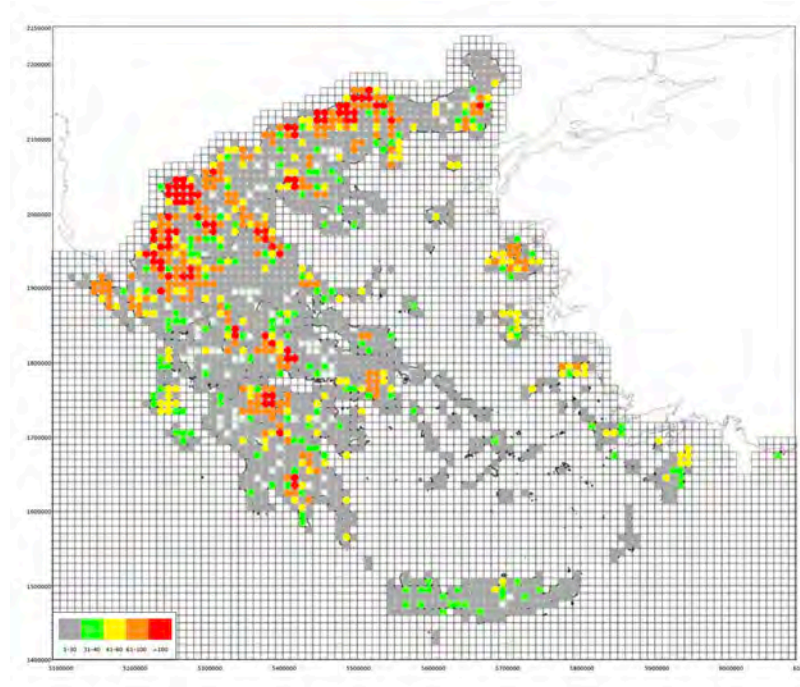


ΟΙ ΠΕΤΑΛΟΥΔΕΣ ΤΗΣ ΕΛΛΑΔΑΣ

Νέοι Χάρτες κατανομής των ειδών 3.3" και Νέος Χάρτης 4.15"
του Λάζαρου Ν. Παμπέρη



ETRS89

THE BUTTERFLIES OF GREECE

New Maps distribution of species 3.3" and New Chart 4.15"

by Lazaros N. Pamperis

2024

PREFACE

The new Maps 3.3" (of distribution of species) are presented and the new Chart 4.15" (as in the page 736 of the second edition of the book THE BUTTERFLIES OF GREECE, 2009).

The new Maps are made with coordinates in ETRS89, after in total 484555 records for the butterflies of Greece (till 31 XII 2023) for the 1683 investigated localities 10X10 km (compare to 265134 records, in 2008). For all species AOO (Area Of Occupancy 1X1km and 2X2km) is noted on Maps 3.3" in Km².

This increase in records is made after personal investigations (from 2008-2024) and mainly after the many published papers in entomological magazines and the generous offer from many recorders (listed below) from Greece and abroad, who send comments and records for the butterflies of Greece. This update is dedicated to all those who offer their comments and send and trust to me their records; to all I express my gratitude.

A list with a number of sites (from which records for the butterflies of Greece were obtained) is presented; the existence of a group in Facebook for the Butterflies and Moths of Greece and Cyprus is also noted (with 4013 members at 7 XI 2023) in <http://www.facebook.com/groups/420659294633829/> .

Now there are 236 species in Greece; see in Wiemers et al (2018) in <https://doi.org/10.3897/zookeys.811.28712> and in Zhang et al (2020) στο <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8018707/>

Reports on the presence of the species *Thaleropsis ionia* (Kastellorizo), *Deudorix livia* (Attiki) and *Hipparchia semele* (Peloponnisos) has not been confirmed to date.

Additional comments are noted in some of the pages; also there are Links to web pages with photos and details of the wings, suggested for a correct identification from photos.

For 165 new photographs, 6 free applications and more details see in URL: <https://www.pamperis.gr> and in https://www.pamperis.gr/btf_site/ and in <https://www.pamperis.gr/recognition/index.html> for automatic recognition of butterflies.

Larissa 1 January 2024

Lazaros N. Pamperis

ΠΡΟΛΟΓΟΣ

Στις επόμενες σελίδες παρουσιάζονται νέοι 236 χάρτες εξάπλωσης των ειδών δηλαδή οι Χάρτες 3.3" και νέος Χάρτης 4.15" (ανάλογος με αυτόν στην σελίδα 736 της δεύτερης έκδοσης του βιβλίου ΟΙ ΠΕΤΑΛΟΥΔΕΣ ΤΗΣ ΕΛΛΑΔΑΣ, 2009).

Οι νέοι αυτοί χάρτες έχουν συντεταγμένες του συστήματος ETRS89 και αφορούν συνολικά 1683 τοποθεσίες 10X10 km, που έχουν εξερευνηθεί. Για όλα τα είδη σημειώνεται (στους Χάρτες 3. 3") η ΑΟΟ (Area Of Occurance 1X1km και 2X2km) σε Km². Οι νέοι αυτοί Χάρτες προέρχονται και αυτοί από τις συνολικά 484555 καταγραφές για τις πεταλούδες της Ελλάδας, που συγκεντρώθηκαν μέχρι 31 XII 2023 (αντίστοιχα 265134 καταγραφές, το 2008).

Αυτή η αύξηση των καταγραφών οφείλεται στις προσωπικές εξερευνήσεις (από το 2008-2023) αλλά κυρίως στις δημοσιευμένες εργασίες σε εντομολογικά περιοδικά και στην αποστολή (μετά την δεύτερη έκδοση του βιβλίου) σχολίων και καταγραφών για τις πεταλούδες της Ελλάδας από πολλούς, από την Ελλάδα και το εξωτερικό, των οποίων τα ονόματα αναφέρονται παρακάτω. Σε όσους μου προσέφεραν τα σχόλια και όσους μου εμπιστεύθηκαν τις καταγραφές των, αφιερώνεται το παρόν μαζί με την ευγνωμοσύνη μου.

Επισημαίνεται η ανάρτηση πολλών φωτογραφιών και καταγραφών σε ιστοτόπους (μερικές διευθύνσεις των οποίων αναφέρονται παρακάτω) και ιδιαίτερα στην ομάδα του Facebook για τις πεταλούδες της Ελλάδας και της Κύπρου (Butterflies & Moths of Greece & Cyprus με 4013 μέλη την 7 XI 2023) στο <http://www.facebook.com/groups/420659294633829/>.

