

- What's the difference between God and a lawyer? God doesn't think he is a lawyer.
- What's the difference between a lawyer and an underwater parasite? One can breathe underwater.

Can you identify these parasites?

**Answers
on page 61**

© Colin Marshall / Ardea



Alor, Indonesia

© Colin Marshall / Ardea



Candidasa, Bali, Indonesia

© Colin Marshall / Blue Planet Archive



Seraya, Bali, Indonesia

© Colin Marshall / FLPA / Minden



Lembeh, Sulawesi, Indonesia

© Colin Marshall / Alamy



Lembeh, Sulawesi, Indonesia

© Colin Marshall



Amed, Bali, Indonesia

© Colin Marshall / Alamy



Seraya, Bali, Indonesia

© Colin Marshall / Alamy



Lembeh, Sulawesi, Indonesia

© Colin Marshall / FLPA / Minden



Lembeh, Sulawesi, Indonesia

Kit for sale

If you're looking for a specific piece of kit, enter a keyword (e.g. flash, housing, Ikelite, etc.) to show only the adverts you want.

Search UWP adverts



FOR SALE – SET of Sea & Sea YS 250 PRO

SET of Sea & Sea YS 250 PRO, incl.diffusers and TCL ball mounts, 2x batteries, 2x chargers (EU and UK). 5-pin Dual Sync cord-1pc, 5-pin Sync Cord N-2pc, 2sets - Double Ball Arm L and M, YS-TTL Converter, spare ... [More >](#)



FOR SALE – Sea Frogs Panasonic GH5 housing, flat and dome port

Brand new and never taken underwater, 40 metre Sea Frogs (formerly Meikon) housing for the Panasonic GH5. Flat port for macro lenses and dome port for wide angle. No zoom or manual focus controls. Prefer sale in the UK and ... [More >](#)



FOR SALE – Aquatica Macro Port & 2 x Sea & Sea YS -120 Duo Strobes

Aquatica Macro Port (Manual & Autofocus) for any DSLR Aquatica housing with the 4 lugs bayonet fitting. £180. Sea & Sea YS -120 Duo Strobes with instructions & one Diffuser they are in good used condition and in full working ... [More >](#)



FOR SALE – Nauticam Na-d800 Housing for Nikon D800

Nauticam Na-d800 Housing for Nikon D800 Excellent condition. Full overall by Nauticam in December 2017, not in the water since. Vacuum check; electronic monitoring circuit installed, no vacuum system. 2000 euros + shipping ... [More >](#)



FOR SALE – Nauticam flat ports and lenses Sony 28mm and 90mm

Nauticam flat port for Sony 28mm + sony lens 28mm +Nauticam flat port for Sony 90mm + sony lens 90mm+Nauticam trigger flash for sony. SOLD Can be sold separately. Total price 1260€ (does not include insurance and shipping) ... [More >](#)



FOR SALE – SEA & SEA MM2 U/W CAMERA WITH ACCESSORIES

SEA & SEA MM2 U/W CAMERA WITH ACCESSORIES: - Yellow SUB 50 TTL strobe / arm extension - SEA & SEA 16mm Wide angle lens MM-2 - SEA & SEA Macro lens ML-2/3T plus attachments - Removable view finder - ... [More >](#)



FOR SALE – Nikon D500 + Hugaft D500 setup

This one year old set of equipment is in excellent working condition and will serve great to a new owner. The reason for sale is a switch to a new equipment. Nikon D500 (19k clicks). Sigma 10mm F2.8 Fish Eye. 128Gb XQD Lexar ... [More >](#)

Please support our advertisers and help keep UWP free.

Magic Filters

BACKSCATTER
UNDERWATER VIDEO & PHOTO

KELDAN
Advanced Lighting Technology

OCEAN LEISURE CAMERAS

Nauticam
臨天海

ULTRA LIGHT
CONTROL SYSTEMS

Ikelite

XLOK
DIVERS

REEF
PHOTO & VIDEO

WETPIXEL.COM
digital imaging for divers

SEA&SEA
THE UNDERWATER IMAGING COMPANY

DivePhotoGuide

wakatobi

ACQUAPAZZA

UW CAMERA STORE

Nauticam
innovation underwater

Magic Filters

Small Ads

Sell your stuff You'll be amazed at just how quickly your unwanted underwater photography kit could be converted into hard cash with a UWP small ad. You can have your own UWP small ad from just £7.50 and it can have one photo as well as up to 100 words.

Check out small ads here

Buy your small ad here

Marshall's Mysteries 20 – Answers 1

1



**Black
Gymnodoris
Nudibranch**
(*Gymnodoris
nigricolor*)

Nudibranch feeding on the skin between the fin rays of the Fierce Shrimpgoby (*Ctenogobiops feroculus*). Fairly rare, originally believed to be endemic from Japan. Described recently, in 1960.

© Colin Marshall / Alamy

Considered parasitic as the goby receives no discernible benefit from the nudibranch, compared to the mutualistic symbiotic relationship with snapping shrimps. Image below is of the same goby with a Djedda Alpheus Snapping Shrimp (*Alpheus djeddensis*).



The shrimp digs and maintains the burrow for both animals whilst the goby (with better eyesight than the shrimp) keeps a look out for any predators.

Komodo, Indonesia

2



Zebra Leech
(*Piscicolidae*
Family)

Leech on Shorthead Fangblenny (*Petroscirtes breviceps*). The Zebra Leech seems to target Fangblennies.

Leeches are relatively rarely seen (compared to Isopods and Copepods shown below). Leeches are annelids, also known as segmented worms

3



Fire Urchin Snails
(*Echineulima
asthenosomae*)

Parasitic Shells on Fire Urchin (*Asthenosoma varium*) and on Common Sea Star (*Archaster typicus*) below.

