Amateur/Avocational Contributions to Paleontology – The Big Picture

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myFOSSIL
AA Paleontological Types

Individual Collector

Commercial Operation

Fossil Club/Society Member
Individual Collector  
*(since the dawn of humanity)*

- Not a member of a club, collect for research, fun or profit
- **MANY GOOD FOR SCIENCE** *(research driven)*

*Many Strimple award winners & nominees*

- **SOME NOT SO GOOD FOR SCIENCE**
- Internet/eBay – explosion of folks out to find fossils just to sell – no interest in science, give the rest of us a bad name

Elizabeth Philpot  
Mary Anning  
Charles Sternberg  
Jack Horner
Commercial Operations

Dealers

- Dealers
  - Collect, prep and sell (research component)
    - Black Hills Institute of Geological Research, Inc. (Peter Larson)
    - Geological Enterprises, Inc. (Donna Russell)
    - Black Cat Mountain Trilobites (Bob Carroll)
    - Trilobites of America (Dan Cooper) (Dry Dredgers)
    - Cold Creek Fossils (Danny Harlow) (PoSA)
  - Just buy and sell (little or no research component)
    - Many more since internet/eBay….

With fossils becoming “hot” to own, explosion of folks with no interest in the science – in to make money
Commercial Operations
”Pay to Dig”/Ecotourism (‘80’s -)

• “Pay to Dig”/Ecotourism (research component)
  – U-Dig Fossils – Utah
  – Paleo Adventures – Walter Stein
  – Frank Garcia
  – Mark Renz
  – Mid-Atlantic Fossil and Nature Adventures
    (Cathy Young/“Buck” Ward)

• Positive impact in both education and outreach
  – Engage the public in hands-on paleontological experiences
    in the field
Fossil Clubs/Societies
(60’s – 80’s)

- Most clubs/societies formed 60’s to 80’s
- No different than shell clubs, mineral clubs, etc.
  - Not in it for profit
  - Social aspect, fun, education and research
  - Interested in paleontology and the science
  - Enjoy collecting in the field (20%)
  - Knowledgeable about their area of interest
  - Seek further education
  - Frequently partner with museums and universities
  - Heavy into community outreach
  - Group setting provides modeling and reinforcement for ethical behavior

- Clear positive educational and scientific impact
Fossil Clubs/Societies

12,000 members nationwide

60 clubs/societies
Club Structure Basics

• 501 (c) (3)
  • By-laws / Mission Statement
    • Ethics Policy
      • Liability Insurance
        • Elected Officers / Board of Directors
          • Professional Advisors
            • Website / Social Media
              • Grants / Scholarships / Donations
                • Affiliates
Today’s Fossil Clubs

- Collect in the field – ethically
- Curate/Catalogue/Collections/Displays
- Research
- Publish – articles/papers/books
- Publish – peer-reviewed
- Public outreach
- Grants/scholarships/donations
- Basically the things professionals do
Today’s Fossil Clubs

- Volunteer time
- Communicate good sites/finds
- Donate exceptional specimens

• Eclectic group of individuals
  - Passion for Paleontology, from all walks of life
  - Wide range of knowledge
  - Wide range of talents – outreach, organization, trips, publishing, photography, web savvy, etc..
  - Creating effective and impactful organizations
  - Share in common a love for fossils and thirst for knowledge
  - Many not professional paleontologists but just as passionate – maybe more so
Meetings / Speakers

• Meetings / guest lecturer forum
  – Professional Paleontologists
  – Grad students
  – Avocational Paleontologists
  – Fellow club members

• Business meeting / show-n-tell / door prizes

• Auction / Christmas Party / Picnic
  – Raise money
  – Speakers
  – Food, fun and fossils
Newsletters

- Presidents note
- Speaker topic & bio
- Fossil articles
- Field Trip reports
- Future Trip notices
- Calendar of Events
- Club officers contact
- Membership info
Websites

First point of contact for the general public

- Many clubs have outstanding websites, virtual portals to connect with and educate the general public as well as a forum for club members to obtain and disseminate information as well as fossil ID sections.
  - ncfossilclub.org
  - dallaspaleo.org
  - austinpaleo.org
  - southwestfloridafossilclub.com
  - afmfriends.org
  - floridapaleosociety.com
  - socalpaleosociety.wordpress.com

Social Media
Publications
Public Outreach & Results
(Schools / Museums / Libraries / Fairs)

• 185 outreach events 15 clubs (740 / 60)

• 185 events impacted 70,000 (280,000 / 60)

• We are the face of Paleontology to the general public in our communities

• Hundreds of THOUSANDS of fossils given away annually. At ~500 lbs per club X 15 clubs = 3 TONS of fossils

• 60 clubs = 12 TONS of fossils annually
Field Trips

Fossils, non-renewable resource, but...

- Clubs were formed in part because folks loved to collect in the field
  And it leads to all the positive things we have just discussed.

- ~10 trips per year x 60 clubs = 600 field trips x 20 = 12,000 people

- Exposed fossils have a finite life span
  - For every significant fossil you lose to a private collector you obtain hundreds more.
    The balance is clearly in favor of us being out there collecting.

