING THE MYTH

MYCELIUM VS FRUITING BODY:

THERE ARE MANY MUSHROOM SUPPLEMENTS ON THE MARKET THESE DAYS. MUSHROOM PRODUCTS ARE GROWING INCREASINGLY POPULAR HOWEVER WHAT MANY PEOPLE PROBABLY DO NOT KNOW, IS THAT A LARGE NUMBER OF THESE PRODUCTS DON'T ACTUALLY CONTAIN ANY MUSHROOMS AT ALL - DESPITE WHAT THE MARKETING MAY HAVE US BELIEVE, THESE TYPES OF PRODUCTS DO NOT HAVE THE SAME LEVEL OF POTENCY OR EFFECTIVENESS AS ONES MADE FROM GENUINE MUSHROOM FRUITING BODIES.

FOR THOUSANDS OF YEARS THE HUMAN RACE HAS USED MUSHROOM FRUITING BODIES AS MEDICINE - & MODERN RESEARCH NOW SUPPORTS THESE MANY AGE OLD MEDICINAL CLAIMS, HOWEVER A NEW UNETHICAL PRACTICES HAVE EMERGED IN THE FIELD OF MYCOLOGICAL MEDICINE - THE SELLING OF MYCELIATED GRAIN SPAWN AS A MUSHROOM SUPPLEMENT.

MYCELIUM IS NOT NECESSARILY A BAD THING, IT CAN BE A GREAT MEDICINE WHEN ISOLATED & FORMS A VITAL INTERMEDIARY STEP IN THE CONTEMPORARY MUSHROOM GROWING PROCESS. THIS PROCESS (MYCELIATED GRAIN) IS RELATIVELY SIMPLE & INEXPENSIVE - A BAG OF STERILIZED GRAIN SUCH AS SORGUM OR RICE IS INOCULATED WITH MYCELIUM & ALLOWED TO GROW OUT AND COLONIZE (THIS TAKES ROUGHLY 2 WEEKS - 1 MONTH).

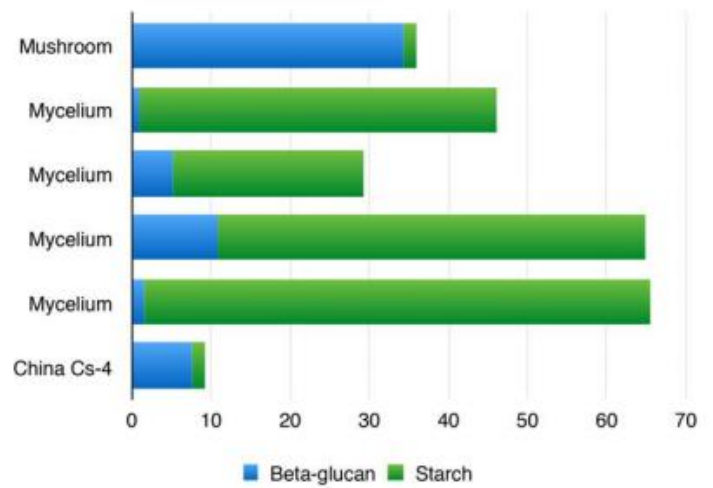
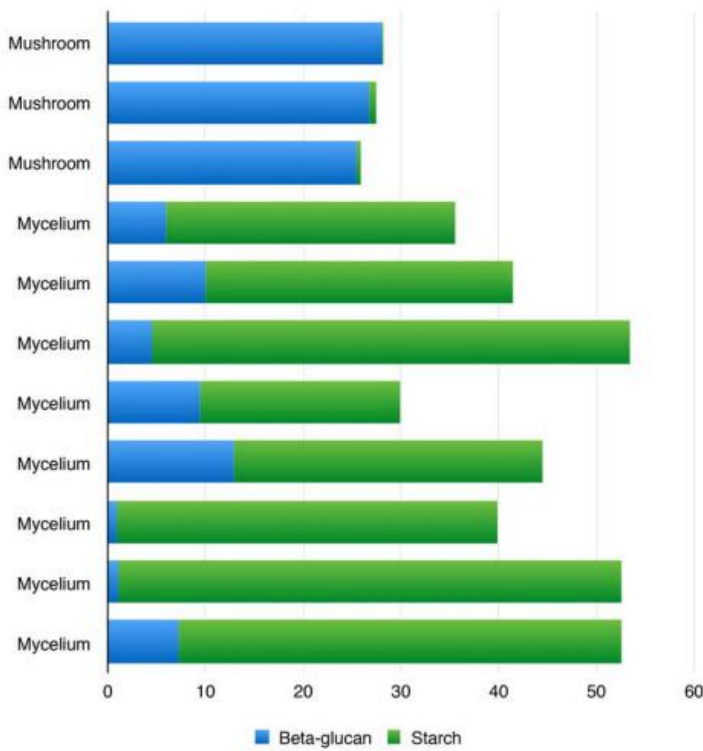
ONCE COLONIZED, THE GRAIN SPAWN SHOULD THEN TECHNICALLY BE BROADCAST ONTO A BULK SUBSTRATE I.E A WOODEN LOG TO GROW AND EVENTUALLY FORM A MUSHROOM FRUITING BODY (AS DESCRIBED IN PAGE 3) HOWEVER FOR MANY COMPANIES AROUND THE WORLD THIS IS NOT THE CASE, THIS VITAL FINAL STEP OF GROWING OUT THE MEDICINAL FRUITING BODY IS DISCARDED, THE GRAIN BAG WITH MYCELIUM & SUBSTRATE IS INSTEAD GROUND UP & SOLD AS A MUSHROOM SUPPLEMENT.

THIS UNETHICAL BUSINESS PRACTICE HAS LEAD MANY TO BELIEVE THEY ARE CONSUMING A POWERFUL MEDICINAL MUSHROOM SUPPLEMENT - WHEN INFACIT THEY ARE CONSUMING MOSTLY STARCH (WITH MANY PRODUCTS RANGING BETWEEN 60-70% GRAIN) THE FOLLOWING PAGES WILL HIGHLIGHT & EXPLAIN THE DIFFERENCES THAT ELEVATE MUSHROOM FRUITING BODIES AS A SUPERIOR MEDICINE

BELOW LEFT: MYCELIATED PLUGS BEFORE & AFTER SHAKING - THIS ILLUSTRATES HOW LITTLE MYCELIUM IS ACTUALLY GROWING ON THE SUBSTRATE

BELOW RIGHT: CORDYCEPS GRAIN CAKES (WHITE MASS BELOW ORANGE FRUITING BODIES) ARE MUCH HEAVIER IN WEIGHT AND THEREFORE GENERATE MORE INCOME FOR COMPANIES





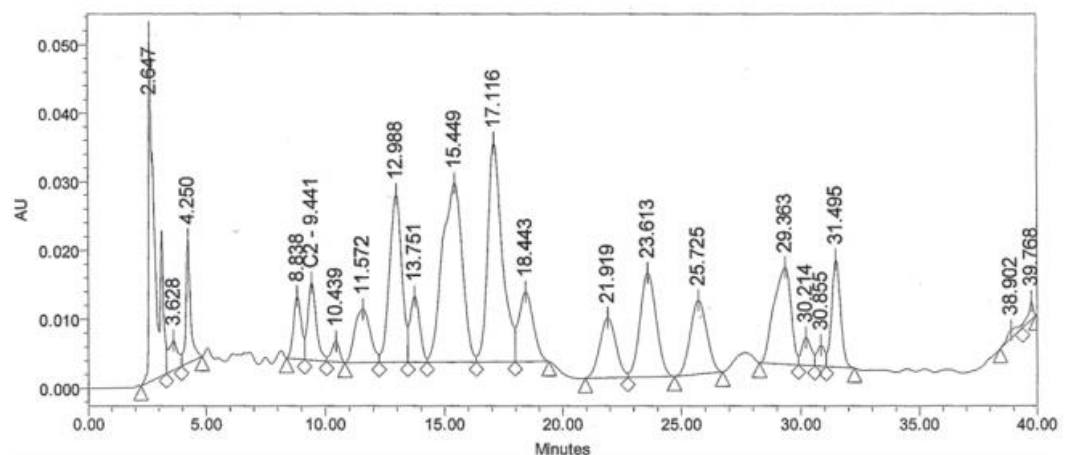
LEFT & ABOVE: MUSHROOM FRUITING BODY & GRAIN-BASED MYCELIUM PRODUCTS ARE TESTED FOR THEIR BETA GLUCAN & STARCH CONTENT - WHOLE FRUITING BODIES OUT PERFORM MYCELIATED GRAIN IN EACH EXAMPLE

WITH NEW TESTS EMERGING LIKE THE MEGAZYME BETA-GLUCAN & STARCH ANALYSIS, ERGOSTEROL AS WELL AS HPLC TRITERPENOID ANALYSIS WE SEE THAT THE MAJORITY OF MYCELIUM PRODUCTS CONTAINS LOW QUANTITIES OF BETA-GLUCANS, HIGH AMOUNTS OF STARCH & FEW SECONDARY METABOLITES SUCH AS TRITERPENOIDS. TO BEGIN WITH, THE MAIN REASON FOR THIS IS THAT MYCELIUM ON ITS OWN IS NOT AS MEDICINAL AS MUSHROOM FRUITING BODIES - HOWEVER WHEN DILUTED WITH GRAIN THE PRODUCT JUST BECOMES A SHADOW OF WHAT IT WAS. A SIMPLE EQUATION FOR THIS IS THAT PURE MYCELIUM ONLY CONTAINS AT ITS HIGHEST 10% BETA-GLUCANS OF DRIED WEIGHT, WHEN A MYCELIUM PRODUCT IS DILUTED WITH GRAIN (AROUND 70%) WE ARE LEFT WITH A MAXIMUM OF ONLY 3% BETA-GLUCANS.

THIS FACT IS NEVER STATED ON MYCELIUM PRODUCT BOTTLES - INSTEAD POLYSACCHARIDES ARE LISTED AS PRESENT (THIS IS MISINFORMATION AS STARCH IS A COMMON POLYSACCHARIDE IN MANY FOODS LIKE POTATOES, & MOST GRAINS - THEY CONTAIN LITTLE TO NO MEDICINAL BENEFITS)

WE WHOLEHEARTEDLY WISH THAT COMPANIES ARE JUST MISINFORMED ABOUT THE DATA SURROUNDING MYCELIATED GRAIN, HOWEVER THE FACTS SUGGEST THAT THE REASON THIS UNETHICAL PRACTICE IS HAPPENING IS DUE TO CAPITALISM - THE PUSH FOR MORE PROFIT - IT TAKES A FRACTION OF THE TIME & A WHOLE HEAP LESS MONEY TO PRODUCE GRAIN THAN TO GROW OUT MUSHROOM FRUITING BODIES.

RIGHT: HPLC CHROMATOGRAM OF REISHI TRITERPENOIDS - ANALYSIS REFERENCE STANDARD USED BY THE SCIENTIFIC MYCOLOGICAL COMMUNITY - GRAIN SPAWN PRODUCTS DO NOT FOLLOW THIS ANALYSIS MAP & THUS DO NOT CONTAIN THE SAME QUANTITIES OF MEDICINAL COMPOUNDS



STERILE VS WILD GROWN:

MUSHROOMS NEED COMPETITION. DON'T GET US WRONG - CLEANLINESS IS OF PARAMOUNT IMPORTANCE IN MUSHROOM CULTIVATION - BUT WE BELIEVE MUSHROOMS SHOULD BE GROWN IN NATURE EXPOSED TO THE ELEMENTS, FEEDING ON WOOD & SOAKING UP SUNLIGHT. HOWEVER THE MAJORITY OF THE MODERN WORLD HAS MOVED THE PRACTICE OF MYCOLOGY INDOORS. FLICKERING FLORESCENT LIGHTS & STERILE CONCRETE ROOMS CLEANED WITH PEROXIDE & BLEACH ARE NOT JUST A COMMON SITE IN HORROR MOVIES BUT MUSHROOM GROW ROOMS TOO. THE STERILIZATION WHIST GREAT FOR QUICKLY GROWING MYCELIUM IS AN ISSUE FOR DEVELOPING STRONG MUSHROOM IMMUNITY - THE FUNGUS NEVER ENCOUNTERS COMPETITION & THUS NEVER BUILDS UP ITS SOUGHT AFTER COMPOUNDS THAT ARE RESISTANCE TO BACTERIA & VIRUS². VARIOUS STUDIES HAVE ALSO CONFIRMED THE BASIC TENET THAT WITHOUT PRECURSOR COMPOUNDS, WHICH OCCUR IN NATURAL SUBSTRATES LIKE CERTAIN WOODS, IMPORTANT SECONDARY METABOLITES ARE NOT PRODUCED IN MEANINGFUL QUANTITIES (THESE METABOLITES IN SOME MUSHROOMS ARE VITAL DISEASE FIGHTING PHYTOCHEMICALS LIKE TRITERPENOIDS OR EVEN GANODERIC ACIDS IN THE HIGHLY MEDICINAL REISHI)



ABOVE: LOGS INOCULATED WITH SPAWN ARE LEFT IN THE FOREST OR BURIED UNDERGROUND TO SIMULATE NATURAL CONDITIONS - AN INCREASE IN EXPOSE TO BACTERIA, & FUNGAL CONTAMINANTS DEVELOP STRONGER, BIGGER & HEALTHIER MUSHROOMS

BELOW: MODERN MUSHROOM CULTIVATION LOOKS LIKE THIS, ROWS & ROWS OF STERILIZED BAGS ARE INOCULATED WITH MYCELIUM & LEFT TO INCUBATE & GROW OUT IN ROOMS - LIGHT IS SUPPLIED BY FLORESCENT BULBS & CLEAN FILTERED AIR IS PUMPED INTO GROW ROOMS 24/7 - GROW ROOMS ARE KEPT CLEAN WITH VARYING CONCENTRATIONS OF BLEACH & PEROXIDE, BECAUSE OF THIS WORKERS NEED TO WEAR BOOTS & PROTECTIVE GEAR LIKE GLOVES AND FACE MASKS.





THE MEDICINAL MUSHROOMS

These are 12 medicinal mushrooms that stand out to us as the major medicines available to significantly alter & improve life.

At least some of these mushrooms should be included in everyone's daily health regime. We provide here a brief overview of these wonderful healers.

AFRICAN MESHIMA

Latin: *Phellinus rimosus*

Other Names: cracked bracket,
african false tinderconk

THE MEDICINAL CRACKED BRACKET - PHELLINUS RIMOSUS MUSHROOM LOOKS ALMOST AS ANCIENT AS ITS HISTORY SUGGESTS IT IS. USED ALL AROUND THE WORLD, THIS WEATHERED LOOKING FUNGUS HAS SECURED ITSELF A SPOT AMONG THE MOST MEDICINAL SPECIES IN PLACES LIKE JAPAN, CHINA, AUSTRALIA & AFRICA.

PHELLINUS' SPECIES HAVE BEEN REVERED AS HERBAL MEDICINES FOR THOUSANDS OF YEARS IN CHINA & JAPAN. EMPERORS OF THE GREAT CHINESE DYNASTIES & JAPANESE ROYALTY DRANK TEA & CONCOCTIONS MADE FROM THIS MUSHROOM FAMILY FOR VITALITY & LONG LIFE. BOTH THE KERALA PEOPLE OF ANCIENT INDIA & THE ABORIGINES OF AUSTRALIA HAVE ALSO USED THIS MUSHROOM FOR HUNDREDS IF NOT THOUSANDS OF YEARS

PHELLINUS MUSHROOMS GAINED RENEWED INTEREST IN THE 20TH CENTURY WHEN THEY WERE USED BY THE LOCAL PEOPLE OF THE MESHIMA ISLANDS OF NAGASAKI, JAPAN TO TREAT VICTIMS OF THE ATOMIC BOMBINGS WHO HAD BEEN SENT TO THOSE ISLANDS FOR RECOVERY.

BELOW: ILLUSTRATIONS OF PHELLINUS RIMOSUS, THE MEDICINAL CRACKED BRACKET MUSHROOM

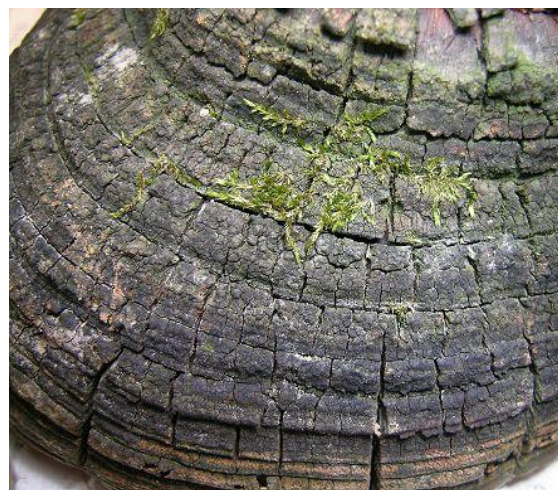


ABOVE: CRACKED BRACKET SPECIMEN

BELOW: PHELLINUS CHUNKS HAVE A VIVID GOLDEN COLOR TO THEM

THIS LARGE LONG LIVED MUSHROOM IS IDENTIFIED BY IT DARK UPPER SURFACE WHICH IS COVERED IN FISSURES OR CRACKS - ALLOWING IT TO BLEND INTO THE BARK OF ITS HOST TREE. THE SPORE BARING SURFACE HOWEVER HAS A DAZZLING, VIBRANT GOLDEN COLOR

VARIOUS MUSHROOMS IN THE PHELLINUS GENUS CAN BE FOUND IN SOUTH AFRICA, WITH THE CRACKED BRACKET BEING THE MOST ABUNDANT & MOST MEDICINAL





THIS MUSHROOM IS MADE UP OF A NUMBER OF DIFFERENT PHYTOCHEMICALS INCLUDING POLYPHENOLS, CAFFEIC ACID, INTERFUNGIN A, VARIOUS EROGSTEROLS, FUNGISTEROLS, QUINONES & TERPENES

AFRICAN MESHIMA APPEARS TO EXHIBIT A WIDER RANGE OF IMMUNOSTIMULATION THAN OTHER MUSHROOM POLYSACCHARIDES. IT STIMULATES BOTH THE CELL-MEDIATED (MACROPHAGES, LYMPHOCYTES, NATURAL KILLER CELLS, & SO ON) & THE HUMORAL (MEDIATED BY ANTIBODIES) PARTS OF THE IMMUNE SYSTEM, PROVING THAT THIS MUSHROOMS IMMUNE BOOSTING BENEFITS ARE INDEED VALID.