Τώρα στην Ελλάδα υπάρχουν 236 είδη πεταλούδων σύμφωνα με το Wiemers et al (2018) στο <https://doi.org/10.3897/zookeys.811.28712> και στο Zhang et al (2020) στο <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8018707/>

Οι αναφορές για την παρουσία των ειδών *Thaleropsis ionia* (Κατελλόριζο), *Deudorix livia* (Αττική) και *Hipparchia semele* (Πελοπόννησος) δεν έχουν επιβεβαιωθεί έως σήμερα.

Σε ορισμένες από τις σελίδες παρουσιάζονται, κατά περίπτωση εάν απαιτείται, και πρόσθετα διευκρινιστικά σχόλια και σύνδεσμοι (Links) για ιστοσελίδες με φωτογραφίες και λεπτομέρειες των φτερών, που προτείνονται ως χρήσιμες για αναγνώριση των ειδών με τις φωτογραφίες.

Για επιπλέον 165 νέες φωτογραφίες και περισσότερες λεπτομέρειες στο URL: <https://www.pamperis.gr> και στις 6 ελεύθερες εφαρμογές στο https://www.pamperis.gr/btf_site/ και στο <https://www.pamperis.gr/recognition/index.html> για την αυτόματη αναγνώριση των πεταλούδων.

**SELECTED SITES FROM WICH DATA FOR THE BUTTERFLIES OF GREECE WERE OBTAINED
ΕΠΙΛΕΓΜΕΝΟΙ ΙΣΤΟΤΟΠΟΙ ΑΠΟ ΤΟΥΣ ΟΠΟΙΟΥΣ ΑΝΤΛΗΘΗΚΑΝ ΚΑΤΑΓΡΑΦΕΣ ΓΙΑ ΤΙΣ
ΠΕΤΑΛΟΥΔΕΣ ΤΗΣ ΕΛΛΑΔΑΣ**

FLICKR <http://www.flickr.com>

Butterflies & Moths of Palaearctic Regions <http://www.euroleps.ch>

EUROPEAN INTERESTS GROUP <https://butterfly-conservation.org/in-your-area/european-interests-group>

FACEBOOK Butterflies & Moths of Greece & Cyprus <http://www.facebook.com/groups/420659294633829/>