Remember that 12 TONS of fossils we give away annually??
Professional Interaction

- 14 of 15 clubs/societies surveyed actively interact with processional organizations
  - help out on projects
  - donate thousands of man-hours annually
  - Most have professionals as members or advisors

- Many professionals friendly to the AA community
  - Dr. Dave Bohaska
  - Dr. Bruce McFadden
  - Dr. George Phillips
  - Dr. Lyle Campbell
  - Dr. David Campbell
  - Dr. Roger Portell
  - Dr. Ann Molineux
  - Dr. James Sprinkle
  - Dr. Ernie Lundelius
  - Dr. Wann Langston
  - Dr. Stephen Godfrey
  - The Paleontological Society
My Story

• Early love of Paleontology
  – Began collecting fossils at age 6
  – Moved to Texas at age 12 – fossils were everywhere!
  – Individual collector until age 19
  – Joined paleo section of the AGMS – eventually became PoSA

• Went to UT as a Geology Major 1975-1977
  – Worked at VP lab under Dr. Wann Langston and Dr. Ernie Lundelius as a freshman
  – Counselors told me, “you’re a girl – best you can get is oil and gas and microbes”.
  – Dropped out, got married, took a day job, had kids
My Story

• **Continued pursuing paleontology as a club member**
  – Going on field trips
  – Amassing collections
  – Teaching myself, learning from fellow club members
  – Co-authored first paper as a club project w/ Dr. Jim Sprinkle (club science advisor) and others in 1985

• **Began publishing peer reviewed material at age 51**
  – Lead authored & presented first paper w/ mentor Dr. Ann Molineux and Dr. Jim Sprinkle in 2008. Paper won 2nd best paper at GCAGS conference – almost couldn’t attend to give the presentation
Continued research and peer reviewed publishing

- Lead authored & presented my 2nd paper in 2010 (GCAGS)
- Both papers were reprinted in the South Texas Geological Society Bulletin as Cover Articles
- Lead authored my 3rd paper in 2012 – and won 3rd place for best presentation (GCAGS) (some push-back on my eligibility to receive the award)
- Presented my first solo abstract at NAPC in 2014
- Lead authored and presented my first GSA abstract in 2015 on 30 million old preserved fossil color
- Currently presenting this abstract 2016 (SEGSA)
- Continuing research on fossil color as well as preserved 2 million year old ligament
Peer-Reviewed

• 51 AA individuals peer-reviewed out of 15 clubs surveyed

• Numerous Strimple Award winners
  – 1985. W. H. White, Jr. (Dry Dredgers)
  – 1993. Peter J. Harmatuk (NCFC)
  – 1998. Peter LeGrand Smith (NCFC)
  – 2001. Stephen Felton (Dry Dredgers)
  – 2006. Christopher L. Garvie (PoSA)
  – 2008. Tom Witherspoon (FUMMP)
  – 2011. Michael and John Topor (FUMMP)
Launchpad to Professionalism

• Clubs/Societies serve as a conduit through which members are inspired to join the ranks of the professionals – not to mention those we inspire through our outreach.

  – **George Phillips**: went back to school at age 45 – now Paleontology Curator at the Mississippi Museum of Natural Science

  – **Cindy Crane**: former NCFC member, went back to school – now Director of the Aurora Fossil Museum
AA Accomplishments

• **Aurora Fossil Museum**
  - 1976, AA conceived, supported and run for 40 years

• **Fossil Forum**
  - Online venue for professionals and AAs to come together and share knowledge and finds

• **Mineral Wells Fossil Park**
  - Conceived by the Dallas Club with support from other TX organizations to save a fossiliferous land-fill pit from development and create a fossil park for the general public
We Pay Our Own Way

• All our accomplishments are done on volunteer hours / no pay.

• We don’t have employers or funding or grants to accomplish all the things we do.

• ~ $20.00 in annual dues + fundraisers covers meetings, newsletters, website upkeep and content, collecting trips, publishing, grant and scholarship award donations, etc.

• Additional collecting, researching, publishing, attending conventions, etc. is done on our own personal dime.
What AA Clubs have to offer

MONEY: Grants/Donations/Scholarships

- 15 clubs donated over $16,000.00 last year
- Average $1,225.00 x 60 clubs

$73,500 last year in donations to professionals
What AA Clubs have to offer

FOSSIL DONATIONS

- Every club surveyed donated specimens
- How many? Thousands every year
- I’ve personally donated tens of thousands of specimens to UT
- 75% of scientifically relevant specimens were donated by amateurs. (Source: Paleo Quest) – I assume invertebrates
- Imagine your collections missing those specimens. Imagine all papers that wouldn’t have been written and knowledge that wouldn’t exist.
What AA Clubs have to offer

We are the face of Paleontology in our communities

(740 venues, 280,000 people, 12 TONS of fossils)
(plus everyone we reach through our websites and publications)
What AA Clubs have to offer

We are the Field Associates for the Professionals

- 12,000 potential allies in the field
- Most clubs collect primarily invertebrates
- 75% of scientifically relevant specimens found by amateurs
- We are out in the field a LOT, knowledgeable about our areas
- For every significant fossil you lose to a private collector you obtain hundreds or thousands more. The balance is clearly in favor of us being out there collecting.
What AA Clubs have to offer

We can help professionals document, curate, publish

- Donation of your time (guide and mentor us)
- Lack proper training in collecting techniques/prep/curation
- Lack access to research material
- Lack access to professional conventions
Break Down the Barriers

Break down the barriers of distrust between us

– FOSSIL Project a start – but we need a LOT more done
  • Bias even here
  • Raleigh Museum of Natural Science Paleopalooza cancelled

– Challenge to Professionals and to Amateurs

– Underutilized resource – we are on the same side

– Synergistic partnership between us has exponential benefits for all of Paleontology
The End
Acknowledgements

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Chuck Ferrara    Lee Cone    Jack Kallmeyer

• PoSA members:
  – Ed Elliott, Suzanne Galligher, Chris Garvie, Kevin Durney, Mike Smith, Erich Rose, Scott Kelley

• SoCAL members:
  – Jennifer Morita, John Tabor

• NCFC members
  – Richard Chandler, Joy Herrington, James Bain, George Powell, Jerry Case, Eric Sadorf, Mike Bruff, Emily Bruff, Don Clements, Jonathan Fain, Diane Willis

• Emails with all 15 clubs surveyed