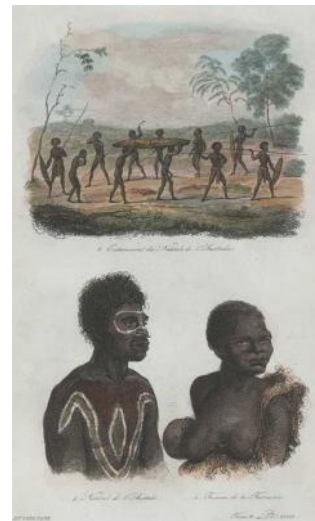


BELOW LEFT: ABORIGINES OF AUSTRALIA HAVE USED PHELLINUS FRUITING BODIES MEDICINALLY TO TREAT COUGHING, SORE THROATS, BAD CHESTS, FEVERS & DIARRHEA.

BELOW RIGHT: TRIBES IN ERALA (INDIA) HAVE USED CRACKED BRACKT FOR CURING MUMPS

BELOW: MESHIMA WAS AND STILL IS CONSUMED AS A REJUVENATING TEA IN JAPAN

IN TCM, PHELLINUS RIMOSUS IS SAID TO DETOXYFY & RESTORE THE INTERNAL ORGANS, IT IS ALSO KNOWN TO BE A SOOTHING DIURETIC, DIGESTIVE TONIC, IMMUNE STIMULANT & CANCER TREATMENT. MODERN RESEARCH HAS PROVEN THIS MUSHROOM TO CONTAIN ANTI-INFLAMMATORY, HEPATOPROTECTIVE, ANTIDIABETIC, ANTICANCER, ANTIOXIDANT, IMMUNOSTIMULATORY, CYTO-PROTECTIVE & ANTI-MICROBIAL ACTIVITIES



FAR ABOVE: MESHIMA IS LISTED AS A SUPERIOR HERB BY SHEN NONG IN THE 2000 YEAR OLD MEDICAL BOOK: SHEN NONG'S HERBAL CLASSIC (CONSIDERED TODAY AS THE OLDEST BOOK ON ORIENTAL HERBAL MEDICINE)



THIS MUSHROOM ALSO SHOWS ELEVATED LEVELS OF ANTIOXIDANTS IN ITS USERS (SUCH AS SUPEROXIDE DISMUTASE, CATALASE, GLUTATHIONE PEROXIDASE & REDUCED GLUTATHIONE). A VARIETY OF TESTS DESIGNED TO MEASURE ANTIOXIDANT POWER IN MUSHROOMS HAVE BEEN CONDUCTED - AFRICAN MESHIMA SHOWED THE MOST POTENT ANTIOXIDANT ACTIVITY AMONG THE LISTED MEDICINAL MUSHROOM (INCLUDING REISHI) ALL OF WHICH SHOWED SIGNIFICANT ANTIOXIDANT ACTIVITIES.

EXPERIMENTS HAVE ALSO SHOWN THAT AFRICAN MESHIMA HAS SIGNIFICANT ANTI-TUMOR ACTIVITY. BOTH THE ETHYL ACETATE & METHANOL EXTRACTS (BUT NOT THE AQUEOUS) OF THIS FUNGUS ARE CAPABLE OF KILLING CANCER CELLS FROM LINES SUCH AS DALTON'S LYMPHOMA ASCITES & EHRlich's ASCITES CARCINOMA. ALTHOUGH ALL THREE EXTRACTS INHIBITED GROWTH OF SOLID TUMORS IN THE DLA CELL LINE TO SOME EXTENT, THE ETHYL ACETATE ACETATE HAS THE HIGHEST ANTITUMOR ACTIVITY. ITS WORTH NOTING THAT THE ANTI-TUMOR EFFECTIVENESS OF THE THREE EXTRACTS AT A DOSE OF 50 MG/KG WAS COMPARABLE TO THE ANTI-CANCER DRUG CISPLATIN (AT 4 MG/KG). THIS MUSHROOM ALSO SHOWS SIGNIFICANT ANTIBACTERIAL ACTIVITY ESCHERICHIA COLI, PSEUDOMONAS AEUROGINOSA, STAPHYLOCOCCUS AUREUS, SALMONELLA TYPHIMURIUM, AND BACILLUS SUBTILIS.



ABOVE: AFRICAN MESHIMA CAN GROW IN LARGE CLUSTERS SOME REACHING AS OLD AS 15 YEARS



RIGHT: MESHIMA ONCE BROKEN REVEALS ITS GOLDEN FLESH WITHIN

WE PRODUCE A TRIPLE EXTRACT AFRICAN MESHIMA TINCTURE. OUR FUNGI SPECIMENS ARE WILD HARVESTED IN THE EASTERN CAPE FORESTS FAR FROM CITIES TO ENSURE THAT NO CONTAMINANTS, HEAVY METALS & PESTICIDES ARE PRESENT - WE USE A MIXTURE OF ETHENOL, H2O & DISTILLATION TO CONCENTRATE THIS POWERFUL MUSHROOM MEDICINE.



LEFT: OUR DUAL EXTRACT AFRICAN MESHIMA TINCTURE

RIGHT: LI SHI ZHEN THE ACCLAIMED CHINESE HERBALIST REVERED MESHIMA FUNGUS & USED IT FOR MANY MALADIES



ARTIST CONK

Latin: *Ganoderma applanatum*

Other Names: ancient reishi, red mother fungus, k'adats

THE ARTIST CONK IS A HUMBLE BUT FASCINATING MUSHROOM. THIS MEDICINE HAS LIVED IN THE SHADOW OF ITS MORE FAMOUS COUSIN THE RED REISHI FOR MANY CENTURIES, HOWEVER DON'T BE SO QUICK TO DISREGARD THIS FUNGUS.

KNOWN THROUGHOUT THE WORLD, THIS MUSHROOM & ITS VARIANTS ARE PERHAPS THE MOST WIDESPREAD OF ALL GANODERMA SPECIES GROWING ON EVERY CONTINENT EXCEPT ANTARCTICA. ARTIST CONK MUSHROOMS HAVE A RARE & DEFINING CHARACTERISTIC - THE WHITE SPORE PAD BRUISES WHEN TOUCHED. THIS ALLOWS ONE TO ETCH DRAWINGS ON THE WIDE PAD SURFACE. AS THE FUNGUS DRIES, IT BECOMES HARD & LIGHTWEIGHT, THE DRAWING NATURALLY DARKENS & CURES TO A SOLID, PERMANENT TEXTURE LIKE WOOD.

ANCIENT AMERICAN FOLKLORE SUGGESTS THAT THIS TRAIT WAS USED BY HUNTER GATHERERS TO FIND THEIR WAY IN FORESTS. IT IS SAID THAT NOMADIC PEOPLE WOULD DRAW ARROWS ON THE UNDERSIDE OF THIS MUSHROOM POINTING TO THE EXIT OF THE WOODLANDS.



ABOVE: ARTIST CONK SPECIMEN

WHEN A ROAMING GATHERER GOT LOST HE COULD LOCATE THIS FUNGUS ON TREES, LOOK UNDERNEATH & THUS FIND HIS WAY OUT OF THE THICKET BY FOLLOWING THE ARROWS. THIS MUSHROOM WAS ALSO BURNED BY THE ATHABASKAN TRIBE OF ALASKA TO PROVIDE A MOSQUITO REPELLENT SMOKE AS WELL AS AGE OLD FABLES ARE TOLD OF A GIANT ARTIST CONK CALLED K'ADATSA WHICH GREW TO AROUND A QUARTER MILE IN WIDTH AROUND THE ALEXANDER CREEK AREA- THIS FUNGUS WAS REVERED & USED BY THE TRIBES TO CURE MANY MALADIES.

BELOW LEFT: MULTI LAYERED ARTIST CONK SHOWING ITS GREAT AGE (EACH SEASON PRODUCES A NEW LAYER)

BELOW CENTER: ARTIST CONK BOTANICAL ILLUSTRATION

BELOW RIGHT: YOUNG WILD SPECIMENS





FAR ABOVE: ARTIST CONK MYCELIUM IS VERY HARDY AND BEING LOOKED INTO AS A PLASTIC SUBSTITUTE

ABOVE: DRAWINGS CAN BE ETCHED ON THE UNDERSIDE OF THIS HARDY CONK - PRESERVING FOR MANY YEARS

IN THE ORIENT HOWEVER ARTIST CONK IS MORE COMMONLY KNOWN FOR ITS SIMILARITY TO REISHI - OFTEN BEING REFERED TO AS ANCIENT REISHI DUE TO ITS LONG LIFE SPAN, SOME SPECIMENS REPORTED TO BE OVER 20 YEARS OLD (QUITE THE LONG LIFE FOR A MUSHROOM). THIS LONG LIFESPAN HAS LEAD MANY AROUND THE WORLD TO CLASSIFY ARTIST CONK AS THE GENTLE & WISE OLD CARETAKER OF THE FORESTS

ONE THING WE KNOW FOR CERTAIN IS THAT BEING PART OF THE GANODERMA (REISHI) FAMILY COMES WITH EXCEPTIONALLY POWERFUL COMPOUNDS THAT HAVE A WHOLE HOST OF MEDICINAL QUALITIES.

ARTIST CONKS CONTAIN VARIOUS STEROIDAL COMPOUNDS SUCH AS ERGOSTEROL, FUNGISTEROL, ALNUSENONE & OTHER TRITERPENES. THEY ALSO CONTAIN THE HIGHLY MEDICINAL TRITERPENOID COMPOUNDS COMMONLY FOUND IN RED REISHI - GANODERIC ACID, GANODERENIC ACID & FURANOGANODERIC ACID. IT IS IMPORTANT TO NOTE THE FACT THAT ALL GANODERMA SPECIES CONTAIN THESE CHEMICALS IN VARYING QUANTITIES, MAKING ALL LOOKALIKES NOT JUST USABLE, BUT HIGHLY MEDICINAL TOO - BITTERNESS BROUGHT ABOUT BY THE GANODERIC TRITERPANONDS INDICATE THE RELATIVE STRENGTH OF THE GANODERMA STRAIN YOU ARE USING

BELOW: ARTIST CONK IS OFTEN CONFUSED IN SOUTH AFRICA FOR THESE THREE LOOKALIKES FROM LEFT - GANODERMA BROWNII, RELATIVELY SMALL IN SIZE WITH MULTIPLE LAYERS (IVE ENCOUNTERED THIS MUSHROOM IN GREAT NUMBERS IN THE HOGSBACK FORESTS). GANODERMA LOBATUM, SIMILAR IN APPEARANCE TO THE REISHI MUSHROOM, SLIGHTLY INFLATED & SOFTER TO THE TOUCH THAN APPLANATUM, WITH A RUST BROWN APPEARANCE. GANODERMA AUSTRALE IS MOST CONFUSED FOR TRUE ARTIST CONK DUE TO THEIR SIMILAR APPEARANCE & PREVALENCE (AUSTRALE IS MORE COMMON IN SOUTH AFRICA THAN APPLANATUM)





THANKS TO MODERN SCIENCE WE CAN SEE GREAT CANCER RESEARCH BEING CONDUCTED ON GANODERMA APPLANATUM - PARTICULARLY ANTI-TUMOR ACTIVITY AGAINST SARCOMA 180. THE POLYSACCHARIDES & TRITERPENES HAVE DEMONSTRATED GREAT IMMUNO-STIMULATING PROPERTIES THUS VERIFYING TRADITIONAL CHINESE CLASSIFICATION AS AN IMMUNE SYSTEM TONIC



THIS GREAT MEDICINE IS ALSO USED TO REDUCE PHLEGM, ELIMINATE INDIGESTION, INCREASE SPLEEN CELL PROLIFERATION & AS A NATURAL ANTIBIOTIC TOO. ARTIST CONK WAS UTILIZED LONG BEFORE OTHER REISHI'S IN ITS FAMILY, IT IS A DYNAMIC MEDICINE FOR MANY MODERN AILMENTS. DUE TO THIS MUSHROOM BEING TOO TOUGH & FIBROUS TO CONSUME AS IS, WE PRODUCE AN EXTRACTED TINCTURE. THIS ALLOWS THE MUSHROOM TO BE MORE READILY ASSIMILATED IN THE BODY - WE RUN OUR ARTIST CONK THROUGH OUR TRIPLE EXTRACTION SYSTEM - AN ETHANOL EXTRACTION PROCESS TO REMOVE THE TRITERPENES & A WATER EXTRACTION TO REMOVE THE POLYSACCHARIDES, DISTILLATION IS USED TO CONCENTRATE THE MIXTURE. THESE EXTRACTIONS ARE THEN COMBINED TO PRODUCE A POWERFUL, BIOAVAILABLE MEDICINAL MUSHROOM SUPPLEMENT.

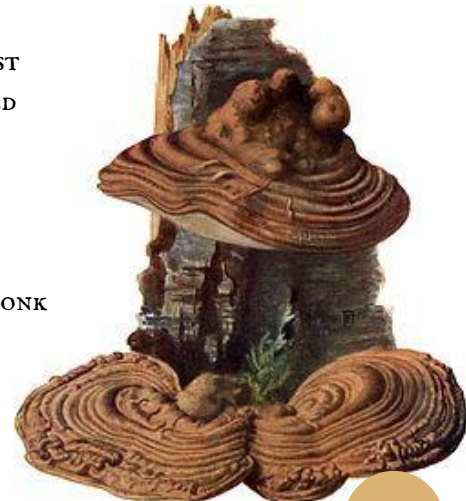


FAR ABOVE: ARTIST CONK IS FOUND ON EVERY CONTINENT EXCEPT ANTARTICA



ABOVE LEFT: LARGE ARTIST CONK SPECIMEN DONATED TO US

RIGHT: BOTANICAL ILLUSTRATION OF MULTILAYERED ARTIST CONK



CHAGA

Latin: *Inonotus obliquus*
Other Names: tinder fungus,
clinker polypore

THIS INCONSPICUOUS MUSHROOM IS ARGUABLY ONE OF THE MOST POWERFUL MEDICINES AROUND, YOU WOULD HARDLY THINK SO JUDGING BY ITS ROUGH CHARRED APPEARANCE. CHAGA UNLIKE MANY MEDICINAL MUSHROOMS DOES NOT FORM A FRUITING BODY IN THE TRADITIONAL SENSE, BUT RATHER A STERILE SCLEROTIUM OR MASS OF MYCELIUM, MOSTLY BLACK DUE OF THE PRESENCE OF MASSIVE AMOUNTS OF MELANIN. THE SEXUAL STAGE ONLY BEGINS AFTER THE TREE, OR SOME PORTION OF THE TREE, IS KILLED BY THE INFECTION. THE MYCELIUM WILL THEN BEGIN TO PRODUCE FERTILE FRUITING BODIES UNDERNEATH THE BARK. THESE BODIES BEGIN AS A WHITISH MASS THAT TURN TO BROWN WITH TIME. SINCE THE SEXUAL STAGE OCCURS ALMOST ENTIRELY UNDER THE BARK, THE FRUITING BODY IS RARELY EVER SEEN.

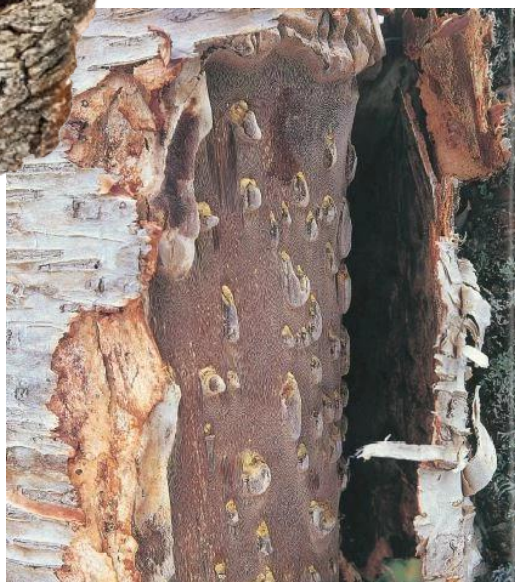


ABOVE: CHAGA SPECIMEN

THE CHAGA MUSHROOM UNTIL RECENTLY LIVED IN RELATIVE OBSCURITY TO MOST OF THE WORLD HOWEVER THIS FUNGUS HAS BEEN USED FOR CENTURIES BY MANY INDIGENOUS TRIBES IN THE NORTHERN HEMISPHERE. MUCH OF THE ANCIENT KNOWLEDGE WE HAVE OF CHAGA COMES FROM THE KHANTY PEOPLE OF WESTERN SIBERIA, AS WELL AS THE FIRST NATIONS OF THE AMERICANS. CREE HEALERS CALL IT WISKAKECAKOMIKIH AFTER THE MYTHOLOGICAL CHARACTER OF THE SAME NAME WHO THREW A CHUNK OF CHAGA HE MISTOOK FOR A PIECE OF DRIED MEAT AGAINST A BIRCH TREE - HE WAS INTRIGUED, & ONCE IT GREW LARGE ENOUGH HE INGESTED IT TO INCREASE HIS LONGEVITY & POWER



BELOW RIGHT: KHANTY ARTWORK OF A TRADITIONAL HEALER, CHAGA WAS A FAVOURED MEDICINE AMONG THE KHANTY



FAR LEFT: ILLUSTRATION OF CHAGA MUSHROOM ON BIRCH TREE

LEFT: CHAGA FRUITING BODY - SMALL GREN BROWN BUMPS FORM ON MYCELIUM JUST BELOW BARK SURFACE



THERE ARE MANY DOCUMENTED ACCOUNTS OF OTHER ANCIENT HUMANS USING THIS FUNGUS, HOWEVER THE EARLIEST COMES FROM ÖTZI THE ICEMAN - THE OLDEST KNOWN MUMMIFIED CAVE MAN IN THE WORLD. ÖTZI WAS A BRONZE AGE HUMAN WHO FELL INTO A FROZEN CREVICE IN THE ALPS. HIS BODY WAS PRESERVED IN THE ICE SINCE 3300 BCE ALLOWING US A GLIMPSE INTO THE LIVES OF PREHISTORIC MAN.

ON HIS PERSON WERE MANY ARTIFACTS, INTRICATE COPPER WEAPONS & 3 DIFFERENT MUSHROOM SPECIES.

CHAGA HISTORICALLY WAS USED FOR LIGHTING FIRES (HIGHLY FLAMMABLE) & AS A MEDICINE - IT HAS BOTH ANTI-INFLAMMATORY & ANTIBACTERIAL COMPOUNDS. IT WAS HIGHLY PRIZED BY PREHISTORIC MAN AS IT IS TOXIC TO WHIPWORM, A PARASITE LATER DISCOVERED BY RESEARCHERS TO BE LIVING IN ÖTZI'S COLON. THIS ANCIENT CAVE MAN KNEW WHAT ILLNESS HE HAD & USED THIS MUSHROOMS POWERFUL MEDICINAL QUALITIES TO TREAT A CONDITION HE WAS SUFFERING WITH.

