Zeamide, a glycosylinositol phosphorylceramide with the novel core Arap (1β→6)Ins motif from the marine sponge *Svenzea zeai*

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Figure S1. Structures of some unusual glycolipids from sponges cited in the main text. Many of these compounds have been isolated as mixture of homologues; one representative homologue is presented here.
Figure S2. Sections of the 2D z-TOCSY spectrum (700 MHz, CD3OD, mixing time 100 ms) of zeamide (1), showing partial or complete subspectra of the spin-systems of the molecule. From the bottom up: $^1$H NMR spectrum; section at $\delta$ 5.45 (H-4), sphingosine protons; section at $\delta$ 1.56 (H-4b), dihydrosphingosine protons; section at $\delta$ 4.27 (H-2'), inositol protons; section at $\delta$ 5.36 (H-1''), arabinose protons; section at $\delta$ 3.54 (H-5''b), arabinose protons.
Figure S3. LC-HRMS analysis for sphingosines of the basic hydrolysis product of zeamide (1). Upper chromatogram: extracted-ion chromatogram at \( m/z \) 384.3834, 398.3990, 412.4146, 426.4302, 440.4458 (C\(_{24}\)-C\(_{28}\) sphingosines). Lower chromatogram: extracted-ion chromatogram at \( m/z \) 386.3990, 400.4146, 414.4302, 428.4458, 442.4614 (C\(_{24}\)-C\(_{28}\) dihydrosphingosines). Each chromatographic peak is labeled with retention time, area, and exact mass. The two chromatograms have the same vertical scale.
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High-resolution ESI mass spectrum of zeamide (1)
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\(^1\)H-NMR spectrum of zeamide (1) (700 MHz, CD₃OD) – full spectral window
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COSY spectrum of zeamide (I) (700 MHz, CD\(_3\)OD) – expansion
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HSQC spectrum of zeamide (1) (700 MHz, CD\(_2\)OD)
HSQC spectrum of zeamide (1) (700 MHz, CD$_3$OD) – expansion

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\(^1\text{H}-^{31}\text{P} \text{HMBC spectrum of zeamide (1) (700 MHz, CD}_2\text{OD)}\)

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