GREENWINGS <http://greenwings.co/>

HOME OF EUROBUTTERFLIES <http://www.eurobutterflies.com>

HONEYGUIDE TOURS <http://www.honeyguide.co.uk/>

iNaturalist <https://www.inaturalist.org>

LEPIFORUM <http://www.lepiforum.de/>

NATURALIST <http://www.naturalist.co.uk>

NATURE LINK www.geocities.com/pelionnature/

NATURETREK <https://www.naturetrek.co.uk/>

OBSERVATION <https://observation.org/>

PROJECT NOAH <https://www.projectnoah.org/>

pyrgus.de http://www.pyrgus.de/index_en.php

SPARTIA WILDLIFE <http://www.spatiawildlife.com/>

ΔΙΚΤΥΟ ΕΡΕΥΝΗΤΩΝ ΠΕΡΙΒΑΛΛΟΝΤΟΣ <http://62.38.203.210/natura/>

ΘΡΑΚΙΚΟΣ ΗΛΕΚΤΡΟΝΙΚΟΣ ΘΗΣΑΥΡΟΣ <http://www.xanthi.ilsp.gr/>

ΜΟΥΣΕΙΟ ΓΟΥΛΑΝΔΡΗ ΦΥΣΙΚΗΣ ΙΣΤΟΡΙΑΣ <http://www.gnhm.gr/>

BUTTERFLIES of Crete <https://butterfliesofcrete.com>

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ΠΡΟΣΩΠΙΚΕΣ ΕΠΙΚΟΙΝΩΝΕΙΕΣ PERSONAL COMMUNICATIONS

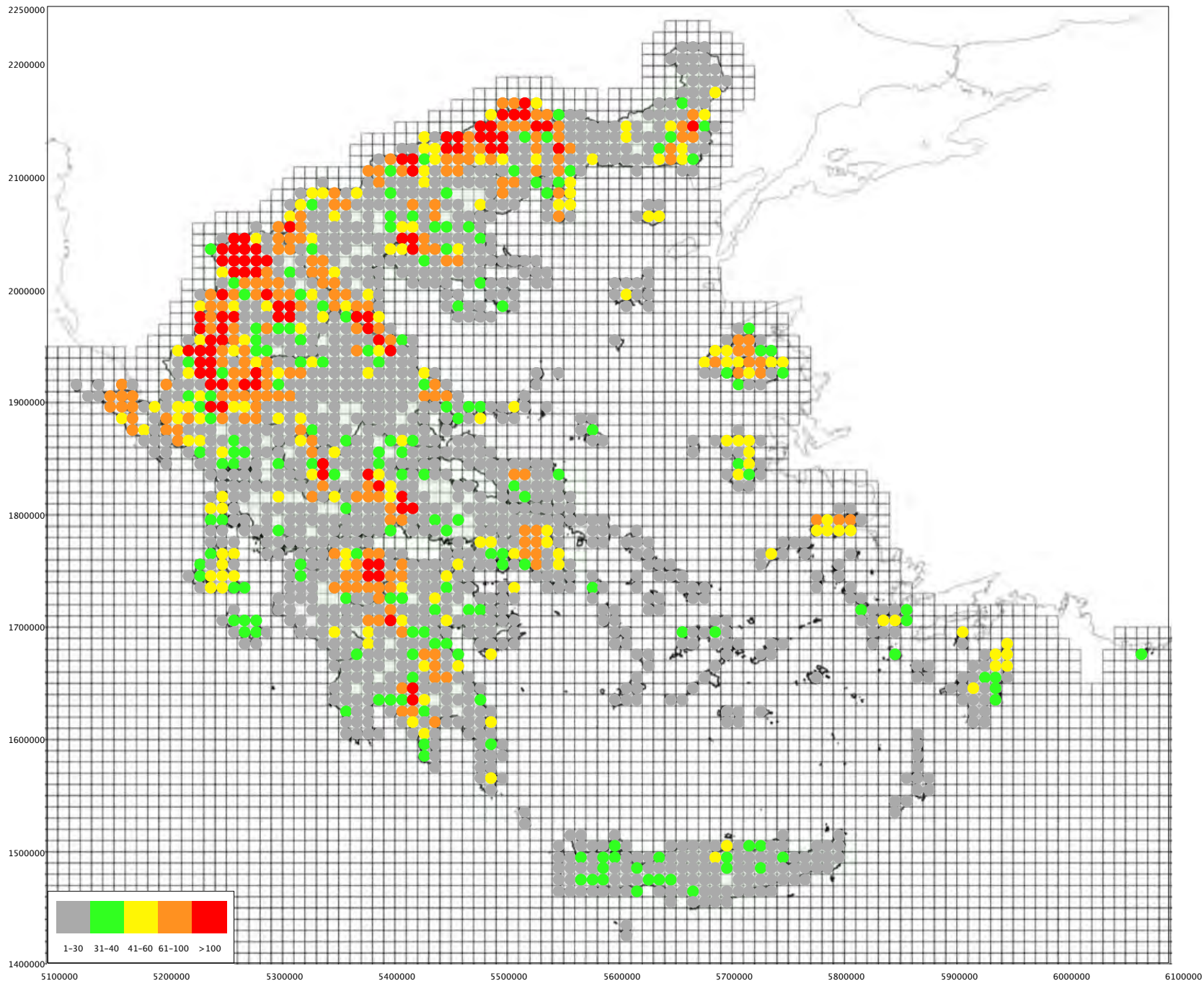
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ΤΣΙΡΙΔΗΣ ΑΛΕΞΑΝΔΡΟΣ
ΤΣΙΦΛΑΚΗΣ ΕΛΕΥΘΕΡΙΟΣ
ΤΣΟΥΚΛΕΙΔΗΣ ΓΕΩΡΓΙΟΣ
ΦΑΚΑΣ ΓΕΩΡΓΙΟΣ
ΦΑΤΣΕΑ ΣΤΑΥΡΟΥΛΑ
ΦΟΥΝΤΟΥΛΗΣ ΧΡΥΣΟΣΤΟΜΟΣ
ΧΑΛΚΙΑΔΑΚΗΣ ΠΕΤΡΟΣ
ΧΑΛΚΙΑΣ ΒΑΣΙΛΗΣ
ΧΑΤΖΗΑΘΑΝΑΣΙΟΥ ΓΙΑΝΝΗΣ
ΧΑΤΖΗΔΑΚΗΣ ΠΑΝΑΓΙΩΤΗΣ Ι
ΧΡΙΣΤΟΠΟΥΛΟΥ ΜΑΙΡΗ
ΧΡΙΣΤΟΦΙΔΗΣ ΓΙΑΝΝΗΣ
ΨΑΛΛΙΔΑΣ ΒΑΣΙΛΗΣ

ALBRECHT MARTIN
BAUDRAZ MICHEL
BEAUCKOMP PETER C
BERRY MATT
BESHKOV STOYAN
BONETTI ANDREA
BOWERS JOHN K
BOZANO GIAN
BROWN JOHN
BURRETT PETER
BYGATE PETER
CARPENTER ALAN
CHAULIAC ANDRE
COBB CHRIS
COUPE J.
COURCY WILLIAMS MICHAEL
COWAN PAUL
CREPIN M.P
CUVELIER SYLVAIN