THIS AMAZING MUSHROOM HAS BEEN RESEARCH EXTENSIVELY & HAS BEEN PROVEN TO TREAT ULCERS, TUBERCULOSIS, AS WELL AS STOMACH, LIVER & HEART DISEASE. CHAGA CONTAINS A LARGE RANGE OF IMPORTANT ACTIVE CONSTITUENTS INCLUDING POLYSACCHARIDES, PHENOLIC COMPOUNDS, LANOSTANE TRITERPENOID & MELANIN, A PIGMENT THAT IS PRESENT AND NEEDED THROUGHOUT THE HUMAN BODY, WITH A WIDE RANGE OF HEALTH BENEFITS. RESEARCH ON CHAGA HAS DEMONSTRATED POTENT IMMUNE MODULATING ACTIONS. UPON INGESTION, A RANGE OF SECONDARY METABOLITES ARE PRODUCED, MANY OF WHICH ARE HIGHLY ACTIVE AS POTENT IMMUNE BOOSTERS. CHAGA IS A RICH SOURCE OF β -GLUCANS (BETA GLUCANS) - POLYSACCHARIDES THAT ARE QUINTESSENTIAL NUTRIENTS FOR THE IMMUNE SYSTEM. THESE POLYSACCHARIDES HAVE STRONG IMMUNE BALANCING PROPERTIES - ENHANCING THE BODY'S ABILITY TO PRODUCE NATURAL KILLER (NK) CELLS. ON A CELLULAR LEVEL, CHAGA HAS BEEN SHOWN TO SUPPORT THE RESPONSE TO OXIDATIVE MOLECULES THAT MAY IMPACT HUMAN DNA IF NOT QUENCHED.



1 The 'Chaga' spore has nested itself in the heartwood of the tree and starts spreading.



2 Close-up of the fungus pushing towards the outside of the tree.



3 The first traces of what we call 'Chaga' are starting to show on the outside of the tree, pushing the bark out of the way.



4 A massive 'canker' is now appearing on the tree. The tree will keep on trying to fight the fungus off, but usually without success. The period between infection and tree death is in general 20 years.

RIGHT & BELOW: 3 ACTUAL MUSHROOMS USED BY ÖTZI BEFORE HIS DEATH (CHAGA BELOW)

BELOW: 3D RECONSTRUCTION OF ÖTZI USING MODERN RECONSTRUCTION OF MUSCULAR & SKELETAL REMAINS





CHAGA HAS ALSO BEEN PROVEN TO TREAT VARIOUS CANCERS, INCLUDING INOPERABLE BREAST CANCER, LIP CANCER, GASTRIC, PAROTID GLAND, PULMONARY, STOMACH, SKIN & RECTAL CANCER - THIS IS IN PART DUE TO OXYGENATED TRITERPENES, PARTICULARLY INOTODIOL & OBLIQUOL ALONG WITH CHAGA'S HIGH ORAC (OXYGEN RADICAL ABSORBENT CAPACITY) VALUE - HOWEVER SOME SCIENTISTS BELIEVE THERE ARE STILL MORE NOVEL COMPOUNDS TO BE DISCOVERED IN THIS AMAZING FUNGUS.

LEFT: TZAR VLADMIR MONAMAKH ATTRIBUTED THE DISAPPEARANCE OF HIS LIP TUMORS TO A DECOCTION OF CHAGA MUSHROOM

ABOVE: CHAGA IS EXTENSIVELY USED IN ASIA AS A "SUPERIOR HERB."

CHAGA IS ALSO A GREAT ADJUNCT TREATMENT WITH CHEMOTHERAPY DUE TO ITS ABILITY TO PREVENT INTOXICATION, REGURGITATION, IT ALSO IMPROVES APPETITE, REDUCES PAIN & IMPROVES IMMUNITY. CHAGA HAS ALSO HISTORICALLY BEEN USED FOR HODGKINS DISEASE, & TO REGENERATE ORGAN & GLAND CELLS.

ATTEMPTS AT CULTIVATING THIS FUNGUS ON SIMULATED MEDIUMS RESULTS IN A REDUCED & MARKEDLY DIFFERENT PRODUCTION OF METABOLITES. CULTIVATED CHAGA DEVELOPS A LOWER NUMBER OF PHYTOSTEROLS, PARTICULARLY LANOSTEROL, AN INTERMEDIATE IN THE SYNTHESIS OF ERGOSTEROL & LANOSTANE-TYPE TRITERPENES.



FOR THIS REASON WE USE ETHICALLY WILD HARVESTED SIBERIA CHAGA. AFTER TEN TO FIFTEEN YEARS OF PARASITISM ON BIRCH TREE TRUNKS, INONOTUS OBLIQUUS FUNGUS ACQUIRES THE STATUS OF "CHAGA." AND AT THE AGE OF TWENTY YEARS, CHAGA IS CONSIDERED TO BE FULLY MATURE AS A TONIC HERB. THE FRUITING BODY IS THEN REMOVED FOR US TO CREATE A TRIPLE HYDRO-ETHANOLIC EXTRACTION TO CONCENTRATE THIS MUSHROOMS POWERFUL BENEFITS.

FAR ABOVE: CHAGA GROWTH ON A BIRCH TREE LOOKS LIKE A HARD CRUST

ABOVE RIGHT: CHAGA IS USUALLY SOLD IN SMALLER MANAGEABLE CHUNKS FOR USE



CINNABAR BRACKET

Latin: *Pycnoporus sanguineus*

Other Names: tropical cinnabar bracket, blood red bracket

ONE OF THE EASIEST MUSHROOMS TO SPOT, THIS BRILLIANT FUNGUS SHINES THROUGH EVEN IN THE DENSEST OF WOODLANDS.

THIS MUSHROOM IS HIGHLY ABUNDANT, FOUND THROUGHOUT SOUTH AFRICA - WITH NO KNOWN LOOK ALIKES EXCEPT ITS BROTHERS IN THE SAME GENUS 'PYCNOPORUS' - ALL OF WHICH ARE USED INTERCHANGEABLY WITH VERY SIMILAR BENEFITS.

P. CINNABARINUS OCCURS IN COOLER, TEMPERATE REGIONS WITHIN EUROPE & NORTH AMERICA - ONLY LOCALIZED TO THE NORTHERN HEMISPHERE.

P. SANGUINEUS OCCURS IN WARMER, TROPICAL REGIONS WITHIN SOUTH AMERICA, SOUTHERN AFRICA & AUSTRALIA, AS WELL AS REGIONS OF ASIA.

P. COCCINEUS OCCURS IN TEMPERATE AREAS OF AUSTRALIA & NEW ZEALAND & FINALLY *P. PUNICEUS* IS A RARE SPECIES FOUND IN ONLY SOUTHEASTERN ASIA & MALAYSIA.

THIS MUSHROOM IS INCREDIBLY USEFUL & IS PERHAPS ONE OF THE MOST USED BRACKET FUNGI IN THE MODERN WORLD - *P. SANGUINEUS* IS USED FOR INDUSTRIAL, COSMETIC & MEDICINAL PURPOSES.

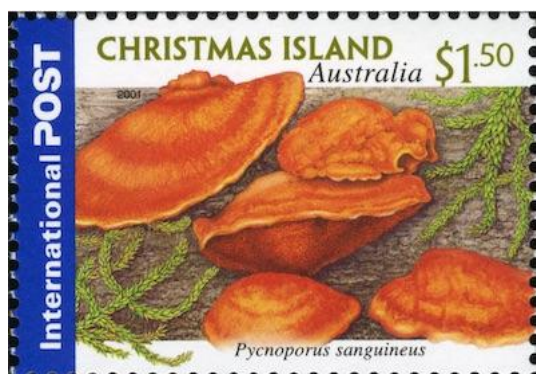


ABOVE: TROPICAL CINNABAR BRACKET

A PIGMENT EXTRACTED FROM THE CAPS CALLED CINNABARIN IS USED IN TEXTILE INDUSTRIES FOR THE PARTIAL & COMPLETE DE-COLORIZATION OF CERTAIN DYES AS WELL AS COLORIZATION OF CERTAIN FIBRES. OTHER INDUSTRIAL USES OF THIS SPECIES INCLUDE TESTING METHODS FOR WOOD TREATMENT PRODUCTS & ENZYMES USED IN BIO-REMEDIATION FOR THE BREAKDOWN OF CRUDE OILS. CINNABAR BRACKETS HAVE ALSO BEEN USED EXTENSIVELY IN TRADITIONAL MEDICINE - THIS MUSHROOM HAS BEEN USED TO TREAT FEVER, REDUCE SWELLING & INFLAMMATION, & MOST IMPORTANTLY AS AN ANTIDOTE TO TOXINS IN THE BODY

LEFT: ILLUSTRATION OF A PYCNOPORUS MUSHROOM

BELOW: AUSTRALIAN POSTAGE STAMP DEPICTING THE CINNABAR BRACKET



DESERT ABORIGINES OF AUSTRALIA SUCKED ON THIS MUSHROOM TO CURE SORE MOUTHS, THROATS & TO TREAT ULCERS, THEY ALSO RUBBED IT INSIDE THE MOUTHS OF BABIES WITH ORAL THRUSH, AS WELL AS ADULTS WITH SORE LIPS



IN MY DISCUSSIONS WITH VARIOUS TRADITIONAL SA HEALERS I'VE DISCOVERED THAT THIS FUNGUS IS COMMONLY USED FOR ACNE - A PASTE IS MADE & APPLIED ONTO AN AFFECTED AREA - THIS HAS SOME GROUNDING IN MODERN SCIENCE DUE TO THIS MUSHROOMS POWERFUL ANTIBACTERIAL BENEFITS

SCIENCE HAS DISCOVERED THAT THE PIGMENTS OF PYCNOPORUS STRAINS; CINNABARIN, CINNABARINIC ACID & TRAMESANGUIN ARE THE MAIN COMPONENTS, & ACT AS ANTIOXIDANTS, FREE RADICAL SCAVENGERS, ANTIFUNGALS, ANTICARCINOGENS, THEY ARE ALSO IMMUNOMODULATORY, LARVICIDAL, HAVE LEISHMANICIDAL ACTIVITY & MOST NOTABLY JUST LIKE ANCIENT CULTURES SUGGESTED IT HAS POWERFUL ANTIVIRAL, ANTIBACTERIAL & ANTI-INFLAMMATORY ACTIVITY. THE TROPICAL CINNABAR BRACKET ALSO IS BEING USED IN MEDICINE FOR THE ABSORPTION OF CERTAIN HEAVY METALS CONTAINED WITHIN THE BLOOD STREAM & ORGANS OF THE BODY.

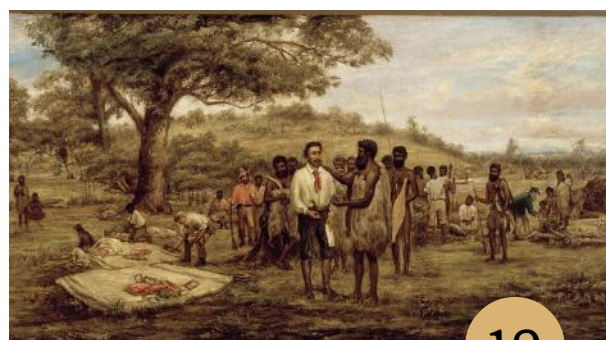
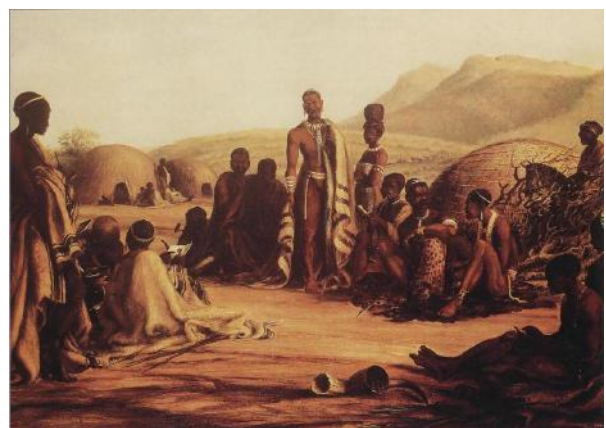
ANTI-TUMOR EFFECTS OF POLYSACCHARIDES EXTRACTED FROM THIS FUNGUS INHIBITED THE GROWTH OF SARCOMA 180 & EHRlich SOLID CANCERS BY 90%. MORE OVER CINNABARINIC ACID HAS BEEN SHOWN TO POSSESS STRONG APOPTOSIS-INDUCING ACTIVITY (A TYPE OF CELL DEATH IN WHICH A SERIES OF MOLECULAR STEPS IN A CELL LEAD TO ITS DEATH. THIS IS ONE METHOD THE BODY USES TO GET RID OF UNNEEDED OR ABNORMAL CELLS. THE PROCESS OF APOPTOSIS MAY BE BLOCKED IN CANCER CELLS)

CINNABAR BRACKET MUSHROOMS ALSO DISPLAYS ANTIBACTERIAL ACTIVITY AGAINST ESCHERICHIA COLI, STREPTOCOCCUS PYOGENES (GROUP A STREPTOCOCCI), PSEUDOMONAS AERUGINOSA, SALMONELLA TYPHIAND & STAPHYLOCOCCUS AUREUS



LEFT & BELOW: PYCNOPORUS MYCELIUM IS UNIQUE IN IT APPEARANCE - HAS AN ORANGE COLORING

RIGHT: THIS FUNGUS HAS BEEN UTILIZED IN MANY ANCIENT TRIBES AROUND THE WORLD INCLUDING IN SOUTH AFRICA & AUSTRALIA





LEFT: ALL PYCNOPORUS SPECIES EMIT AN ORANGE ROSY COLOR WHEN USED AS A DYE (OFTEN USED IN ANCIENT CULTURES AROUND THE WORLD)

STEP 1 - BREAK UP THE MUSHROOM INTO SMALL PIECES

STEP 2 - CREATE A DECOCTION IN A POT, SIMMER MUSHROOM FOR 15 MINS

STEP 3 - ADD IN FIBRE OR MATERIAL FOR DYING, LEAVE AT JUST BELOW BOIL FOR 1 HOUR - LEAVE IN WATER TO COOL

RIGHT: OUR TRIPLE EXTRACT TROPICAL CINNABAR TINCTURE

THE TROPICAL CINNABAR BRACKET IS ABUNDANT ALL OVER SOUTH AFRICA - MAINLY AREAS NEAR WATER (AS RELATIVE HUMIDITY SHOULD BE HIGH) THEY ARE EASY TO IDENTIFY & HIGHLY MEDICINAL, WE ADVISE ALL TO ALSO TRY DYING TEXTILES FROM THIS MUSHROOM AT LEAST ONCE. WHEN CREATING A DYE FROM THIS FUNGUS WE SUGGEST GRINDING DRIED MUSHROOMS TO A BRIGHT ORANGE POWDER. DEPENDING ON THE MORDANT USED, THE END RESULT IS A ROSY TAN TO LIGHT ORANGE. YOU CAN ALSO CHOP THEM UP WHILE FRESH & PUT THEM DIRECTLY INTO WATER TO "STEEP" FOR SEVERAL DAYS. THE MIXTURE IS THEN BROUGHT TO A BOIL FOR THE DYE BATH. WHEN NO MORDANT IS USED, CINNABARS DYE FROM BEIGE TO ORANGE DEPENDING ON THE CONCENTRATION OF THE DYE BATH & THE LENGTH OF THE BOIL.

WE UTILIZE ETHICALLY WILD HARVESTED & ORGANICALLY GROWN P.SANGUINEUS WHEN MAKING OUR TRIPLE EXTRACT TINCTURES.



CORDYCEPS

Latin: *Cordyceps militaris*

Other Names: caterpillar fungus,
summer plant - winter worm

IMAGINE A FUNGUS THAT CAN CONTROL MINDS, MAKE ITS HOST DO WHAT IT WANTS & THEN ULTIMATELY CONSUME IT FROM THE INSIDE OUT - THAT'S EXACTLY WHAT THE CORDYCEPS MUSHROOM IS - BUT ITS NOT ALL JUST HORROR WHEN IT COMES TO THIS FUNGUS, ITS ACTUALLY ONE OF THE MOST POWERFUL MEDICINAL MUSHROOMS ON THIS PLANET.

FOLKLORE STATES THAT 1,500 YEARS AGO, TIBETAN YAK-HERDERS NOTICED SOMETHING VERY STRANGE GOING ON WITH THEIR HERDS. DURING THE SUMMER MONTHS, THE AUSTERE TIBETAN HIGHLANDS GREW THICK WITH TALL MEADOW GRASSES THAT MADE TERRIFIC YAK-FODDER, & SO THE SHEPHERDS TOOK THEIR ANIMALS UP INTO THE MOUNTAINS TO GRAZE ON LUSCIOUS PASTURES. IT CAME TO THE ATTENTION OF THE TIBETANS THAT MOUNTAIN-GRAZED ANIMALS GREW STRONGER & LIVED LONGER THAN THOSE THAT CONSUMED THE GRASSES AT LOWER ELEVATIONS. AT FIRST THEY THOUGHT IT WAS THE ROBUST MOUNTAIN GRASS THAT WAS RESPONSIBLE, BUT THEN AN UNKNOWN SHEPHERD STUMBLED UPON THE ANSWER - CORDYCEPS

BELOW: BOTANICAL ILLUSTRATIONS OF VARIOUS CORDYCEPS SPECIES



ABOVE: CULTIVATED CORDYCEPS MILITARIS

BELOW: WILD CORDYCEPS MILITARIS FUNGUS - GROWING JUST BELOW THE SOIL SURFACE, OUT OF AN INSECT LARVAE

THIS FUNGUS GREW IN THE HIGH-ALTITUDE MEADOWS & YAKS THAT CONSUMED IT DURING THEIR GRAZING WERE MARKEDLY HEALTHIER THAN THEIR PEERS

CORDYCEPS IS AN ENTOMOPATHOGENIC FUNGUS THAT ATTACKS & COLONIZES MANY INSECTS THAT HIBERNATE JUST BELOW THE SOIL SURFACE DURING THE COLD TIBETAN WINTER. BY SUMMERTIME, THE FUNGUS CONSUMES THE ENTIRE INSECT & SHOOTS OUT A SMALL, CLUB-SHAPED FRUITING BODY THAT EMERGES FROM THE SOIL TO SPREAD ITS SPORES.