© Colin Marshall / biosphoto
© Colin Marshall / Alamy



Lembeh,
Sulawesi,
Indonesia



Lembeh,
Sulawesi,
Indonesia

Other parasitic gastropods include some Pyramid shells (Pyramidellidae Family), seen here feeding on an Indian Sea Hare (*Notarchus indicus*), a rare sighting.

4



**Tongue-biter
Cymathoid Isopod**
(*Cymothoa exigua*)

Female Tongue-biter Cymathoid Isopod parasite inside the mouth of False Clown Anemonefish (*Amphiprion ocellaris*). Using its claws, the parasite severs the fish's tongue by cutting off the blood vessels, causing the tongue to fall off. It then attaches itself to the tongue base, acting as the fish's new tongue. The Isopod feeds off the fish blood and mucus.

© Colin Marshall / biosphoto

Komodo,
Indonesia



Other Cymathoid Isopods, all Cymothoidae Family, are shown here. Above is *Anilocra* sp firmly latched on to a Threespot Dascyllus (*Dascyllus trimaculatus*).



© Colin Marshall / Alamy

Alor,
Indonesia

Cymathoid Isopod causing obvious damage on a Speckled Damsel (*Pomacentrus bankanensis*).



© Colin Marshall / Alamy

Raja
Ampat,
Indonesia

Bluestreak Cleaner Wrasse (*Labroides dimidiatus*) trying to remove a relatively large Cymathoid Isopod on Bluestreak Fusilier (*Pterocaesio tile*).



Bopyrid Isopod
(Bopyridae Family)

Alor,
Indonesia

Bopyrid Isopods (crustaceans) live in the gill cavity of the Cleaner Shrimp (Lysmatella sp.) - an ectoparasite as it is strictly outside the body. Like the Cymathoid Isopods, but different family (Bopyridae). These parasites are almost always found in pairs; a large female with a dwarf male.



Lembeh,
Sulawesi,
Indonesia

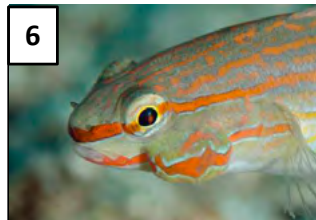
Bopyrids also parasite crabs, as seen in this Wire Coral Crab (Xenocarcinus tuberculatus) with a very swollen carapace.



Emperor Shrimp (Zenopontonia rex) showing clear outline of Bopyrid segments or pleons.



Basket Star Shrimp (Lipkemenes lanipes) with clutch of Bopyrid eggs.



Growth
(not a parasite)

Trick question! Following the previous animal, one would assume the swelling around the fish's gills is another Bopyrid Isopod, but they seem to only invade shrimps and crabs – not fish. This Crosshatch Goby (Amblygobius decussatus) likely has a growth, perhaps due to a viral papilloma



Lembeh,
Sulawesi,
Indonesia

The growth on this Sebree's Pygmygoby (Eviota sebreei) above is also likely a growth, not a parasite.



Bertrand's Copepod
(Cardiodectes bertrandi)

Lembeh,
Sulawesi,
Indonesia

Parasitic Copepod with distinctive green egg case on Rhinoceros Triplefin (Helcogramma rhinoceros). Copepods are crustaceans, as are Isopods.



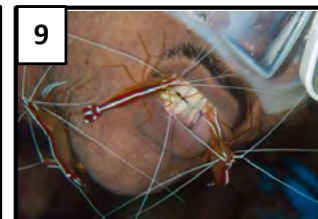
Pale Dwarf goby (Trimma anaima) with another Cardiodectes Copepod with spiral egg cases.

© Colin Marshall / Ardea



Sea Lice
(Caligidae Family)

Infestation of Sea Louse (plural of Lice) on a Panther Flounder (Bothus pantherinus). Sea Louse are Copepods, but in a different family to the Cardiodectes Copepods (which are part of the Pennellidae Family).



Human
(Homo sapiens)

Another trick question! Hump-back Cleaner Shrimp (Lysmata amboinensis) cleaning diver's teeth. The shrimp is *not* the parasite – it is in a mutualistic symbiotic relationship; the shrimp benefits from food and the "client" has parasites removed. Humans are considered by many to be the real parasites, even non-lawyers...

Guidelines for contributors

The response to UwP has been nothing short of fantastic. We are looking for interesting, well illustrated articles about underwater photography. We are looking for work from existing names but would also like to discover some of the new talent out there and that could be you! UwP is the perfect publication for you to increase your profile in the underwater photography community.

The type of articles we're looking for fall into five main categories:

Uw photo techniques - Balanced light, composition, etc

Locations - Photo friendly dive sites, countries or liveaboards,

Subjects -, Anything from whale sharks to nudibranchs in full detail

Equipment reviews - Detailed appraisals of the latest equipment

Personalities - Interviews/features about leading underwater photographers

**If you have an idea for an article,
contact me first before putting pen to paper.
E mail peter@uwpmag.com**

How to submit articles

To keep UwP simple and financially viable, we can only accept submissions by e mail and they need to be done in the following way:

1. The text should be saved as a TEXT file and attached to the e mail

2. Images must be attached to the e mail and they need to be 150dpi

Size - Maximum length 20cm i.e. horizontal pictures would be 20 cm wide and verticals would be 20cm high.

File type - Save your image as a JPG file and set the compression to "Medium" quality. This should result in images no larger than about 120k which can be transmitted quickly. If we want larger sizes we will contact you.

3. Captions - **Each and every image MUST have full photographic details** including camera, housing, lens, lighting, film, aperture, shutter speed and exposure mode. These must also be copied and pasted into the body of the e mail.