DAHL MAGNUS
DARCEMONT CHRISTIAN
DIJON CATHERINE
DINCĂ VLAD
DOWDING JULIAN
DROUET ERIC
DUDLEY STEVE
DURDIN CHRIS
EDDIE JOHN
EDMUNDS HENRY. A
ELLIS SAM
FENN PATRICIA
FOLEY MICHAEL
FOWLES ANDRIAN P.
FOX KIM
FOX RITCHARD
FULLER MICHAEL
GATTI FRANCESCO
GIBSON CHRIS
GODDARD DAVID
GOETHALS VALERIE
GOOR WALTER
GREATOREX-DAVIES NICK
GUILFOYLE A.
HAATELA TARI
HABELER HEINZ
HALL D
HAPKA TAMAS
HEAP JOHN
HULL MIKE
HUNT PETER
JORDAN JAN
JUTZELER DAVID
KAPPES EVA
KAPPES WULF
KOLEV ZDRAVKO
LAFRANCHIS TRISTAN
MAIER MARIO
MAJER JINDRICH
MANDZIEJEWICZ R.
MANN JOHN
MASON STEPHEN A
MAUNDER MIKE
MAZZEI PAOLO

MEREDITH GUY
MOORE DAVID
MURPHEY CHRIS
MOLGAARD MORTEN S
NABBE MARINA
NORBERT ULMAN
OISTEIN BERG
PALMI PAOLO
PEACE NIGEL
PERKINS ROGER
PETTERSSON LARS
PLOWMAN FRANCIS
PLOWMANE DAVE
POOT ROB
PRENTICE MIKE
PRINGLE GORDON
RAMEL GORDON
RAVIGLIONE MARIO
REYNOLDS W.J
RODGERS PETER
ROWLINGS MATTHEW
RUSSELL PETER
RUTHERFORD JAN
SALMON JOHN
SAVAGE LYNDON
SCARLAU ASTRID
SCHAIDER PAUL
SEEPMA HERRE
SELBY PAUL
SIOUX LEFTY
SMETHURST MIKE
SPENCER SIMON
SPEYBROEK JEROEN
SPILLER JOY
SPRUYTTE STEF
STANDRING KEVIN
STANLEY G. A.
STEUR JOEP
STUBGAARD JORGEN
SUTTON PETER
SVELKUTIS MICK
SZEKELY LEVENTE
TAYLOR MIKE
THOMPSON NEIL
THOMSON G.
THORSEN NIELS
TOLMAN TOM
TOWNSEND DENIS
TSHIKOLOVETS VADIM
ULMAN NORBERT
van DOG JOHANNES
van HANS OOSTERHOUT
van SWAAY CHRIS
VEROVNIK RUDI
VLIEGENTHART ALBERT
WAGENER SIGBERT P.
WATTS BERNARD
WICKMAN PER-OLOF
WIRTH ALEXANDER
WRIGHT DAVE
WYNNE IAN R
ZIEGLER HEINER