BELOW: C.MILITARIS VS C.SINENSIS - BOTH ARE HIGHLY MEDICINAL, HOWEVER MILITARIS HAS THE UNIQUE ABILITY TO BE GROWN ON SUBSTRATES OTHER THAN INSECTS

OF MORE THAN 400 SPECIES OF CORDYCEPS DISCOVERED, TWO HAVE BECOME THE FOCUS OF HEALTH RESEARCH: CORDYCEPS SINENSIS & CORDYCEPS MILITARIS. CORDYCEPS MUSHROOMS ARE FILLED WITH POWERFUL PHYTOCHEMICALS - OF PARTICULAR INTEREST ARE ADENOSINE, CORDYCEPIC ACID, OPHIOCORDIN & FINALLY THE NUCLEOSIDE, CORDYCEPIN. THE PROTEIN BOUND POLYSACCHARIDES CP-1, CP-2 AS WELL CO-N, SN-C & CO-I HAVE ALSO BEEN IDENTIFIED.



C. Militaris



C. Sinensis



-cultivated in laboratory conditions on rice



-grows naturally on caterpillars at high altitudes



ONE OF CORDYCEPS MAIN CLAIMS TO FAME IS ITS UNMATCHED ABILITY TO INCREASE ENERGY & COMBAT FATIGUE - IT DOES THIS BY INCREASING PRODUCTION OF THE MOLECULE ADENOSINE TRIPHOSPHATE (ATP), WHICH IS ESSENTIAL FOR DELIVERING ENERGY TO THE MUSCLES. THIS ALSO IMPROVES THE WAY OUR BODIES USE OXYGEN, ESPECIALLY DURING EXERCISE.

CORYCEPS ALSO HAS A WONDERFUL ABILITY TO INCREASING LIBIDO & SEXUAL FUNCTION, IT HIGHLY INFLUENCES THE RELEASE OF TESTOSTERONE, INCREASE BLOOD CIRCULATION, & ALSO ENHANCE ERECTILE FUNCTION, VIRILITY & STAMINA

LEFT: TIBETAN, CHINESE, INDIA & BHUTAN PEOPLE HAVE BEEN HARVESTING CORDYCEPS FROM VARIOUS MOUNTAIN RANGES AROUND THEIR COUNTRIES - HOWEVER THE INCREASE IN PRICE & DEMAND HAS LEAD TO OVER HARVESTING, THESE MUSHROOMS ARE PICKED PREMATURELY & SPORES ARE NOT BEING RELEASED - THE ENTIRE ECOSYSTEMS AROUND THESE AREAS ARE BEING IMPACTED MORE THAN WE CAN EVER UNDERSTAND.





IT IS ESPECIALLY GOOD FOR WOMEN WHO MAY BE IN THE MENOPAUSE OR POST-MENOPAUSAL - THIS IS PARTLY BECAUSE IT ENHANCES THE BIOSYNTHESIS OF THE STEROID HORMONES CORTISOL, ESTROGEN & TESTOSTERONE.

CORDYCEPS HAS IMMUNOSTIMULATING & IMMUNOREGULATING ACTIVITY, NOTABLY ITS POLYSACCHARIDES HAVE BEEN FOUND TO STIMULATE PHAGOCYTOTIC FUNCTION & MACROPHAGE ACTIVITY. MANY STUDIES HAVE ALSO FOUND THAT NORMAL T-CELLS ARE NOT AFFECTED BY CORDYCEPS WHILE DEFECTIVE T-CELLS ARE - THUS VALIDATING ITS ABILITY AT BOOSTING SUPPRESSED IMMUNE FUNCTION

THE PROTEIN BOUND POLYSACCHARIDES HAVE BEEN FOUND TO HAVE ANTI TUMOR ACTIVITY, CO-N & SN-C BOTH STIMULATE THE IMMUNE SYSTEM - CO-N HAS A DIRECT CYTOTOXIC ACTION ON MANY TUMORS INCLUDING EHRlich CARCINOMA, SARCOMA 180 & LEUKEMIA TO NAME A FEW

CORDYCEPS HAS ALSO BEEN PROVEN TO BE A TONIC FOR LUNG & KIDNEY HEALTH, IT INCREASES SPERM PRODUCTION, STIMULATES THE ENDOCRINE SYSTEM, & HAS POWERFUL ANTIBACTERIAL ACTIVITY.

OUR CORDYCEPS TINCTURE IS EXTRACTED FROM CULTIVATED CORDYCEPS MILITARIS - WE PRODUCE A POTENT TRIPLE EXTRACTED TINCTURE

ABOVE: ANCIENT TIBETAN ARTWORK DEPICTING HARVESTERS IN THE FIELDS WITH A CORDYCEPS FUNGUS TO THE RIGHT

BELOW: SOUTH AFRICA IS HOME TO A MEDICINAL FUNGUS CLOSELY RELATED TO CORDYCEPS - ISARIA SINCLAIRII - PRODUCES MYRIOCIN, USED IN THE TREATMENT OF MULTIPLE SCLEROSIS - TRADITIONALLY USED IN TIBET THE SAME WAY AS CORDYCEPS



LIONS MANE

Latin: *Hericius erinaceus*

Other Names: monkey's head,
bearded tooth, pom pom blanc

THIS GOURMET EDIBLE MUSHROOM HAS BEEN USED FOR HUNDREDS OF YEARS BY HEALERS & CHEFS ALIKE IN CHINA, INDIA, JAPAN & KOREA - BUT WITH NEW MODERN RESEARCH, ONLY NOW CAN WE TRULY UNDERSTAND THIS MUSHROOMS PHENOMENAL MEDICINAL BENEFITS.

VARIANTS OF THIS MUSHROOM GROW ALL AROUND THE WORLD - IN JAPAN, THE MUSHROOM WAS DRUNK AS A TEA IN THE IMPERIAL PALACES & CONSUMED WITH LAVISH MEALS - THEY CALLED IT YAMABUSHITAKE. YAMABUSHI, TRANSLATES TO "THOSE WHO SLEEP IN THE MOUNTAINS," REFERRING TO THE HERMIT MONKS OF BUDDHISM - LIONS MANE IS SUPPOSED TO RESEMBLE THE ORNAMENTAL GARMENTS THAT THE MONKS WOULD WEAR. THE MAORI - THE INDIGENOUS POLYNESIAN PEOPLE OF NEW ZEALAND SAY THEIR ANCESTORS HAVE CONSUMED A CORAL SHAPED FUNGUS IN THE GENUS HERICIUM SINCE THEY ARRIVED ON THE LAND, THEY CALL THE FUNGUS PEKEPEKEKIORE. IN NORTH AMERICA, THIS MUSHROOM WAS A COMMON SIGHT IN NATIVE AMERICANS' MEDICINE BAGS, THE HEALERS USED IT AS A STYPTIC, APPLIED AS A DRIED POWDER TO CUTS & SCRATCHES TO STOP THEM FROM BLEEDING.

IN TRADITIONAL CHINESE MEDICINE, LIONS MANE IS PRESCRIBED FOR STOMACH DISORDERS, ULCERS, & GASTROINTESTINAL AILMENTS - LION'S MANE HAS ALSO TRADITIONALLY BEEN USED TO FORTIFY THE SPLEEN, NOURISH THE GUT, & FIGHT CANCER. ANCIENT HEALERS UTILIZED THIS MUSHROOM VERY EFFECTIVELY FOR TREATING THE LOWER ABDOMINAL AREA, HOWEVER THE NEUROLOGICAL BENEFITS THIS MUSHROOM IS SO OFTEN PRAISED FOR, TURNS OUT TO BE A RELATIVELY NEW DISCOVERY.



ABOVE: LIONS MANE SPECIMEN

BELOW: WILD LIONS MANE MUSHROOM - FORMS LONG ICICLE LIKE SPINES WHICH ARE ACTUALLY SPORE FORMING TUBES. LIONS MANE IS A SUPERB CHOICE EDIBLE - IT HAS A TASTE REMINISCENT OF SEAFOOD



BELOW: LIONS MANE POM POMS DISCOLOR WITH AGE TURNING BROWN

RIGHT: BOTANICAL ILLUSTRATION OF HERICIUM ERINACEUS





LIONS MANE IS MADE UP OF MANY DIFFERENT MEDICINAL PHYTOCHEMICALS INCLUDING THE USUAL β -GLUCANS & MANY TRIPERANOLS (AS IN MOST MUSHROOMS). BUT OF PARTICULAR PHARMACOLOGICAL INTEREST ARE TWO CLASSES OF TERPENOID COMPOUNDS THUS FAR KNOWN TO OCCUR ONLY IN *HERICIUM* spp: THESE ARE HERICENONES (C-H)- A GROUP OF AROMATIC COMPOUNDS & ERINACINES (A-I)- A GROUP OF CYATHANE-TYPE DITERPENIDS, ERINAROLS (A-J) HAVE ALSO BEEN ISOLATED.

BELOW: THREE MOST COMMON *HERICIUM* SPECIES FROM LEFT - *H. ERINACEUS* FORMS A SINGLY POM POM SHAPED FUNGUS, *H. CORALLOIDES* TENDS TO BE MUCH MORE BRANCHED & RAGGED, RESEMBLING UNDERWATER CORAL - HENCE ITS COMMON NAME CORAL TOOTH FUNGUS, *H. AMERICANUM*, COMMONLY KNOWN AS THE BEAR'S HEAD TOOTH FORMS BRANCHES WITH MULTIPLE SMALLER POM POMS AT THE ENDS OF THE STALKS

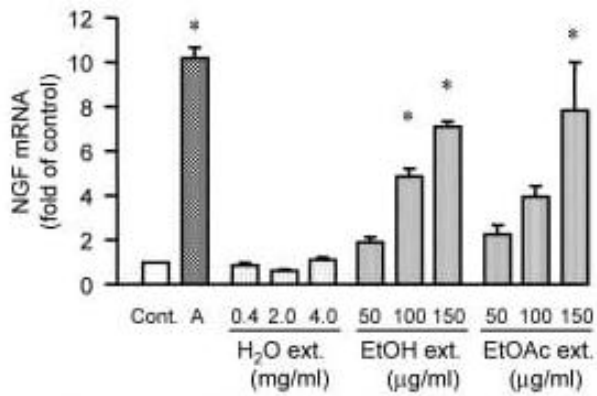
HERICENONES & ERINACINES ISOLATED FROM LIONS MANE HAVE DEMONSTRATED UNMATCHED NEUROPROTECTIVE PROPERTIES AMONG MUSHROOMS.

ONE OF THE MOST EXCITING APPLICATIONS OF LION'S MANE IS ITS POTENTIAL PREVENTATIVE ROLE AGAINST NEURODEGENERATION & BENEFICIAL EFFECTS ON BRAIN HEALTH. THE BIOACTIVE COMPOUNDS DITERPENIDS ERINACINE A, B, & C WERE SHOWN TO STIMULATE THE SYNTHESIS OF NERVE GROWTH FACTOR (NGF), WHICH IS INVOLVED IN ORGANIZING THE FUNCTION OF NEURONS IN THE CENTRAL NERVOUS SYSTEM & BRAIN. THESE ARE THE NEURONS THAT DEGENERATE DURING THE PROGRESSION OF ALZHEIMER'S DISEASE.

THIS MUSHROOM HAS ALSO BEEN FOUND TO IMPROVE COGNITIVE DEFICITS THAT WERE INDUCED BY AMYLOID PEPTIDE (WHICH LEADS TO LEARNING & MEMORY DECLINE) SHOWING THAT LIONS MANE PLAYS AN IMPORTANT ROLE IN COMBATING DEMENTIA & OTHER DISEASES RELATED TO AGING IN THE BRAIN. LIONS MANE HAVE ALSO BEEN PROVEN TO PROMOTE DEVELOPMENT OF CEREBELLAR CELLS. THEY DEMONSTRATE A REGULATORY EFFECT ON THE PROCESS OF MYELIN GENESIS & ENHANCE THE MYELINATION PROCESS

LIONS MANE HAS BEEN FOUND TO INCREASE MEMORY, UNDERSTANDING, COMMUNICATION, SHARPNESS, & CONCENTRATION. IT HAS ALSO SHOWN GREAT EFFECT IN TREATING STRESS & ANXIETY MAKING IT A WONDERFUL MEDICINE FOR ALL AGES - NOT JUST THOSE SUFFERING FROM NEUROLOGICAL DETERIORATION.





ABOVE LEFT: NGF EXTRACTION H₂O(WATER) VS ETOH(ETHANOL) ETOAC (ETHYL ACETATE) SHOWING THAT THE NGF CAN ONLY BE EXTRACTED IN AN ALCOHOL EXTRACTION

ABOVE RIGHT: SOUTH AFRICAN LOOKALIKE, DENTIPPELLIS, WHICH FORMS CRUST-LIKE FUNGUS

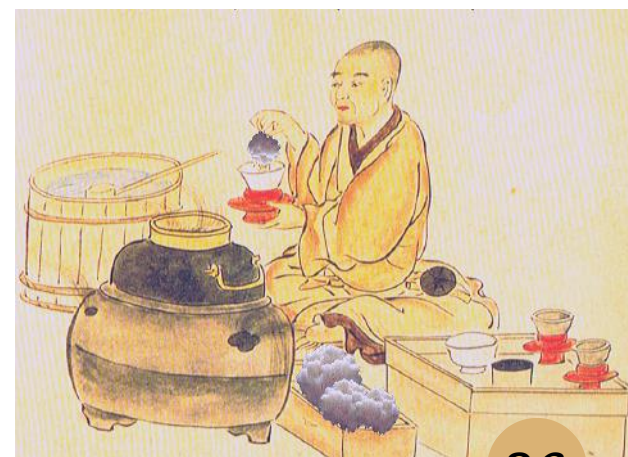
LIONS MANE IS ALSO A GREAT CANCER FIGHTER - THE POLYSACCHARIDES HAVE BEEN FOUND TO BE EFFECTIVE AGAINST TUMOR CELL LINES LIKE MALIGNANT HEPATOCYTES, MAMMARY CARCINOMA, LYMPHOMA & ESOPHAGEAL CANCER TO NAME A FEW. THESE β -1,3-BRANCHED β -1,6-GLUCAN (POLYSACCHARIDES) ACTIVATE DIFFERENT IMMUNE CELLS, T LYMPHOCYTES, MACROPHAGES CYTOKINES (IL-1SS & TNF-SS) & ALSO TURN ON THE PRODUCTION OF NITRIC OXIDE WHICH ARE ALL CYTOTOXIC TO TUMOR CELLS.

VARIOUS STUDIES HAVE CONCLUSIVELY PROVEN THAT ALCOHOL EXTRACTS OF LION'S MANE INCREASES NGF EXPRESSION IN CELLS FAR MORE THAN WHAT WATER EXTRACT DO

THIS KNOWLEDGE WENT VIRTUALLY UNKNOWN TO THE ANCIENT CHINESE - THUS POINTING TO THE REASON WHY ALL ANCIENT MEDICINAL TEXTS FAIL TO MENTION HERICIUM'S COGNITIVE IMPROVING BENEFITS - AS WATER EXTRACTION (TEA) WAS THE PREFERRED METHOD OF INGESTION.

TO ACHIEVE OPTIMAL EXTRACTION OF ALL MEDICINAL BENEFITS (MODERN & TRADITIONAL) WE DO A TRIPLE EXTRACTION METHOD UTILIZING WATER AS WELL AS ETHANOL.

BELOW: YAMABUSHITAKE WAS AN OFTEN USED MUSHROOM IN JAPANESE TEA CEREMONIES - HOT WATER EXTRACTIONS COULD ONLY PULL OUT CERTAIN PHYTOCHEMICALS THOUGH



OYSTER

Latin: *Pleurotus* spp.

Other Names: hiratake, chippikkoon, tamogitake

OYSTER MUSHROOMS ARE A FIRST THOUGHT FOR MOST WHEN IT COMES TO GOURMET EDIBLE MUSHROOMS & THIS WAS A FACT THAT WAS NOT LOST ON OUR DISTANT ANCESTORS WHO SO OFTEN CONSUMED THIS MUSHROOM.

THE OYSTER MUSHROOM HAS A LONG HISTORY OF CULINARY USE BY MANY NATIONS ALL AROUND THE WORLD. THE KASHAYA POMO OF NORTH AMERICA ARE ONE OF MANY NATIVE AMERICAN TRIBES THAT CONSUMED THIS FUNGUS HARVESTED FROM THE WILD. THE ANCIENT CHINESE DURING THE SONG DYNASTY (A.D. 960-1279) WROTE A POEM ABOUT THIS FUNGUS CALLING IT THE “MUSHROOM OF FLOWER HEAVEN” & THE COUNTRY PEOPLE OF FRANCE WERE ALSO KNOWN IN MEDIEVAL TIMES TO WATER LOGS TO ENCOURAGE FRUITING IN TOUGH TIMES. IT WAS ONLY IN WORLD WAR I THAT THE GERMANS FIRST THOUGHT OF CULTIVATING THIS HIGHLY NUTRITIOUS FOOD AS A SUBSISTENCE MEASURE TO FEED THE POOR



ABOVE: GREY OYSTER MUSHROOM SPECIMEN

THE NAME “OYSTER MUSHROOM” REFERS TO THEIR SHAPE & COLOR, RATHER THAN TASTE OF THIS MUSHROOM. ONE OF THE INTERESTING THINGS ABOUT OYSTER MUSHROOMS ARE THAT THEY ATTACK & KILLS NEMATODES. WHEN NEMATODES ARE PRESENT, THE OYSTER MUSHROOM’S HYPHAE PRODUCE MANY STICKY KNOBS ON THE SIDES OF THE CELLS. THESE SECRETE NEMATOTOXIC CHEMICALS THAT PARALYZE & KILL THE NEMATODES.

BELOW: BOTANICAL ILLUSTRATION OF THE FAMOUS GREY OYSTER MUSHROOM - *PLEUROTUS OSTREATUS*



BELOW: OYSTER MUSHROOMS ARE GREAT BIOREMEDIATORS LEFT - OYSTER MUSHROOM PLANTED ON OIL CONTAMINATED PILE (20,000 PPM) RIGHT - SOIL TOXICITY REDUCED IN 16 WEEKS TO LESS THAN 200 PPM - PLANT LIFE THEN BEGAN TO GROW ON THE PILE



THE FUNGUS THEN PRODUCES SPECIALIZED HYPHAE THAT PENETRATE & DIGEST THE WORMS. THERE ARE TWO REASONS THAT THE FUNGUS WOULD DO THIS. FIRST, IT IS A DEFENSE MECHANISM THAT PREVENTS THE NEMATODES FROM FEEDING ON THE FUNGAL CELLS. SECOND, THE NEMATODES SUPPLY AN EXTRA SOURCE OF NITROGEN.

