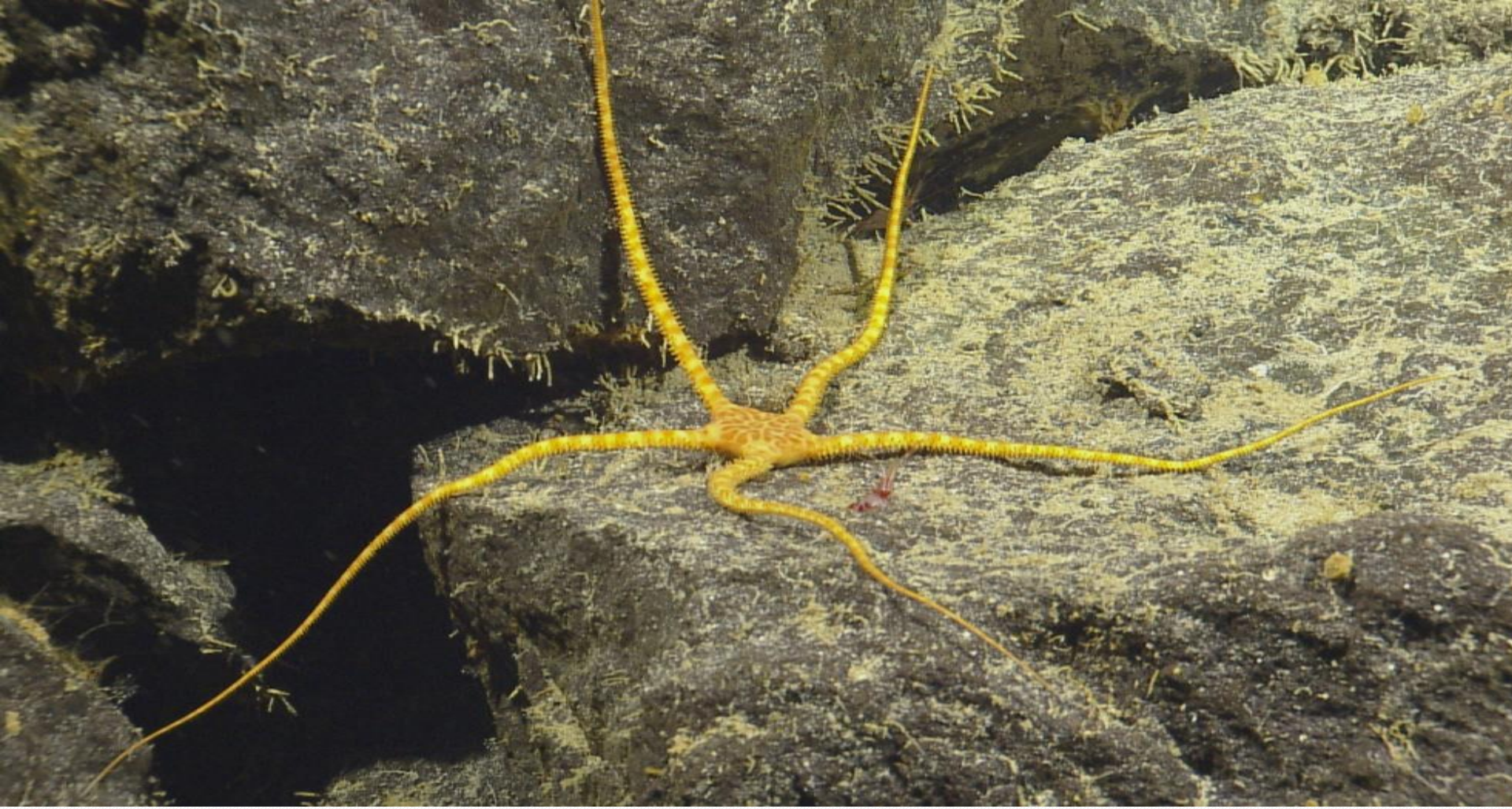

Marine Genetic Resources and Benefit sharing

DOSI
DEEP-OCEAN STEWARDSHIP INITIATIVE
Deep-sea Genetic Resources

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POTENTIAL BENEFITS of MGRs

- Pharmaceuticals (drugs, cosmetic products)
- Biomaterials – bioplastics, biopaints, anti-fouling,
- Industrial bio-processes - enzymes, solutions,
- Novel species aquaculture (microalgae),
- Biorefineries and CO_2 capture - microalgae;
- Agricultural pest control and fertilizers (bioactive materials)

Benefits

Global access to material

Global access to metadata (includes biological data)

Sharing of sequence data, Biochemical data

Scientific publications and authorship

Potential monetary benefit-sharing

Benefits- with challenges

- Small universities, museums and institutions- particularly **vulnerable** to accessing/using the data
- **Data storage-** IT infrastructure will need to be significantly improved; big data storage and analysis requiring new approaches to information architecture
- **Data analysis** – computationally demanding significant advances in data analyses approaches needed
- **Commercialization** (monetary benefits) of marine biotechnology products- takes a long time

Benefit sharing is cross-cutting

- **Development of research clusters** - assists in achieving internal & external integration (industry, government research institutes & universities etc.)
- **Promote & expand training & career opportunities** for scientific research, policy & industry
- **Research training & the transfer** or exchange of knowledge or marine technology
- **Capacity Building- Financing/Funding** eg. scholarships, training workshops, exchange research visits
- Includes both **scientific & technical eg.IT**
- **Educational & institutional** capacity-building to more specific training (MGRs specific)

SIDs – special considerations

- **Unknown biodiversity (Deep sea & ABNJ)**
- **Increase research opportunities**

Increase numbers of trained marine scientists (including MGR /Biotechnology experts)

Big data storage and analysis

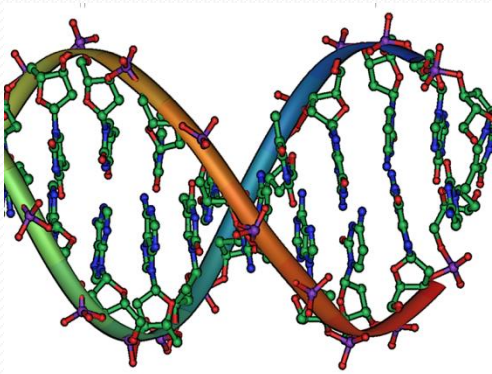
DEEP-OCEAN STEWARDSHIP INITIATIVE

Deep-sea Genetic Resources

DOSI Deep-Sea Genetic Resources Working Group

- **GOAL**
  - **Explore and identify options to conserve and sustainably use deep-sea marine genetic resources (MGR)**
  - **Including access and benefit sharing of marine genetic resources in areas beyond national jurisdiction (ABNJ)**

- **Support deep-sea marine scientific research in ABNJ**
- **Enhance international cooperation in marine scientific research in ABNJ**
- **Facilitate open-access sharing of deep-sea biological data, samples and knowledge.**
- **Avoid excessive bureaucratic burdens that could hamper marine scientific research.**
- **Improve marine scientific research capacity building of SIDs**
- **Build on best-practice in deep-sea scientific research for accessing MGR in ABNJ**
- **Support mechanisms that facilitate the sharing of expertise and methodologies, international cooperation for access to research vessels, equipment and other resources as well as costs of undertaking research and support capacity development through increased opportunities to participate in research cruises.**



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Thank you