New Chart 4.15"
 (update 2024 version in
 ETRS89)
 Total number of species
 for all 1683
 localities 10X10 km

Νέος Χάρτης 4.15"
 (επικαιροποίηση 2024
 με
 συντεταγμένες ETRS89)
 Συνολικός
 αριθμός των ειδών για
 όλες τις
 1683 τοποθεσίες 10X10
 km

Comments on the species distribution maps that follow Σχόλια για τους χάρτες εξάπλωσης των ειδών που ακολουθούν

1. Endemic species/ Ενδημικά Είδη
 - *Zerynthia cretica*
 - *Kretania psylorita*
 - *Maniola chia*
 - *Hipparchia cretica*
 - *Coenonympha thyrasis*
 - *Hipparchia christenseni*
 - *Polyommatus timfristos*

2. Identification uncertain / Αμφίβολη αναγνώριση
 - *Pieris napi*
 - *Pieris balcana*
 - *Colias erate*
 - *Leptidea sinapis*
 - *Leptidea juvernica*
 - *Melitaea athalia*
 - *Melitaea aurelia*
 - *Hipparchia senthes*
 - *Hipparchia volgensis*
 - *Pyrgusalveus*
 - *Pyrgus armoricanus*
 - *Muschampia orientalis*
 - *Muschampia floccifera*

3. Species reported only once / είδη που αναφέρθηκαν μόνον μια φορά.
 - *Thaleropsis ionia*
 - *Deudorix livia*
 - *Hipparchia semele*

4. ***Polyommatus ripartii***
 - As published by VISHNEVSKAYA MS, SAIFITDINOVA AF, LUKHTANOV VA (2016): Karyosystematics and molecular taxonomy of the anomalous blue butterflies (Lepidoptera, Lycaenidae) from the Balkan Peninsula. Comparative Cytogenetics 10(5): 1–85. <https://doi.org/10.3897/CompCytogen.v10i5.10944>, the new endemic species *Polyommatus timfristos* was found in Mt Paranssos and Mt Tymfristos, very similar (in external characters) to *P. ripartii*. All records of *P. ripartii*, in this map, should be revised because of the possibility that new cryptic species is hidden.
 - Όπως δημοσιεύθηκε στο VISHNEVSKAYA MS, SAIFITDINOVA AF, LUKHTANOV VA (2016): Karyosystematics and molecular taxonomy of the anomalous blue butterflies (Lepidoptera, Lycaenidae) from the Balkan Peninsula. Comparative Cytogenetics 10(5): 1–85. <https://doi.org/10.3897/CompCytogen.v10i5.10944>

doi.org/10.3897/ CompCytogen.v10i5.10944, το νέο είδος *Polyommatus timfristos* βρέθηκε στα βουνά Παρνασσός και Τυμφρηστός, το οποίο είναι πάρα πολύ όμοιο με το *P. ripartii* (στα εξωτερικά χαρακτηριστικά). Όλες οι καταγραφές του *P. ripartii*, σε αυτόν τον χάρτη, θα πρέπει να επανεξεταστούν επειδή υπάρχει η πιθανότητα να υπάρχουν και άλλα κρυπτικά είδη.

5. *Polyommatus aroaniensis*

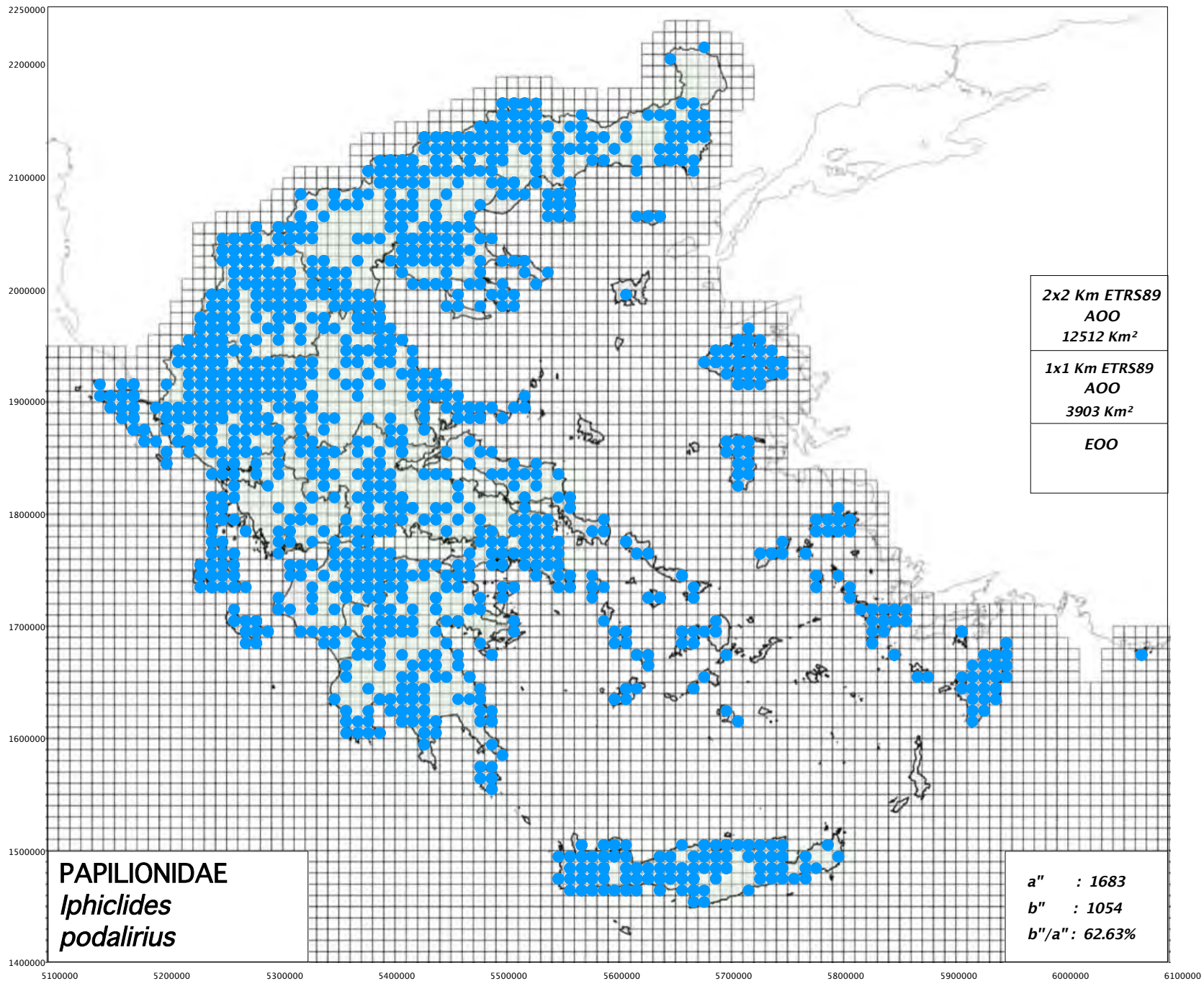
- It was published recently [by Parmentier L, Vila R, Lukhtanov V (2022) Integrative analysis reveals cryptic speciation linked to habitat differentiation within Albanian populations of the anomalous blues (Lepidoptera, Lycaenidae, *Polyommatus* Latreille, 1804). *Comparative Cytogenetics* 16(4): 211-242. <https://doi.org/10.3897/ CompCytogen.v16.i4.90558>] that a new cryptic species *Polyommatus lurae* was found in Albania, very similar (in external characters) to *P. orphicus eleniae* and *P. aroaniensis*. All records of *P. aroaniensis*, in this map, should be revised because of the possibility that new cryptic species is hidden.
- Δημοσιεύθηκε πρόσφατα [στο Parmentier L, Vila R, Lukhtanov V (2022) Integrative analysis reveals crypticspeciation linked to habitat differentiation within Albanian populations of the anomalous blues (Lepidoptera, Lycaenidae, *Polyommatus* Latreille, 1804). *Comparative Cytogenetics* 16(4): 211-242. <https://doi.org/10.3897/ CompCytogen.v16.i4.90558>] ότι ένα νέο είδος το *Polyommatus lurae* βρέθηκε στην Αλβανία, το οποίο είναι πάρα πολύ όμοιο με τα *P. orphicus eleniae* και *P. aroaniensis*. Όλες οι καταγραφές του *P. aroaniensis*, σε αυτόν τον χάρτη πρέπει να επανεξεταστούν επειδή υπάρχει η πιθανότητα να υπάρχουν κρυπτικά είδη.