OYSTER MUSHROOMS ARE TRADITIONALLY USED TO STRENGTHEN VEINS & RELAX TENDONS, AS WELL AS FOR HEART HEALTH. MODERN FINDINGS HAVE PROVEN THAT THIS MUSHROOM IS BOTH HIGHLY NUTRITIOUS & HAS GREAT MEDICINAL BENEFITS TOO. OYSTER MUSHROOMS CONTAIN β -GLUCANS, PHENOLIC COMPOUNDS SUCH AS PROTOCATECHUIC ACID, GALLIC ACID, HOMOGENSIC ACID, RUTIN, MYRICTIN, CHRYSIN, NARINGIN, TOCOPHEROL LIKE α -TOCOPHEROL & γ - TOCOPHEROL, & β -CAROTENE. THEY ALSO HOUSE ALMOST ALL KINDS OF AMINO ACIDS, VITAMINS B₁, B₂, B₅, B₆, B₇ AS WELL AS VITAMIN C, P, D₂ & IRON.

OYSTER MUSHROOMS HAVE BEEN WIDELY STUDIED FOR THEIR EFFECT ON MODULATING BLOOD CHOLESTEROL LEVELS & EVIDENCE SHOWS THAT THEY HAVE THE ABILITY TO REDUCE TRIGLYCERIDES & LDL CHOLESTEROL. IT HAS ALSO BEEN FOUND THAT THESE MUSHROOMS CONTAIN EROGOTHIONEINE

A LESSER KNOWN ANTIOXIDANT AMINO ACID THAT PROTECTS THE CELLS OF THE BODY, REDUCING TRIGLYCERIDES WHICH CAN CAUSE CARDIOVASCULAR DISEASE. VARIOUS STUDIES HAVE SHOWN THAT 3 MONTHS OF USE CAN LOWER CHOLESTEROL LEVELS BY UP TO 40%

OYSTER MUSHROOMS HAVE BEEN PROVEN TO BE EFFECTIVE IN THE TREATMENT OF LUMBAGO, NUMBED LIMBS & TENDON/BLOOD VESSEL DISCOMFORT.

THIS WONDERFUL GROUP OF FUNGI HAVE DEMONSTRATED ENHANCED IMMUNE CELL ACTIVATION & ANTI-TUMOR POTENTIAL DUE TO BOTH PROTEOGLYCANS & HETROGLUCAN - LONG TERM USE OF OYSTER MUSHROOMS SHOW TUMOR INHIBITION RATES OF UP TO 90% AGAINST SARCOMA 180, MAMMARY TUMOR

OYSTER MUSHROOMS HAVE SIGNIFICANT ANTIBACTERIAL ACTIVITY TOO DUE TO AN ACTIVE COMPOUND, "BENZALDEHYDE", WHICH WAS PROVEN TO REDUCE BACTERIAL LEVELS IN THE BODY. IT SEEMS THAT THE COMPOUNDS RELEASED BY THIS MUSHROOM TO DIGEST ORGANIC MATERIAL FROM NATURE TO USE IT FOR FOOD ARE ALSO THE SAME COMPOUNDS THAT CAN HELP COMBAT INFECTIONS IN THE BODY.

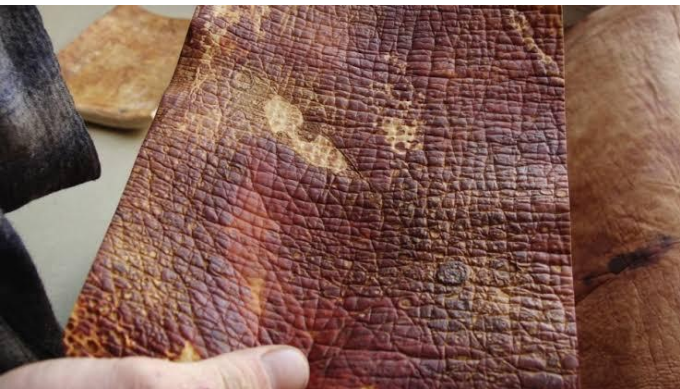


CLOCKWISE FROM LEFT: GOLDEN OYSTER MUSHROOM - P. CITRINOPILEATU, PINK OYSTER MUSHROOM - P. DJAMOR, INDIAN OYSTER MUSHROOM - P. PULMONARIUS, GREY OYSTER MUSHROOM - P. OSTREATUS (MOST WELL KNOWN OYSTER MUSHROOM, USED IN MASS CULTIVATION) BLUE OYSTER MUSHROOM - P. COLUMBINUS





ABOVE: OYSTER MUSHROOMS ARE FANTASTIC DECOMPOSERS & EAT ALMOST EVERYTHING INCLUDING CHAIRS & BOOKS



LEFT: OYSTER MUSHROOM MYCELIUM ONCE DYED & AGED RESEMBLES LEATHER & IS A GREAT VEGAN SUBSTITUTE



OYSTER MUSHROOMS ARE CONTINUING TO BE RESEARCHED AS A MEANS OF A BIODYNAMIC REMEDY TO WASTE. THE AMAZING MYCOLOGIST PAUL STAMETS FOUND THAT THE MYCELIUM OF CERTAIN OYSTER MUSHROOM RELEASES ENZYMES WHICH WERE POWERFUL ENOUGH TO BREAK DOWN PAH'S (POLYCYCLIC AROMATIC HYDROCARBONS) FOUND IN OIL & ITS REFINED STATE (PETROL).

IN ONE EXPERIMENT SOIL CONTAMINATED WITH OIL WAS INOCULATED WITH OYSTER MUSHROOMS WHICH BEGAN TO EFFECTIVELY FEED OFF THE OIL & BROUGHT LIFE BACK TO THE PATCH OF EARTH. WITH THE MUSHROOMS CAME FLIES WHICH ATTRACTED BIRDS WHO THEN DEPOSITED SEEDS & BROUGHT THE AREA BACK TO ITS ORIGINAL STATE OF HARMONY.

WE USE OUTDOOR LOG METHODS TO GROW BLUE, GREY & PINK OYSTER MUSHROOMS, WE ALSO GROW THE RARER ELM OYSTER & PHOENIX OYSTERS AS WELL - THESE MUSHROOMS ARE THEN COMBINED & EXTRACTED TO CREATE A POWERFUL OYSTER MUSHROOM MIX FULL OF LIFE PROMOTING PHYTOCHEMICALS



ABOVE RIGHT: WWI ILLUSTRATION OF A FOOD HAND OUT, OYSTER MUSHROOMS WERE A STAPLE AS THEY WERE EASY TO GROW & HIGHLY NUTRITIOUS - THE GERMANS GREW THIS MUSHROOM AS A SUBSISTENCE FOOD WHICH LATER LED TO THE DISCOVERY OF THE ANTIBIOTIC PROPERTIES OF THE MUSHROOM.

REISHI

Latin: *Ganoderma lucidum*

Other Names: lingzhi, manrentake, divine mushroom

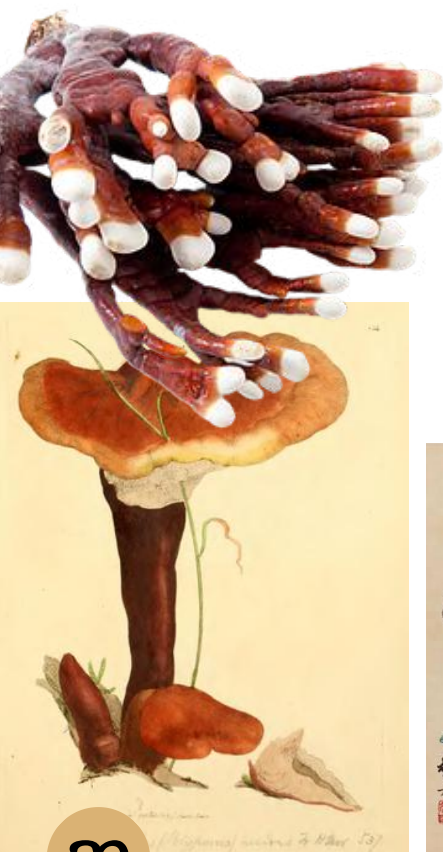
REISHI MUSHROOM - *GANODERMA LUCIDUM* & OTHER RELATED SPECIES HAS BEEN REVERED SINCE THE DAWN OF MODERN CULTURE. REISHI HAS BEEN RECOGNIZED AS A MEDICINAL MUSHROOM FOR OVER 4000 YEARS, & ITS POWERFUL EFFECTS HAVE BEEN DOCUMENTED IN MANY ANCIENT MANUSCRIPTS - HOWEVER THIS FANTASTIC FUNGUS IS EXCEPTIONALLY RARE WITH SOME TEXTS REPORTING THAT YOU COULD ONLY FIND IT ON EVERY 10 000 PLUM TREES IN JAPAN.

TRADITIONALLY, IT WAS USED IN CHINA BY TAOIST MONKS TO PROMOTE CALMNESS, IMPROVE MEDITATIVE PRACTICES, AS WELL AS TO ATTAIN A LONG & HEALTHY LIFE. CHINESE ROYALTY, SEEKING LONGEVITY, HELD REISHI MUSHROOM IN HIGH ESTEEM. IT BECAME IMMORTALIZED THROUGHOUT CHINESE CULTURE IN PAINTINGS, STATUES, SILK TAPESTRIES, & ON THE ROBES OF EMPERORS.



ABOVE: RED REISHI SPECIMEN

REISHI MUSHROOM HAS ALSO BEEN REVERED IN JAPANESE CULTURE WHERE IT IS CONSIDERED TO BE THE MOST IMPORTANT OF ALL THE JAPANESE MEDICINAL POLYPORES. IN CHINA THIS BRILLIANT MUSHROOM IS LISTED AS A SUPERIOR TONICS IN THE MOST FAMOUS OF ALL CHINESE MATERIA MEDICAS - THE SHEN NUNG BEN CAO JING (206 BC-AD 8).



LEFT: THE ANTLER FORM OF REISHI - HIGH CO₂ IN THE SURROUNDING AREA CAUSES THE FRUITING BODY TO GROW UP LOOKING FOR FRESH OXYGEN

BELOW: ILLUSTRATIONS FROM BOTH THE EAST & WEST

RIGHT: MAGU, THE GODDESS OF YOUTH, HOLDS A REISHI





SUPERIOR HERBS WERE AMONG THE MOST HIGHLY REGARDED OF ALL MEDICINES SINCE THEY WERE CONSIDERED TO PROLONG LIFE, PREVENT AGING, BOOST QI, & MAKE THE BODY LIGHT & LIMBER. IN CHINESE MEDICINE IT IS REGARDED AS A THREE TREASURE TONIC, NOURISHING THE SHEN, JING, & QI

REISHI HAS BEEN USED IN TRADITIONAL MEDICINE TO REMOVE TOXINS, TREAT CANCER, RECTIFY HEART DISEASE, LIVER PROBLEMS, JOINT INFLAMMATION, ULCERS. REISHI WAS ALSO REPORTED TO BE AN ANTIDOTE FOR POISONOUS MUSHROOMS (30G DRUNK IN A TEA) & AS A UV PROTECTANT IN SKIN LOTIONS.

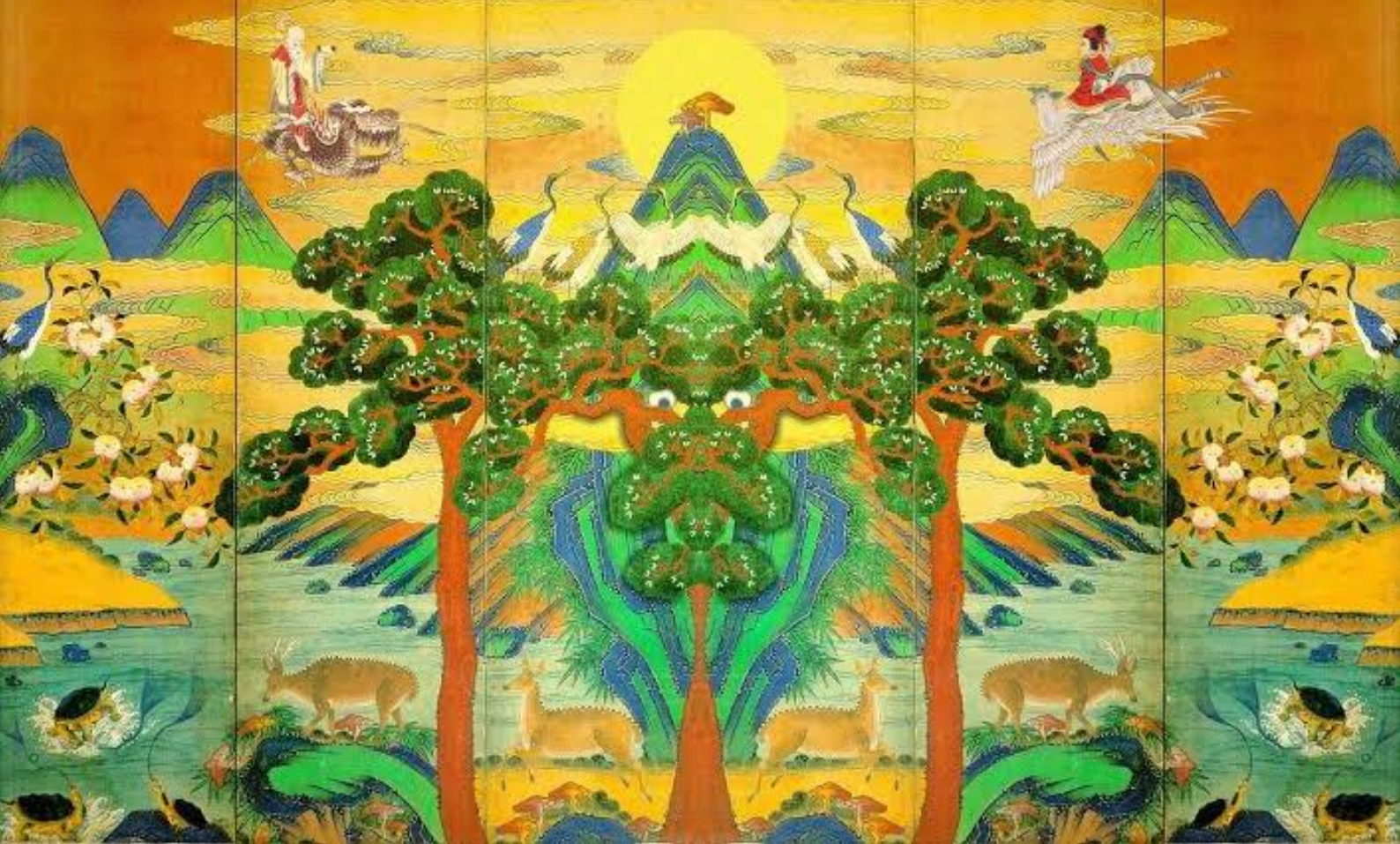
THANKS TO MODERN SCIENCE WE NOW UNDERSTAND RED REISHI BETTER THAN EVER BEFORE, WE HAVE SUCCESSFULLY ISOLATED 130 DIFFERENT POLYSACCHARIDES, OVER 119 TRITERPENES ALONG WITH MANY OTHER PHYTONUTRIENTS MAKING UP ONE OF THE MOST COMPLEX MEDICINES KNOWN TO MAN WITH JUST OVER 900 BIOACTIVE CONSTITUENTS IDENTIFIED THUS FAR. THIS FUNGUS CONSISTENTLY DEMONSTRATES A PROFOUND ABILITY TO NOURISH VITALITY, RELAX THE NERVOUS SYSTEM, CALM THE MIND, & PROMOTE A STATE OF RELAXED FOCUS AND CONCENTRATION.



LEFT: THE ANCIENT SAINT PENG ZU GIFTED REISHI MUSHROOMS BY A DEER

LEFT ABOVE: “REISHI HEAVEN.” THIS IS A PAINTING OF CHINESE PARADISE, WHERE A STONE PEDESTAL AT ITS CENTER BEARS A DIVINE REISHI MUSHROOM





OVER THE PAST SEVERAL DECADES, DOZENS OF DIFFERENT STUDIES CONDUCTED IN JAPAN, CHINA, THE U.S. & THE U.K. HAVE DEMONSTRATED THAT REISHI MUSHROOMS ARE CAPABLE OF OFFERING PROTECTION AGAINST NUMEROUS DISEASES & ILLNESSES. ONE OF THE MOST IMPORTANT EFFECTS OF THE REISHI MUSHROOM IS THAT IT CAN BOOST YOUR IMMUNE SYSTEM, TEST-TUBE STUDIES HAVE SHOWN THAT REISHI CAN INCREASE WHITE BLOOD CELL COUNT & DRAMATICALLY UPGRADE OUR IMMUNE RESPONSE, PARTICULARLY THE PROCESS OF PHAGOSYTOSIS (THE MECHANISM BY WHICH LYMPHOCYTES, MACROPHAGES & KILLER CELL ROAM THE BODY PICKING UP DEBRIS & CONSUMING TOXINS & HARMFUL ORGANISMS). OUT OF REISHI'S VAST TRITERPENOID, 2 COMPOUNDS IN PARTICULAR STAND OUT, GANODERIC & GANODERENIC ACIDS, THESE HAVE SHOWN TREMENDOUS RESULTS IN TREATING AUTO IMMUNE DISEASES, ALLERGIES, LIVER FUNCTION (BETA-GLUCURONODASE INHIBITOR - AN ENZYME LINKED TO SCLEROSIS & HEPATITIS) THEY HAVE ALSO SHOWN ANTIOXIDANT QUALITIES, WHICH PROTECT THE BODY FROM FREE RADICAL DAMAGE AS WELL AS ENHANCE OVERALL CELL REPAIR.

NUMEROUS STUDIES HAVE ALSO BEEN DONE ON REISHI MUSHROOMS' EFFECT ON CANCER CELL LINES. IN VIVO & IN-VITRO TESTING HAVE DEMONSTRATED THAT COMPOUNDS DERIVED FROM THE REISHI MUSHROOM HAVE CYTOTOXIC EFFECTS ON CANCER CELLS. SEVERAL STUDIES DEMONSTRATE THAT EXTRACTS OF REISHI MUSHROOMS DOWN-REGULATE VEGF & MAPK SIGNALING, AS WELL AS INDUCE CELL CYCLE ARREST, APOPTOSIS (THE DEATH OF CANCER CELLS WHICH OCCURS AS A CONTROLLED PART OF AN ORGANISM'S GROWTH OR DEVELOPMENT), & AUTOPHAGY. MANY RANDOMIZED CONTROLLED TRIALS ALSO PROVED THAT CANCER PATIENTS EXPERIENCED IMPROVED RESPONSE TO TREATMENTS LIKE CHEMOTHERAPY AND RADIOTHERAPY





ALL THIS INFORMATION ALONG WITH PHYSICAL TESTING POINTS TO REISHI BEING ONE OF THE BEST ADAPTOGENS WE CURRENTLY HAVE, HELPING THE BODY ADAPT TO THE EVERY DAY STRESSORS OF LIFE, INCREASING ENERGY & IMMUNITY AS WELL AS HELPING TO WARD OFF LONG TERM DEGENERATIVE DISEASES.

THIS AMAZING MUSHROOM GROWS NATURALLY RIGHT ON OUR DOORSTEPS IN THE FORESTS AROUND SOUTH AFRICA, UNLIKE THE ANCIENT CHINESE & JAPANESE, REISHI SEEMS TO THRIVE IN OUR CLIMATE - THE EASTERN CAPE IN PARTICULAR HAS AN ABUNDANCE OF WILD SPECIMENS (IN MY GREAT FORTUNE OF BEING ABLE TO TRAVERSE THROUGH FORESTS EVERY DAY I'VE DISCOVERED AN AVERAGE OF 14 MUSHROOMS PER 2 SQ(KM) MAKING IT A MUST FOR ANY SOUTH AFRICAN LOOKING TO IMPROVE THIER OVERALL QUALITY OF LIFE.



ABOVE: DUANWOOD REISHI FARM OPERATED BY THE CHINESE ACADEMY OF SCIENCES.

ABOVE LEFT: WILD SOUTH AFRICAN REISHI SPECIMEN



THERE ARE THUS FAR 6 REISHI SPECIES THAT GROW IN SOUTH AFRICA, 4 OF THESE WE'VE IDENTIFIED IN THE EASTERN CAPE - *G. ASUSTROAFRICANUM*, *G. CUPREUM*, *G. DESTRUCTANS*, *G. ENIGMATICUM*, *G. RESINACEUM* & VARIANTS OF *G. LUCIDUM*

WHEN PRODUCING OUR TRIPLE EXTRACT REISHI TINCTURE, WE UTILIZE WILD REISHI SPECIES GROWN IN FORESTS UNTOUCHED BY MODERN POLLUTION. WE ALSO GROW REISHI WITH INVASIVE BLACK WATTLE IN AN ATTEMPT TO ERADICATE EVER EXPANDING GROVES - WE THEN REPLANT INDIGENOUS TREE SPECIES IN THEIR WAKE.



RIGHT: DIFFERENT COLORED REISHI WERE PRIZED IN ANCIENT CHINA & JAPAN - THERE IS SAID TO BE 6 COLOR VARIANTS - OVER 100 SPECIES HAVE BEEN IDENTIFIED



SHIITAKE

Latin: *Lentinula edodes*

Other Names: black forest mushroom, hua gu, xiānggū

PERHAPS MY FAVORITE OF ALL GOURMET EDIBLE MUSHROOMS - THE WONDERFULLY HEARTY SHIITAKE MUSHROOM. IT HAS BEEN ESTIMATED THAT THE ORIGIN OF SHIITAKE MUSHROOMS CAN BE TRACED TO THE CRETACEOUS PERIOD, OVER ONE HUNDRED MILLION YEARS AGO. IT WAS LOCALIZED & GREW WILD ONLY IN THE MOUNTAINOUS REGIONS OF CHINA, JAPAN, INDONESIA, KOREA & TAIWAN, THIS IS BECAUSE SHIITAKE SPORES TRAVELED USING TYPHOON WIND PATTERNS - IT IS NOT FOUND WILD ANY WHERE ELSE IN THE WORLD. THE FIRST HISTORICAL RECORDS TO MENTION SHIITAKE ARE DATED BACK TO 199 AD WHEN THE JAPANESE EMPEROR CHUAI WAS OFFERED SHIITAKE BY THE KYUSUYU, A NATIVE TRIBE IN JAPAN.

IN CHINA THE CULTIVATION OF SHIITAKE STARTED AROUND 1,000 YEARS AGO WITH A MAN CALLED WU SAN-KWUNG. ACCORDING TO LEGEND, KWUNG WAS TESTING THE SHARPNESS OF HIS AXE ON LOGS THAT HAD SHIITAKE MYCELIUM GROWING IN IT - SWINGING HIS AXE HE MADE SEVERAL CUTS IN THE LOGS BEFORE LEAVING.



ABOVE: SHIITAKE SPECIMEN

HE RETURNED SOME DAYS LATER TO DISCOVER THAT SHIITAKE MUSHROOMS HAD GROWN EXACTLY WHERE THE LOGS HAD BEEN CHOPPED BY HIS AXE. KWUNG CONTINUED TO SUCCESSFULLY EXPERIMENT, BECOMING THE PIONEER OF CULTIVATED SHIITAKE. IN HIS QUEST TO PERFECT HIS METHOD OF CULTIVATION HE BECAME FRUSTRATED WITH ONE PARTICULAR LOG THAT WOULDN'T FRUIT. AFTER A LONG, HARD, RAINY DAY KWUNG VENTED HIS FRUSTRATION BY BEATING & THROWING THE LOG AROUND. UPON HIS RETURN HE DISCOVERED THAT THE LOG HE HAD BEATEN SO VIGOROUSLY WAS COMPLETELY COVERED IN MUSHROOMS.



LEFT: SHIITAKE BOTANICAL ILLUSTRATION



BELOW: WILD GROWING SHIITAKE - WILD SPECIMENS ARE PREDOMINANTLY FOUND IN CHINA



KWUNG HAD INADVERTENTLY DISCOVERED THE 'SOAK & STRIKE' METHOD OF MUSHROOM CULTIVATION WHICH IS STILL IN USE TODAY. KWUNG'S CONTRIBUTION TO SHIITAKE CULTIVATION IS COMMEMORATED IN A TEMPLE SITUATED IN QINGYUAN, WHERE FESTIVALS ARE STILL CELEBRATED IN HIS NAME.

SHIITAKE HAS AN EXCELLENT NUTRITIONAL PROFILE & IS FILLED TO THE BRIM WITH MEDICINAL COMPOUNDS. THIS MUSHROOM CONTAINS HIGH AMOUNTS OF PROTEIN, VARIOUS VITAMINS & MINERALS (SEE PAGE 36 FOR MORE INFO). SHIITAKE IS ALSO THE SOURCE OF FOUR WELL STUDIED PHYTOCHEMICALS WITH PROVEN PHARMACOLOGICAL EFFECTS - POLYSACCHARIDE LENTINAN, LEM, LAP & KS-2. IT ALSO CONTAINS HIGH AMOUNTS OF ERGOSTEROL (873-4381 IU/100G) A PROVITAMIN WHICH CONVERTS TO VITAMIN D IN THE PRESENCE OF SUNLIGHT

VARIOUS POLYSACCHARIDES IN SHIITAKE HAVE SHOWN ANTITUMOR & IMMUNOSTIMULATING ACTIVITIES BY INCREASING PHAGOCYTOTIC ACTIVITY OF THE PERITONEAL MACROPHAGES. LENTINAN & KS-2 (AN A-MANNAN-PEPTIDE) STRONGLY INHIBITS TUMOR GROWTH

BELOW: STATUE OF WU SAN-KWUNG - THE LEGENDARY FARMER WHO FIRST DISCOVERED THE SECRETS TO CULTIVATING SHIITAKE

RIGHT: WU SAN-KWUNG'S SOAK & STRIKE TECHNIQUE IS STILL UTILIZED TO THIS DAY FOR VARIOUS MUSHROOM GROW OPERATIONS

BELOW RIGHT: EMPERORS OF JAPAN BY HASHIMOTO CHIKANOBUTHE - FOURTEENTH EMPEROR, CHŪAI IS SHOWN IN PROFILE TOWARDS THE LEFT IN BLUE ROBES (RECEIVED SHIITAKE AS A GIFT)



LENTINAN WORKS THROUGH BOTH HUMORAL & CELL MEDIATED IMMUNE MECHANISMS TO SUPPORT HOST DEFENSE AGAINST VARIOUS CANCERS, BACTERIA, VIRUSES, & PARASITES.

SHIITAKE ALSO HELPS TO SUPPORT & PROTECT THE LIVER & THE DIGESTIVE SYSTEM, INCLUDING GUT HEALTH. STUDIES HAVE SHOWN THAT THIS MUSHROOMS HIGH ADENINE & CHOLINE CONTENT DEMONSTRATE LIVER PROTECTING ACTIONS AS WELL AS RESTORED GPT LEVELS IN TOXIC LIVER & GUT CONDITIONS.





ANOTHER ACTIVE COMPOUND IN SHIITAKE - ERITADENINE HAS BEEN SHOWN TO LOWER BLOOD LEVELS OF CHOLESTEROL & LIPIDS - STUDIES HAVE SHOWN THAT A DECREASE OF 25% IN TOTAL CHOLESTEROL CAN BE ATTAINED IN AS LITTLE AS ONE WEEK - TYROSINASE ON THE OTHER HAND HAS BEEN FOUND TO LOWER BLOOD PRESSURE & ACCELERATE ACCUMULATION OF LIPIDS IN THE LIVER, THUS REMOVING THEM FROM CIRCULATION.

WE GROW LOGS OF SHIITAKE MUSHROOMS EVERY YEAR & WE HIGHLY ADVISE ALL TO DO THE SAME (ONE OF THE MOST COMMONLY CULTIVATED HOME MUSHROOMS & CERTAINLY ONE OF THE MOST INEXPENSIVE) WE USE VARIOUS GRADES OF THIS MUSHROOM TO PRODUCE A TRIPLE EXTRACTED MUSHROOM TINCTURE .



FAR ABOVE: THREE TYPES OF SHIITAKE FROM LEFT - KOSHIN (SPRING SEASON VARIETY, OPEN CAPS, LESS EXPENSIVE). SHANKU (SUMMER SEASON, REGULAR, THICK BROWN RIM, MEATY, AVERAGE PRICE). DONKO (WINTER SEASON, CLOSED CAPS, CRACKED MOST HIGHLY PRIZED SPECIMENS).

Niacin	4 mg 19% DV
Pantothenic Acid	1.5 mg 15% DV
Vitamin B6	0.2 mg 15% DV
Riboflavin	0.2 mg 13% DV
Manganese	0.2 mg 12% DV
Phosphorus	112 mg 11% DV
Selenium	5.7 mcg 8% DV
Copper	0.1 mg 7% DV
Zinc	1 mg 7% DV
Potassium	304 mg 6% DV
Magnesium	20 mg 5% DV
Vitamin D	18 IU 4% DV
Iron	0.4 mg 2% DV

ABOVE RIGHT: STATUE AT THE TEMPLE GUSHO-JI GUNMA : LEGEND SAYS THAT THE MONK/COOK WOULD SPEND HOURS EVERY DAY DRYING HIS SHIITAKE MUSHROOMS IN THE SUN TO BE USED IN HIS MEALS - HE LIVED TO THE RIPE OLD AGE OF 82 (QUITE OLD FOR THOSE DAYS)



SPLIT GILL

Latin: *Schizophyllum commune*

Other Names: waaiertjies, kudit

FUNGI HAVE BEEN RENOWNED MEDICINES IN MANY FAR EASTERN COUNTRIES FOR HUNDREDS OF YEARS, & ONE OF THE MOST CAPABLE AND EASIEST TO IDENTIFY OF THEM ALL BEING THE SPLIT GILL MUSHROOM.

THIS RUGGED LITTLE FUNGUS GROWS WORLDWIDE, ON EVERY CONTINENT EXCEPT ANTARCTICA - THE SPECIES NAME COMMUNE ACTUALLY MEANS COMMON OR WIDESPREAD. IT IS EXTREMELY HARDY, GROWING IN BOTH ICY & ARID LANDSCAPES - I'VE FOUND THIS MUSHROOM GROWS ESPECIALLY WELL IN SOUTH AFRICA, SOAKING UP MOISTURE IN RAINY SEASONS & THEN GOING INTO A SUSPENDED STATE SIMILAR TO HIBERNATION IN THE DRY MONTHS, ALLOWING IT TO SURVIVE FOR MONTHS AT A TIME WITHOUT DYING.

ANOTHER REASON WHY THIS MUSHROOM SEEMS TO BE SO ABUNDANT IS DUE TO IT HAVING MORE THAN 28,000 SEXES, AN ADAPTATION THAT MINIMIZES THE RISK OF SIBLINGS MATING, & THEREFORE MAXIMIZES THE GENETIC DIVERSITY BY ACHIEVING NEARLY 100% OUT-BREEDING WITH NEW GENETIC STOCK.



ABOVE: SPLIT GILL SPECIMEN

BELOW: WILD SPLIT GILL MUSHROOM GROWING ON A MOSS COVERED LOG

SPLIT GILL MUSHROOMS ARE A FAVORED TRADITIONAL FOOD THROUGHOUT SOUTHEAST ASIA, INDIA & MANY PARTS OF AFRICA LIKE SENEGAL & CAMEROON, USUALLY FRIED WITH LEGUMES & SEEDS, OR GROUND INTO A POWDER & ADDED TO A STOCK - IT IS SAID TO HAVE A SWEET TASTE. ON A MEDICINAL LEVEL, SPLIT GILLS TRULY SHINE. THIS MUSHROOM HAS TRADITIONALLY BEEN USED TO TREAT GENERAL WEAKNESS, DEBILITY, GYNECOLOGICAL DISEASES, LEUKORRHEA, CANCERS & MORE.

LEFT: ILLUSTRATION OF SPLIT GILL MUSHROOMS

BELOW: BOTANICAL ILLUSTRATION OF THE CAP & SPORE BEARING SURFACE OF A SPLIT GILL MUSHROOM



BESIDES NUTRIENT SUBSTANCES SUCH AS PROTEIN, FIBER, & MINERALS, ANALYSIS OF SPLIT GILL MUSHROOMS SHOW THAT THEY PRODUCES THREE NOTABLE BIOPOLYMERS - HYDROPHOBIN, KDA PROTEIN, & BY FAR THE MOST WIDELY RESEARCHED GLUCAN IN THIS MUSHROOM BEING A WATER-SOLUBLE TRIPLE-STRANDED HELIX KNOWN AS SCHIZOPHYLLAN.

SCHIZOPHYLLAN IS A POLYSACCHARIDE COMPOSED OF GLUCOSE POLYMERS OF DIFFERENT SIZES & DEGREE OF BRANCHING, BUT OFTEN CONSISTING OF β -D-GLUCANS WHICH ARE SIMILAR TO THOSE FOUND IN THE CELL WALLS OF OTHER MEDICINAL FUNGI. SCHIZOPHYLLAN HAS DEMONSTRATED GREAT PROTECTIVE EFFECTS AGAINST VARIOUS BACTERIA SUCH AS PSEUDOMONAS AERUGINOSA, STAPHYLOCOCCUS AUREUS, ESCHERICHIA COLI, & KLEBSIELLA PNEUMONIAE TO NAME BUT A FEW.

THIS TOUGH LITTLE MUSHROOM CAN ALSO INDUCE THE PRODUCTION OF LAK CELLS - LYMPHOKINE-ACTIVATED KILLER CELLS ARE WHITE BLOOD CELLS THAT MEDIATE THE IDENTIFICATION AND DESTRUCTION OF CANCER CELLS. SCHIZOPHYLLAN HAS ALSO BEEN PROVEN TO INCREASE CELLULAR IMMUNITY BY RESTORING SUPPRESSED KILLER CELL ACTIVITY. IT CAN PROVIDE PROTECTIVE EFFECTS AGAINST MANY DIFFERENT VIRUSES & EVEN ACTIVATE MACROPHAGES WHICH RESULTS IN AUGMENTATION OF T CELL WHICH IS THE MOST IMPORTANT MEDIATOR OF SYSTEMIC IMMUNOMODULATION.

BELOW: BEAUTIFUL IMAGE OF THE TOP AND UNDERSIDE OF THIS COMMON MUSHROOM

BELOW RIGHT: LOG GROWING SPLIT GILL AND MOSS



ABOVE: MICROSCOPIC IMAGE OF SCHIZOPHYLLUM COMMUNES GILLS BEFORE AND AFTER SPLITTING



RIGHT: SPLIT GILLS FLORAL FRUITING BODY MAKES GREAT INSPIRATION FOR JEWELRY

SCHIZOPHYLLAN MOST NOTABLE BENEFITS ARE AGAINST TUMOR/CANCER ACTIVITY (BOTH SOLID & ASCITE FORMS OF SARCOMAS & CARCINOMAS). THIS AMAZING COMPOUND CAN REDUCE TUMOR GROWTH BY INCREASING LYMPHOCYTIC INFILTRATION, CYTOTOXIC T CELLS, & NK CELL CREATION WHICH LEADS TO A STRONGER ANTITUMOR IMMUNE RESPONSE AT TUMOR SITES. SCHIZOPHYLLAN IS DISTRIBUTED THROUGHOUT THE BODY IN MACROPHAGES, TISSUE NEXT TO TUMORS, & KUPFFER CELLS (BONE MARROW, LYMPH NODES, LIVER & SPLEEN CELLS) THUS ALSO INHIBITING CHROMOSOMAL DAMAGE CAUSED BY CHEMOTHERAPEUTIC AGENTS & RADIATION - MAKING IT A GREAT ADJUVANT FOR CHEMOTHERAPY (BEST RESULTS HAVE BEEN FOUND WHEN SPLIT GILL IS ADMINISTERED SHORTLY AFTER OR AT THE SAME TIME AS RADIATION)





VARIOUS CLINICAL STUDIES HAVE PROVEN THAT SPLIT GILLS WHEN COMBINED WITH CHEMOTHERAPY RESULTED IN TREATED SUBJECTS LIVING SIGNIFICANTLY LONGER THAN THOSE ON CHEMOTHERAPY ALONE - EFFECTIVELY PROLONGING THE FIVE YEAR SURVIVAL RATE OF MANY TYPES OF CANCERS - GASTRIC, CERVICAL, ORAL SHOWED MOST SIGNIFICANT IMPROVEMENTS PROVING THIS MUSHROOMS HISTORICAL USE FOR THESE AREAS OF THE BODY

SCHIZOPHYLLAN IS ALSO BEING STUDIED FOR CHRONIC FATIGUE SYNDROME.

LEFT: UGANDAN POSTAGE STAMP - PICTURED ARE WILD ZEBRA, THE TOUGH LANDSCAPE AND SPLIT GILL MUSHROOMS



SPLIT GILL MUSHROOMS ARE VERY DEAR TO MY HEART AS THEY WERE THE FIRST MUSHROOM I SUCCESSFULLY CULTIVATED - WILD STRAINS MULTIPLY RAPIDLY ONCE SPORES ARE RELEASED MAKING IT AN EASY MUSHROOM TO GROW FOR BEGINNERS.