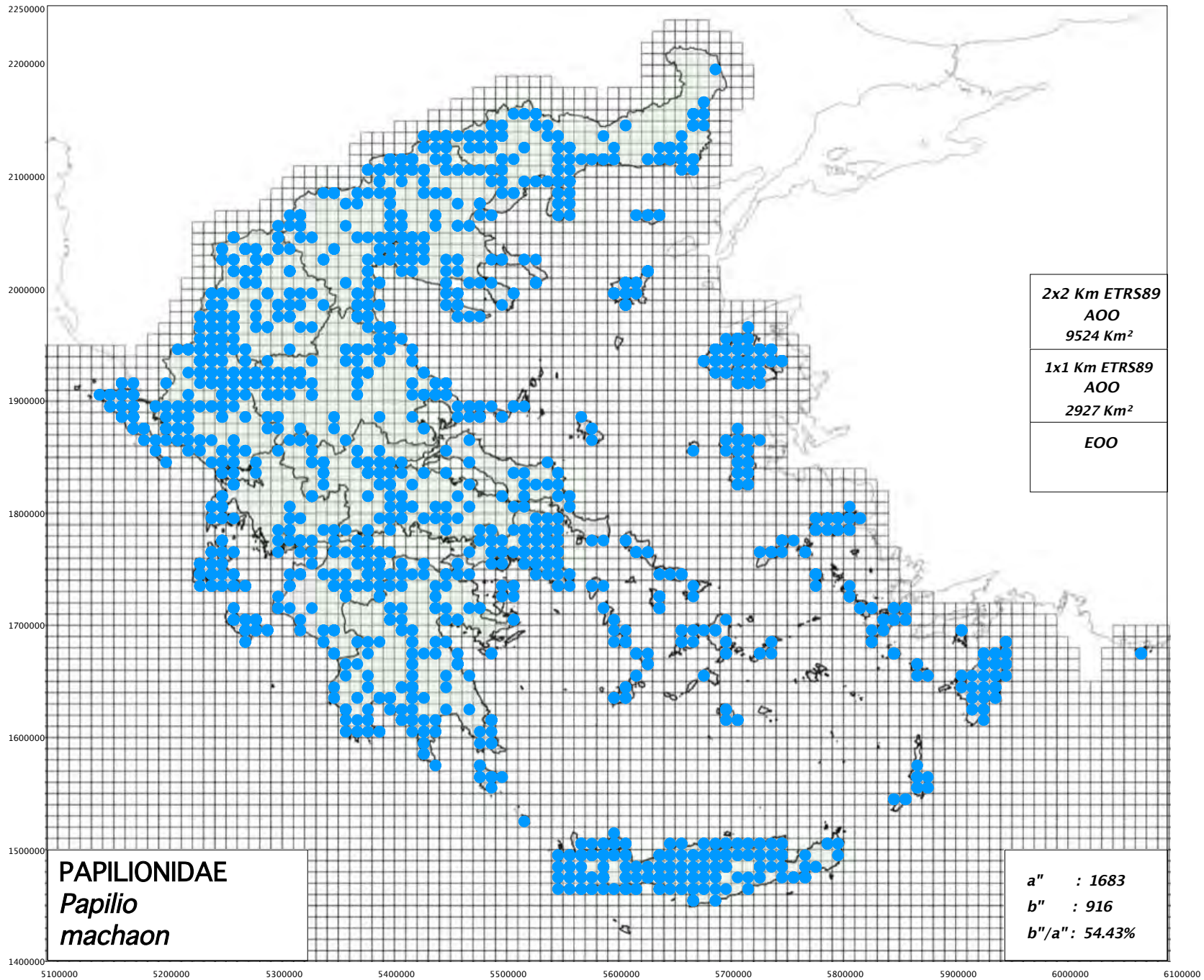
6. *Polyommatus orphicus*

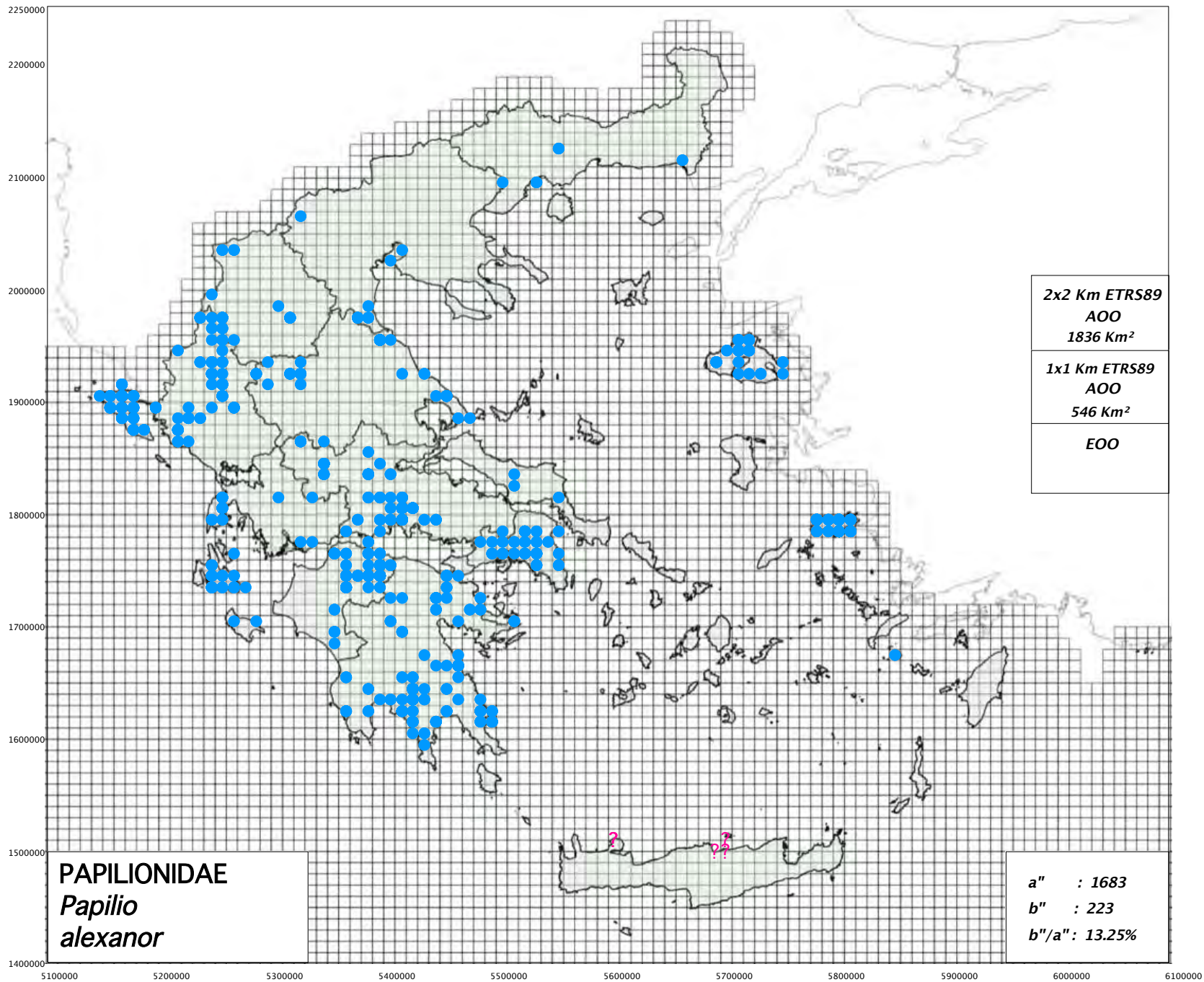
- *Polyommatus orphicus eleniae*, a new subspecies as suggested by VISHNEVSKAYA MS, SAIFITDINOVA AF, LUKHTANOV VA (2016): Karyosystematics and molecular taxonomy of the anomalous blue butterflies (Lepidoptera, Lycaenidae) from the Balkan Peninsula. *Comparative Cytogenetics* 10(5): 1– 85. <https://doi.org/10.3897/ CompCytogen.v10i5.10944>. Very similar to *P. aroaniensis*; see photos of *P. eleniae* in pages 296-297 of the book the Butterflies of Greece (2009).
- *Polyommatus orphicus eleniae*, το οποίο έχει προταθεί με το VISHNEVSKAYA MS, SAIFITDINOVA AF, LUKHTANOV VA (2016): Karyosystematics and molecular taxonomy of the anomalous blue butterflies (Lepidoptera, Lycaenidae) from the Balkan Peninsula. *Comparative Cytogenetics* 10(5): 1–85. <https://doi.org/10.3897/ CompCytogen.v10i5.10944>. Μεγάλη ομοιότητα με το *P. aroaniensis*. Δείτε για φωτογραφίες του *P. eleniae*, στις σελίδες 296-297 του βιβλίου Οι Πεταλούδες της Ελλάδας (2009).