SPLIT GILL MUSHROOMS ARE EXCEPTIONALLY POWERFUL BUT SCARCE - THEY ONLY GROW IN SMALL COMMUNITIES ON DECAYING WOOD, FOR THIS REASON WE ONLY PRODUCE SMALL BATCH HYDRO-ETHANOLIC EXTRACTS - MADE FROM WILD HARVESTED & WILD GROWN FRUITING BODIES.



LEFT: SPLIT GILL MUSHROOMS HAVE A HAIRY LOOKING CAP THAT FRAYS AND SPLITS TOWARDS THE MARGIN



LEFT: BEAUTIFUL FLOWER LIKE TUFTS OF THE FUNGUS BLOSSOM WHEN CONDITIONS ARE RIGHT, PRODUCING LARGE AMOUNTS OF GROWTH



TURKEY TAIL

Latin: *Trametes Versicolor*

Other Names: many-zoned polypore, cloud fungus, kawaratake

BEAUTIFUL & MEDICINAL. THIS VIBRANT & COLORFULLY BANDED MUSHROOM IS APTLY NAMED TURKEY TAIL FOR ITS RESEMBLANCE TO THE SEMI-CIRCULAR, BANDED TAILS OF WILD TURKEYS.

THIS EXQUISITE MUSHROOM WAS FIRST RECOGNIZED IN 200 B.C (HAN DYNASTY) IN ONE OF THE MOST IMPORTANT MEDICAL BOOKS IN TRADITIONAL CHINESE MEDICINE (TCM) - THE SHENNONG BEN CAO JING - THE DIVINE FARMERS MATERIA MEDICA. IT IS CONSIDERED TO BE THE EARLIEST COMPLETE CHINESE PHARMACOPOEIA REFERENCE.

TURKEY TAIL HAS AN ANCIENT HISTORY OF USE AS A MEDICINAL MUSHROOM. IN MANY ASIAN CULTURES, TURKEY TAIL'S CLOUD LIKE FORMS SYMBOLIZE LONGEVITY & HEALTH, SPIRITUAL ATTUNEMENT & INFINITY. IT WAS TRADITIONALLY BREWED INTO A SOOTHING TEA & DRUNK TO TREAT MANY DIVERSE MALADIES.

THESE MUSHROOMS ARE USED IN TCM AS IMMUNOMODULATORS THAT BOOSTS IMMUNE FUNCTION & FIGHT INFECTIONS. THIS ABILITY TO SUPPORT THE HEALTH OF BOTH AN UNDER-ACTIVE & OVER-ACTIVE IMMUNE SYSTEM IS VERY RARE & VALUED AMONG PHYSICIANS. TURKEY TAIL MUSHROOMS ARE ALSO REVERED FOR THEIR POTENTIAL ANTITUMOR MECHANISMS & ABILITY TO TREAT PULMONARY DISEASE

THIS COLOURFUL MEDICINE CONTAINS MANY DIFFERENT MEDICINAL CHEMICALS INCLUDING β -SITOSTEROL, HYDROXYMETHYLQUINOLINE, AS WELL AS VERY POWERFUL POLYSACCHARIDES CALLED PSK, PSP & CORIOLAN



ABOVE: TURKEY TAIL SPECIMEN

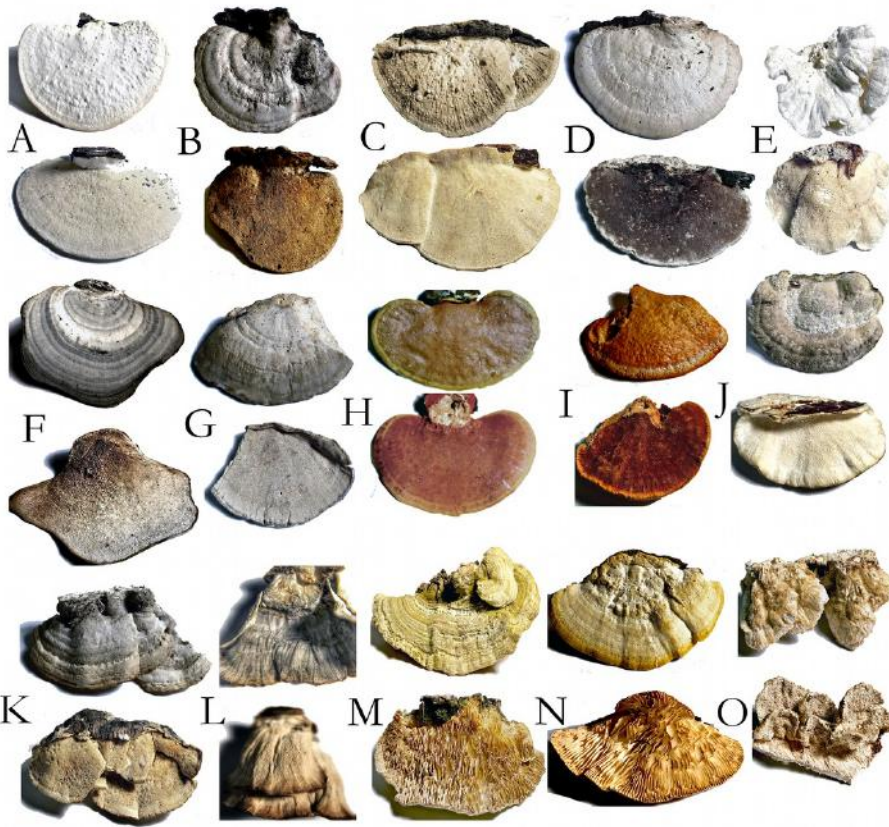
BELOW: SHEN NONG THE DIVINE FARMER - THE FIRST EMPEROR OF ANCIENT CHINA, WHO NOT ONLY INVENTED FARMING TOOLS FOR HIS PEOPLE, BUT ALSO HERBS FOR TREATING HIS PEOPLE'S ILLNESSES



RIGHT: BOTANICAL ILLUSTRATION OF TRAMETES VERSICOLOR

BELOW: ANCIENT TEAPOT DECORATED WITH TURKEY TAIL MUSHROOM ARTWORK





- A - TRAMETES AESCULI
- B - TRAMETES ELEGANS
- C - TRAMETES LACTINEA SENSULATO
- D - TRAMETES LACTINEA SENSULATO STRICTO
- E - TRAMETES CONCHIFER
- F - TRAMETES MENZIESII
- G - TRAMETES ORIENTALIS
- H - TRAMETES SANGUINEAS
- I - TRAMETES CINNABARINA
- J - TRAMETES SUAVEOLENS
- K - TRAMETES HIRUSUTA
- L - TRAMETES VILLOSA
- M - TRAMETES BETULINA
- N - TRAMETES ACUTA
- O - TRAMETES PUBESCENS

THIS MUSHROOMS MOST IMPORTANT PHYTOCHEMICALS ARE PROTEIN BOUND POLYSACCHARIDES - PSK (POLYSACCHARIDE KRESTIN) & PSP (POLYSACCHARIDE PEPTIDE) WHICH ARE THE PRINCIPAL IMMUNE ENHANCING & ANTI-TUMOR FRACTIONS PRESENT IN THIS FUNGUS.

PSK HAS IMMUNE ENHANCING ACTIVITY & A BROAD ANTINEOPLASTIC SCOPE. IT HAS BEEN SHOWN TO STIMULATE PHAGOCYTOTIC ACTIVITY OF MACROPHAGES & IMPROVE THE FUNCTION OF THE RETICULOENDOTHELIAL SYSTEM. THE FUNCTIONING OF BLOOD VESSELS ALSO IMPROVES WHEN TAKING PSK, IT ALSO HAS THE ABILITY TO RESTORE ANTIBODY PRODUCTION IN CANCEROUS PATIENTS WITH SARCOMA 180.

PSK ACTS DIRECTLY ON TUMOR CELLS AS WELL AS INDIRECTLY ON THE HOST TO BOOST CELLULAR IMMUNITY. IT HAS SHOWN ANTI TUMOR ACTIVITY WITH REGARDS TO FIBROSARCOMA, MELANOMA, MAMMARY, COLON, LUNG CANCERS AND MORE. AN INTERESTING EFFECT OF PSK IS THAT WHEN USED FOR TUMORS AT A LOCALIZED SITE IT INHIBITED TUMOR GROWTH IN OTHER SITES TOO. (PSK'S ANITUMOR ACTIVITY SEEMS TO BE ENHANCED WHEN USED IN COMBINATION WITH RADIATION, CHEMOTHERAPY & IMMUNOTHERAPY.

PSP ON THE OTHER HAND IS AN IMMUNOSTIMULANT - IT INCREASES T-CELL NUMBERS, INTERFERON PRODUCTION & INCREASED INTERLEUKIN PRODUCTION.





PSP HAS SHOWN TUMOR INHIBITING ACTIVITY AGAINST SARCOMA 180, P388 LEUKEMIA, MONOCYTTIC LEUKEMIA, EHRLICH ASCITIC TUMORS, HISTIOCYTTIC LYMPHOMA, & VARIOUS CANCERS OF THE LIVER, STOMACH, NOSE, & THROAT. THIS AMAZING MUSHROOM HAS ALSO DEMONSTRATED ANTIVIRAL ACTIVITY. IT IS USEFUL FOR UPPER RESPIRATORY, URINARY, & DIGESTIVE TRACT INFECTIONS, AS WELL AS A CURATIVE TO LIVER AILMENTS, INCLUDING HEPATITIS B & CHRONIC ACTIVE HEPATITIS.

ALMOST ALL TRAMETES SPECIES ARE MEDICINAL INCLUDING T. PUBESCENS (WHITE TURKEY TAIL) & T. HIRSUTA (HAIRY TURKEY TAIL) BOTH SHOWING ANTITUMOR AND ANTIBACTERIAL BENEFITS.

ABOVE: TURKEY TAIL MUSHROOMS COME IN MANY COLOR VARIANTS INCLUDING; BROWNS, GREYS, BLUES, GREENS, PURPLES & MORE

BELOW: OUR TURKEY TAIL TRIPLE EXTRACT TINCTURE



TURKEY TAIL IS AN ANCIENT INDIGENOUS MEDICINE FROM MANY DIFFERENT CULTURES AROUND THE WORLD & CAN BE FOUND GROWING ON NUMEROUS TYPES OF WOOD SPECIES IN WARM & COLD CLIMATES ALIKE - INCLUDING RIGHT HERE IN SOUTH AFRICA. WE USE WILD HARVEST TURKEY TAILS WE FIND & CULTIVATED SPECIMENS TO PRODUCE A LIQUID EXTRACT, WITH ETHANOL & WATER - THIS ENSURES ALL THE ESSENTIAL PHYTOCHEMICALS HAVE BEEN EXTRACTED FOR OPTIMAL BENEFIT

BELOW: A HAN DYNASTY PAINTING DEPICTING A TEA CEREMONY WHERE TURKEY TAIL MUSHROOMS WOULD HAVE BEEN DRUNK



WOOD EAR

Latin: *Auricularia* spp.

Other Names: jelly ear, jews ear, cloud fungus, mù'ěr, black fungus

EASILY THE STRANGEST MUSHROOM IN OUR ARMAMENTARIUM, THIS GELATINOUS, BIZARRE LOOKING MUSHROOM IS KNOWN THROUGHOUT THE WORLD FOR ITS WONDERFUL CULINARY USES & ITS EXTRAORDINARY MEDICINAL BENEFITS.

THE FIRST MENTION OF WOOD EAR MUSHROOMS COME FROM THE TANG DYNASTY AROUND 618 - 907 BCE WHERE IT IS HERALDED AS THE FIRST SPECIES TO BE CULTIVATED, HOWEVER THIS MUSHROOM IS MUCH MORE INFAMOUS THANKS TO A FABLE FROM BIBLICAL TIMES - THE LEGEND GOES THAT JUDAS ISCARIOT AFTER BETRAYING JESUS FOR 30 PIECES OF SILVER HUNG HIMSELF FROM AN ELDER TREE IN TOWN, TOWNS FOLK GATHERED AROUND THE FOLLOWING MORNING & TO THEIR ASTONISHMENT THEY SAW LITTLE RUBBERY EARS GROWING FROM THE BASE OF THE TREE. IT IS BELIEVED THAT JUDAS' WISHED TO ATONE FOR HIS TRANSGRESSIONS & THUS LEFT A PIECE OF HIMSELF ON EARTH IN THE HOPES OF ONE DAY HEARING THE RETURN OF HIS LORD - HE COULD THEN RETURN & ASK FOR FORGIVENESS.

BELOW: *A. AURICULA-JUDAE* - BROWN FRILLS

RIGHT: *A. POLYTRICHA* - GREY WHITE FRILLS



ABOVE: *A. AURICULA-JUDAE* SPECIMEN

BELOW: BOTANICAL ILLUSTRATION OF A WOOD EAR FUNGUS

THE WOOD EAR MUSHROOM HAS BEEN USED THE WORLD OVER FOR MANY CENTURIES - IT IS RENOWNED AS A GREAT EDIBLE IN TIMES OF FAMINE IN PLACES LIKE HAWAII, INDONESIA, MALAYSIA, NEW ZEALAND. CHINA & JAPAN - ALL CALLING IT DIFFERENT NAMES BUT WITH THE SAME MEANING - EAR. IT HAS ALSO GARNERED A NAME FOR ITSELF AS A GREAT MEDICINAL ALLY TOO, WOOD EARS WERE USED IN FOLK MEDICINE IN THE WEST FOR COMPLAINTS INCLUDING SORE THROATS, SORE EYES, & JAUNDICE - IT WAS ALSO BOILED IN MILK, BEER, VINEGAR OR ANY OTHER CONVENIENT LIQUID & TAKEN FOR INFLAMMATION OF THE THROAT.





IN GHANA & OTHER PARTS OF AFRICA THIS MUSHROOM WAS CORRECTLY USED AS A BLOOD TONIC, BUT BY FAR THE MAJORITY OF MEDICAL HISTORY COMES FROM ANCIENT ASIA WHERE IT WAS & STILL IS USED TO ACTIVATE BLOOD, STOP PAIN, & ASSIST CIRCULATION.

WOOD EAR MUSHROOMS CONTAIN SOME INTERESTING PHYTOCHEMICALS INCLUDING BETA GLUCANS, PROTEOGLYCAN, ADENOSINE & VARIOUS ACTIVE POLYSACCHARIDES SUCH AS HETEROPOLYSACCHARIDE GLUCANS & ACIDIC HETEROGLYCANS. VARIOUS AURICULARIA SPECIES ARE USED INTERCHANGEABLY - THEY SHOW GREAT ALL ROUND HEALTH PROMOTING BENEFITS BUT BY FAR ITS MOST PRIZED & UNMATCHED POTENTIAL LIES IN IMPROVING THE CARDIOVASCULAR SYSTEM. ADENOSINE IN WOOD EARS SHOWED A POTENT INHIBITORY EFFECT ON PLATELET AGGREGATION, BLOOD CLOTTING, IMPROVED BLOOD PRESSURE & HEART HEALTH. IT DOES THIS BY INHIBITING ADP-INDUCED AGGREGATION OF PLATELETS THEREBY WARDING OFF CEREBROVASCULAR & CARDIOVASCULAR DISEASES. REDUCED LEVELS OF SERUM LDL CHOLESTEROL ARE ALSO SEEN FROM THIS FUNGUS

RIGHT: JUDAS ISCARIOT HANGING FROM AN ELDER TREE - LEGEND SAYS THAT A WOOD EAR FUNGUS GREW FROM THE BASE OF THE TREE



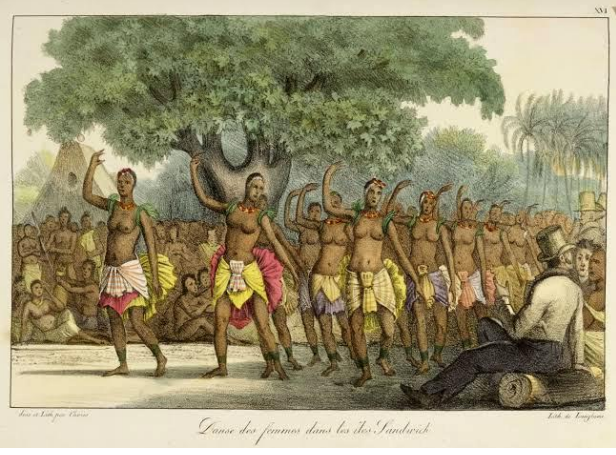
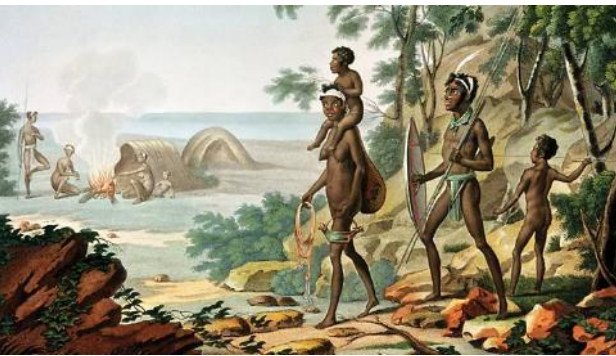
LONG TERM USES HAS BEEN VERIFIED TO HELP TO KEEP CHOLESTEROL LEVELS IN CHECK & THE VARIOUS POLYSACCHARIDES IN THIS MUSHROOM HAVE A DIRECT ACTION ON COAGULATION & BLOOD CLOTTING. THIS CAN HELP TO IMPROVE CIRCULATION & MAY PREVENT HEART ATTACKS, STROKES & ARTERIAL DAMAGE THAT CAN LEAD TO HEART DISEASE. VARIOUS STUDIES HAVE PROVEN THAT THIS MUSHROOM DECREASES THE ATHEROGENIC INDEX BY UP TO 40 PERCENT (MEASURE USED TO PREDICT THE RISK OF HEART DISEASE & PLAQUE BUILD-UP IN THE ARTERIES)



FAR ABOVE: FROM LEFT - A. DELICATA (WAVY IRREGULAR EAR SHAPED, CHARACTERISTIC VEINED LOWER SURFACE, YELLOW BROWN IN COLOR). A. POLYTRICHA (EAR SHAPED WITH CHARACTERISTIC GREY HAIRY CAP & PURPLE COLOR OF SPORE BEARING SURFACE). A. AURICULA-JUDAE (EAR SHAPED BROWN TO RED COLOR, HAIRLESS, GELATINOUS). WOOD EARS USED INTERCHANGEABLY



BELOW: VARIOUS ACCOUNTS FROM ALL OVER THE WORLD SUGGEST WOOD EARS USE AS AN EDIBLE & MEDICINE. IN NEW ZEALAND, IT IS KNOWN AS HAKEKE BY THE MĀORI - THEY STEAMED IT IN AN EARTH OVEN WITH SOW THISTLE & POTATOES. IN HAWAII, THE NATIVES KNOW IT AS PEPEIAO WHICH MEANS “EAR” & IN THE PHILIPPINES, THE LOCALS CALL IT TENGA NG DAGA, MEANING “RAT’S EAR”



THIS MUSHROOMS CARDIO-PROTECTIVE EFFECTS HAVE ONLY RECENTLY BEEN DISCOVERED, THANKS TO A HEMATOLOGIST ATTENDING MEDICAL SCHOOL IN MINNESOTA - THE STUDENT PRICKED HIS FINGER IN A BLOOD CLOTTING TEST, WHEN HIS BLOOD FAILED TO CLOT THE ENSURING INVESTIGATION TRACED THE CAUSE TO THE WOOD EAR MUSHROOMS HE HAD CONSUMED THE NIGHT BEFORE IN A CHINESE SZECHWAN RESTAURANT.

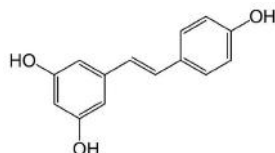
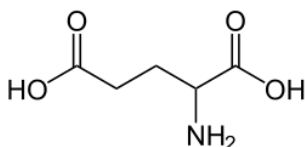
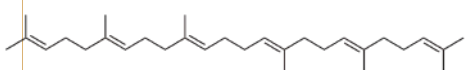
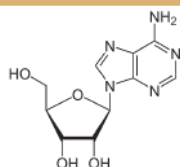
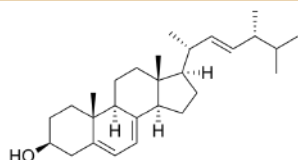
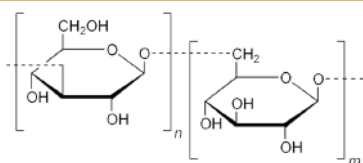
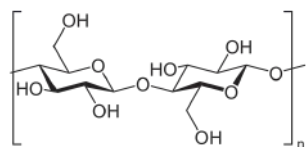
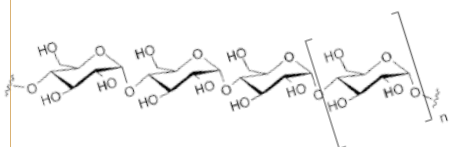
THIS AMAZING DISCOVERY IS IN MY OPINION ONE OF THE MOST IMPACTFUL OF THE 21ST CENTURY AS CARDIOVASCULAR DISEASE IS THE LEADING CAUSE OF DEATH IN THE MODERN WORLD, WITH NUMBERS GROWING YEAR ON YEAR.

WE ARE LUCKY ENOUGH TO HAVE THREE POWERFUL AURICULARIA SPECIES GROWING IN OUR COUNTRY. WE CULTIVATE BOTH A. AURICULA-JUDEA & A. POLYTRICHA FOR MEDICINAL & CULINARY USE.



UNDERSTANDING THE SCIENCE

CHEMICAL VARIANTS:



DESCRIPTION:

POLYSACCHARIDES- LONG CHAINS OF CARBOHYDRATE MOLECULES, (E.G. STARCH, CELLULOSE, OR GLYCOGEN) WHOSE MOLECULES CONSIST OF A NUMBER OF SUGAR MOLECULES BONDED TOGETHER - WATER SOLUBLE

β -GLUCANS - PART OF CERTAIN POLYSACCHARIDE - COMPRISED OF A GROUP OF β -D-GLUCOSE POLYSACCHARIDES NATURALLY OCCURRING IN THE CELL WALLS OF BACTERIA, & FUNGI, WITH SIGNIFICANTLY DIFFERING PHYSICO-CHEMICAL PROPERTIES DEPENDENT ON SOURCE.

(1,3)-(1,6)- β -GLUCANS - FUNGAL BETA-GLUCANS, HIGHLY MEDICINAL & FOUND IN MOST MEDICINAL MUSHROOMS - DIFFERENT SOURCES HAVE DIFFERENT MEDICINAL BENEFITS - LOWERING CHOLESTEROL, IMPROVING BLOOD SUGAR MANAGEMENT, & ACTIVATE OR POTENTIATE BOTH INNATE & ADAPTIVE IMMUNITY

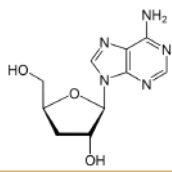
ERGOSTEROL - PRESENT IN ALL FUNGI & IS A COROLLARY TO CHOLESTEROL IN HUMANS. IT IS UTILIZED AS A DEFINITIVE MARKER FOR FUNGAL PRESENCE, HAS ANTITUMOR & ANTIOXIDANT PROPERTIES - ALSO A PRECURSOR TO VITAMIN D. EXPOSURE TO UV LIGHT CONVERTS ERGOSTEROL TO VITAMIN D₂

ADENOSINE - A PURINE NUCLEOSIDE COMPOSED OF A MOLECULE OF ADENINE ATTACHED TO A RIBOSE SUGAR MOLECULE - ANTI-INFLAMMATORY AGENT, INHIBITORY EFFECT IN THE CENTRAL NERVOUS SYSTEM THAT CAN ASSIST WITH SLEEP MUCH MORE

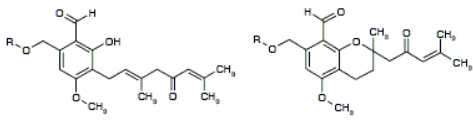
TRITERPANOIDS - ACTIVE COMPOUNDS IN MUSHROOMS THAT CONTRIBUTE TO THEIR OVERALL MEDICINAL BENEFITS - LIVER PROTECTIVE, LIPID LOWERING, ANTIOXIDANT, INHIBITION OF HISTAMINE RELEASE & ANTI-INFLAMMATORY. ALSO PLAY A ROLE WITH BETA-GLUCANS IN IMMUNE SYSTEM ACTIVATION - BITTER TASTE

SECONDARY METABOLITES - NOT NECESSARY FOR THE ACTUAL GROWTH OR LIFE OF THE ORGANISM BUT WILL ACCUMULATE DURING GROWTH OF THE FUNGUS IF EXPOSED TO CERTAIN CONDITIONS (VARIOUS SUBSTRATES, COMPETITION, HOSTILE ENEMIES) SOME OF THESE METABOLITES ARE ACTIVE

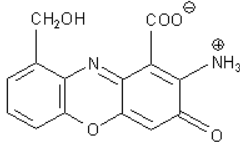
POLYPHENOLS - A STRUCTURAL CLASS OF ORGANIC CHEMICALS - MICRONUTRIENTS THAT WE GET THROUGH CERTAIN PLANT-BASED FOODS - ESPECIALLY RICH IN MUSHROOMS. THEY'RE PACKED WITH ANTIOXIDANTS & POTENTIAL HEALTH BENEFITS.



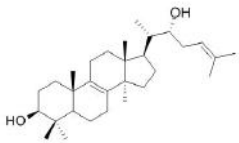
CORDYCEPIN - A DERIVATIVE OF THE NUCLEOSIDE ADENOSINE, THOUGHT TO BE ONE OF THE MAIN ACTIVE CONSTITUENTS IN CORDYCEPS - DISPLAYS CYTOTOXICITY, & PRODUCES RAPID ANTIDEPRESSANT EFFECTS



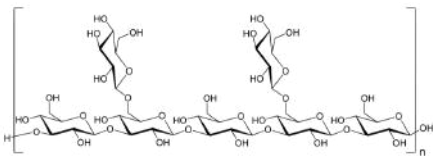
HERICENONES & ERINACINES - TRITERPENOIDS ISOLATED ONLY FROM THE FRUITING BODY & MYCELIUM OF LIONS MANE MUSHROOM, COMPOUNDS PROMOTE NGF (NERVE GROWTH FACTOR) BIOSYNTHESIS & PRODUCTION OF CEREBRAL CELLS



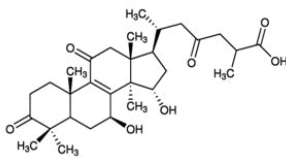
CINNABARIN - ONE OF THE MAIN ACTIVE CONSTITUENTS IN THE CINNABAR BRACKET, ANTIOXIDANTS, FREE RADICAL SCAVENGERS, ANTIFUNGALS, ANTICARCINOGENS, IT IS ALSO MILDLY IMMUNOMODULATORY



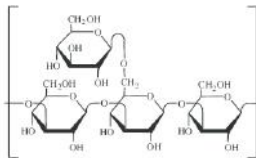
INOTODIOL - A LANOSTANE TRITERPENOID, FOUND IN CHAGA MUSHROOM - THOUGHT TO BE ONE OF TWO POWERFUL CHEMICALS ISOLATED TO THE INONOTUS GENUS - ANTI-IMFLAMMATORY, ANTI-OXIDANT, IMMUNOLOGICAL STIMULANT



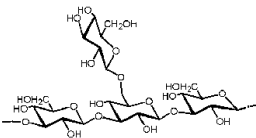
LENTINAN - A β -1,3 BETA-GLUCAN WITH β -1,6 BRANCHING POLYSACCHARIDE ISOLATED FROM THE FRUIT BODY OF SHIITAKE MUSHROOM - STRONGLY INHIBITS TUMOR GROWTH



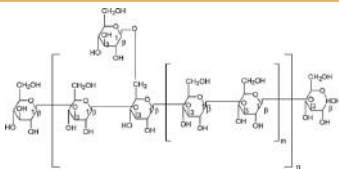
GANODERIC ACID - A CLASS OF CLOSELY RELATED TRITERPENOIDS (DERIVATIVES FROM LANOSTEROL) FOUND IN GANODERMA MUSHROOMS AROUND THE WORLD - ONE OF TWO CLASSES OF CHEMICALS IN GANODERMA SPECIES THAT CONTRIBUTE TO THEIR UNMATCHED MEDICINAL ABILITY



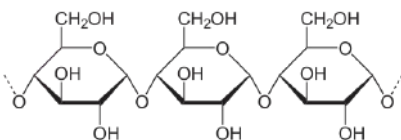
SCHIZOPHYLLAN - A NEUTRAL EXTRACELLULAR POLYSACCHARIDE (A β -1,3 BETA-GLUCAN WITH β -1,6 BRANCHING) PRODUCED BY THE SPLIT GILL FUNGUS. HIGHLY MEDICINAL WITH ANTI-CANCER, ANTI-BACTERIAL & IMMUNE BOOSTING PROPERTIES



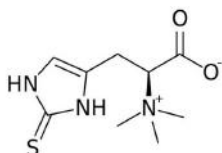
POLYSACCHARIDE KRESTIN - A PROTEIN BOUND POLYSACCHARIDE EXTRACTED FROM THE TURKEY TAIL MUSHROOM - BEING RESEARCHED AS AN ADJUNCTIVE THERAPY FOR VARIOUS TYPES OF CANCERS AND FOR USE WITH CHEMOTHERAPY



POLYSACCHARIDE PEPTIDE - A PROTEIN BOUND POLYSACCHARIDE EXTRACTED FROM THE TURKEY TAIL MUSHROOM - BEING RESEARCHED ALL OVER THE WORLD FOR USE AS AN ANTI-TUMOR DRUG. ACTIVATES MACROPHAGES & T-LYMPHOCYTES, RATHER THAN DIRECTLY ATTACKING ANY TUMORS.



HETEROPOLYSACCHARIDE GLUCAN - (HETEROGLYCANS) CONTAIN TWO OR MORE DIFFERENT MONOSACCHARIDE UNITS. FOUND IN WOOD EAR MUSHROOMS & COULD BE THE SOURCE OF THEIR CARDIOVASCULAR PROTECTIVE BENEFITS



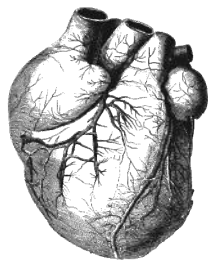
ERGOTHIONEINE - A NATURALLY OCCURRING AMINO ACID - THIS COMPOUND IS MADE IN RELATIVELY FEW ORGANISMS, NOTABLY IN SOME FUNGI LIKE OYSTER & BOLETE MUSHROOMS

MUSHROOM SHOWDOWN



COGNITIVE HEALTH

HELPS INCREASE MEMORY, FOCUS & TREAT ALZHEIMER AS WELL AS DEMENTIA



HEART HEALTH

TREATS HIGH BLOOD PRESSURE & CHOLESTEROL AS WELL AS FORTIFIES ARTERIES



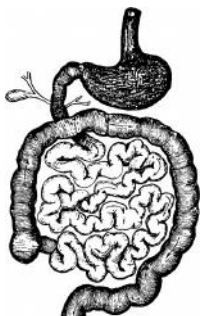
NERVOUS SYSTEM HEALTH

STIMULATES NERVE GROWTH FACTOR WHICH HELPS REPAIR DAMAGED NERVES



ENERGY & STAMINA

CAN ASSIST TO COMBAT FATIGUE & GIVE YOUR BODY A NATURAL ENERGY BOOST

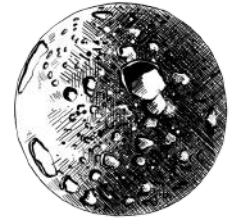


DETOX & GUT HEALTH

PROMOTES A HEALTHY GUT BIOME, INCREASES DIGESTION & DETOXIFIES THE GI TRACT

SLEEP & ANXIETY

CAN ASSIST WITH RELAXATION, PROMOTE SLEEP & EVEN IMPROVE MEDITATIVE PRACTICES



DEFENSIVE IMMUNITY

UPREGULATES MACROPHAGE, LYMPHOCYTE & KILLER CELL PRODUCTION



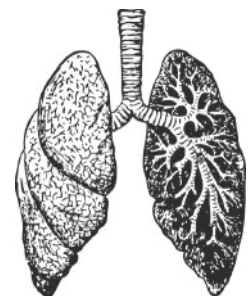
HORMONE & SEXUAL HEALTH

BALANCES HORMONES WHILE ALSO INCREASING VIRILITY & FERTILITY IN BOTH MEN & WOMEN



LUNG HEALTH

TREATS ASTHMA & INCREASES OXYGEN INTAKE BY DILATING THE ALVEOLI IN THE LUNGS



CANCER TREATMENT

COMBATS CANCERS & TUMOR GROWTH, USED AS AN ADJUNCT TREATMENT WITH CHEMOTHERAPY





AFRICAN MESHIMA. *Phellinus rimosus*



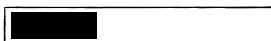
ARTIST CONK. *Ganoderma applanatum*



CHAGA. *Inonotus obliquus*



CINNABAR BRACKET. *Pycnoporus sanguineus*





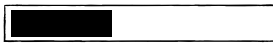
CORDYCEPS. *Cordyceps militaris*



LIONS MANE. *Hericium erinaceus*



OYSTER. *Pleurotus spp.*



REISHI. *Ganoderma lucidum*





SHIITAKE. *Lentinula edodes*



SPLIT GILL. *Schizophyllum commune*



TURKEY TAIL. *Trametes Versicolor*



WOOD EAR. *Auricularia spp.*





BACK TO OUR ROOTS

Mankind has utilized many fungal species as food & medicine for millennia - however, over the past few decades we as a species have strayed far from the knowledge we once possessed due to an irrational fear of wild mushrooms - however a resurgence towards mushroom medicine has emerged. We hope that by utilizing this Medicinal Mushroom Guide, you will gain the confidence needed to try medicinal mushrooms as a natural alternative to modern allopathic medicine (where applicable) - by combining tried & tested medicinal mushrooms our ancestors used with modern, conscious nutrition & preventative scientific medicine we can achieve full radiant well-being, we want you all to have health that emanate from you & overflows into the wonderful lives you all live.

MUSHROOMS ARE MINIATURE PHARMACEUTICAL FACTORIES, & OF THE THOUSANDS OF MUSHROOM SPECIES IN NATURE, OUR ANCESTORS & MODERN SCIENTISTS HAVE IDENTIFIED SEVERAL DOZEN THAT HAVE A UNIQUE COMBINATION OF TALENTS THAT IMPROVE OUR HEALTH.

- PAUL STAMETS

QUICK MUSHROOM GUIDE

AFRICAN MESHIMA



POWERFUL IMMUNOSTIMULANT. ANTIBACTERIAL.
HIGH IN ANTIOXODANTS. CANCER TREATMENT.

ELIMINATE INDIGESTION. NATURAL ANTIBIOTIC.
AVERAGE IMMUNOSTIMULANT. CANCER TREATMENT.



ARTIST CONK

CHAGA



TUBERCULOSIS TREATMENT. LIVER & HEART DISEASE.
IMMUNE BOOSTER. CANCER & ADJUVANT TREATMENT.

ANTIOXIDANTS. ANTIFUNGAL. ANTIVIRAL,
ANTIBACTERIAL & ANTI-INFLAMMATORY ACTIVITY



CINNABAR BRACKET

CORDYCEPS



INCREASES ENERGY & COMBATS FATIGUE.
DRASTICALLY IMPROVES LIBIDO & SEXUAL FUNCTION

INCREASES NERVE GROWTH FACTOR. BOOSTS MEMORY
& FOCUS. COMBATS ALZHEIMERS & DIMENTIA.



LIONS MANE

OYSTER MUSHROOM



REDUCES CHOLESTEROL. TREATS LUMBAGO, NUMBED
LIMBS & TENDON/BLOOD VESSEL DISCOMFORT.

TREATS CANCER. RECTIFIES HEART DISEASE & LIVER
PROBLEMS. POWERFUL IMMUNE BOOSTER. RELAXES.



REISHI

SHIITAKE



PROTECTS THE LIVER & THE DIGESTIVE SYSTEM.
IMMUNE BOOSTER. LOWERS CHOLESTEROL.

POWERFUL ANTIBACTERIAL. GREAT IMMUNE
BOOSTER. CANCER & ADJUVANT TREATMENT.



SPLIT GILL

TURKEY TAIL



BOOSTS IMMUNITY & FIGHT INFECTIONS. ANTIVIRAL.
CURATIVE TO LIVER AILMENTS. CANCER TREATMENT.

LOWERS CHOLESTEROL. REDUCES BLOOD CLOTTING.
IMPROVED BLOOD PRESSURE & HEART HEALTH



WOOD EAR

CONTACT



NUMBER.

CULLEN ~ Ø81.4Ø5.7424
RICKY- ANNE ~ Ø73.139.5591

EMAIL.

aetherherbalist@gmail.com

SOCIAL.

INSTAGRAM ~ [aether_herbalistandapothecary](https://www.instagram.com/aether_herbalistandapothecary)
WEBSITE ~ www.aetherherbalistapothecary.com