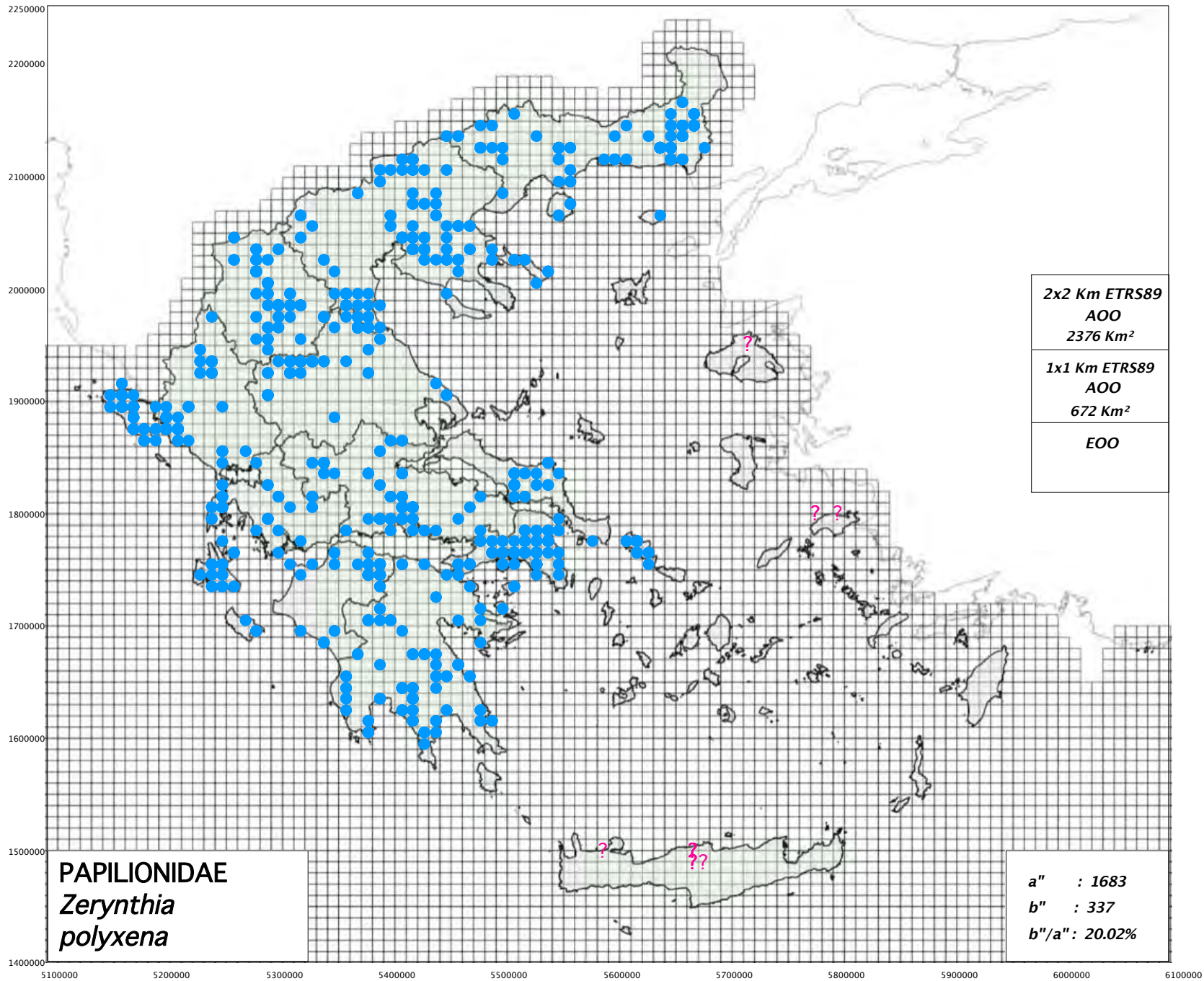
7. See more details for several species in the next page or in / Δες περισσότερες λεπτομέρειες για τα είδη στην επόμενη σελίδα ή στο <https://pamperis.gr/butterflies-of-greece/>

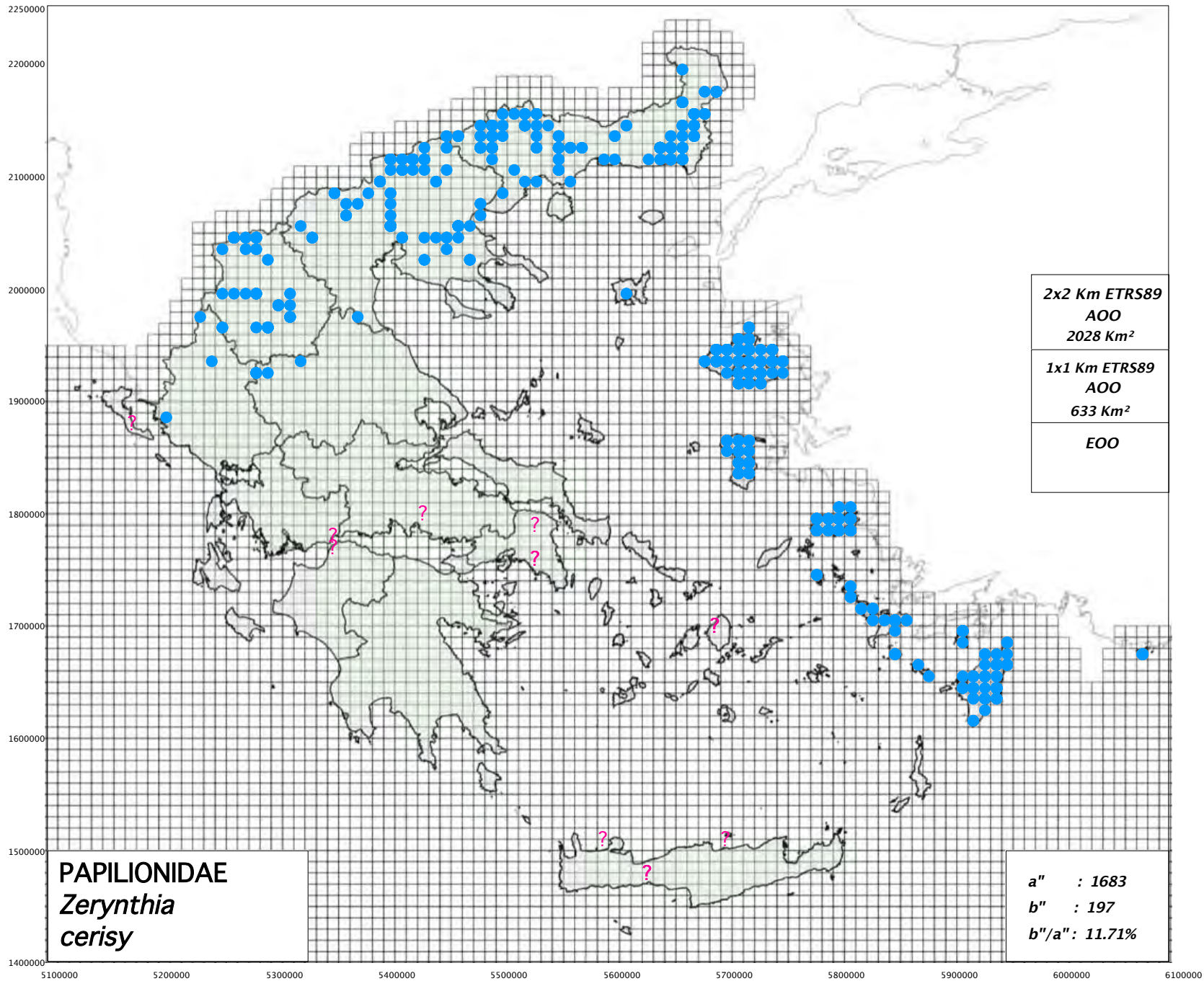
<i>Pieris napi/balcana</i> complex	<i>Thymelicus sylvestris</i> , <i>Thymelicus hyrax</i> ,
<i>Colias crocea/erate</i> complex	<i>Thymelicus lineola</i> , <i>Thymelicus acteon</i>
<i>Lepidea sinapis/juvernica</i> complex	<i>Melitaea didyma</i> , <i>Melitaea trivialis</i>
<i>Plebejus argus/idas/argyrognomon</i> complex	<i>Hipparchia fatua</i> , <i>Hipparchia statilinus</i>
<i>Polyommatus ripartii/timfristos</i> complex	<i>Hyponephele lupina</i> , <i>Hyponephele lycaon</i>
<i>Melitaea athalia/aurelia</i> complex	<i>Lasiommata maera</i> , <i>Lasiommata megera</i> ,
<i>Hipparchia fagi/syriaca</i> complex	<i>Lasiommata petropolitana</i>
<i>Hipparchia</i>	<i>Melitaea phoebe</i> , <i>Melitaea ornata</i>
<i>synthes/volgensis/cretica/christenseni/mersina</i>	<i>Polyommatus escheri</i> , <i>Polyommatus</i>
complex	<i>thersites</i>
<i>Pseudochazara anthelea/amalthea</i> complex	<i>Polyommatus icarus</i> , <i>Polyommatus eros</i>
<i>Maniola telmessia/chia/hallicarnassus</i>	<i>Aricia agestis</i> , <i>Aricia artaxerxes</i> , <i>Aricia</i>
complex	<i>anteros</i>
<i>Gegenes pumilio/nostrodamus</i> complex	<i>Lysandra coridon</i> , <i>Lysandra bellargus</i>
<i>Pyrgus armoricanus/alveus</i> complex	<i>Gonepteryx</i>
<i>Muschampia alta/proteides</i> complex	<i>Pyrgus</i>
<i>Muschampia orientalis/floccifera</i> complex	<i>Carcharodus</i>
	<i>Muschampia</i>
	<i>Lycaena</i>
	<i>Pseudochazara</i>
	<i>Colias alfacariensis</i> , <i>Colias crocea</i>
	<i>Erebia neleus</i> , <i>Erebia ottomana</i>

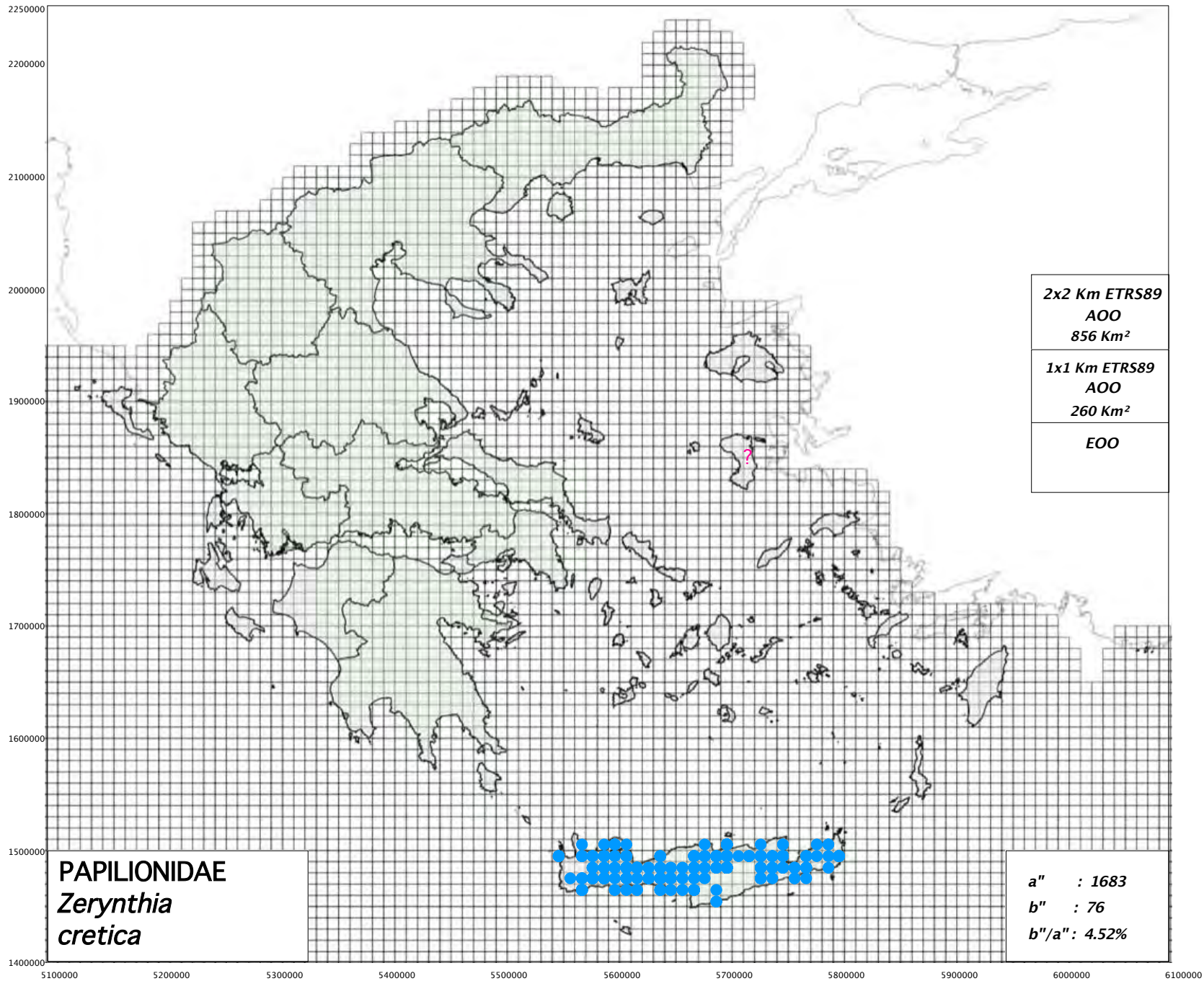


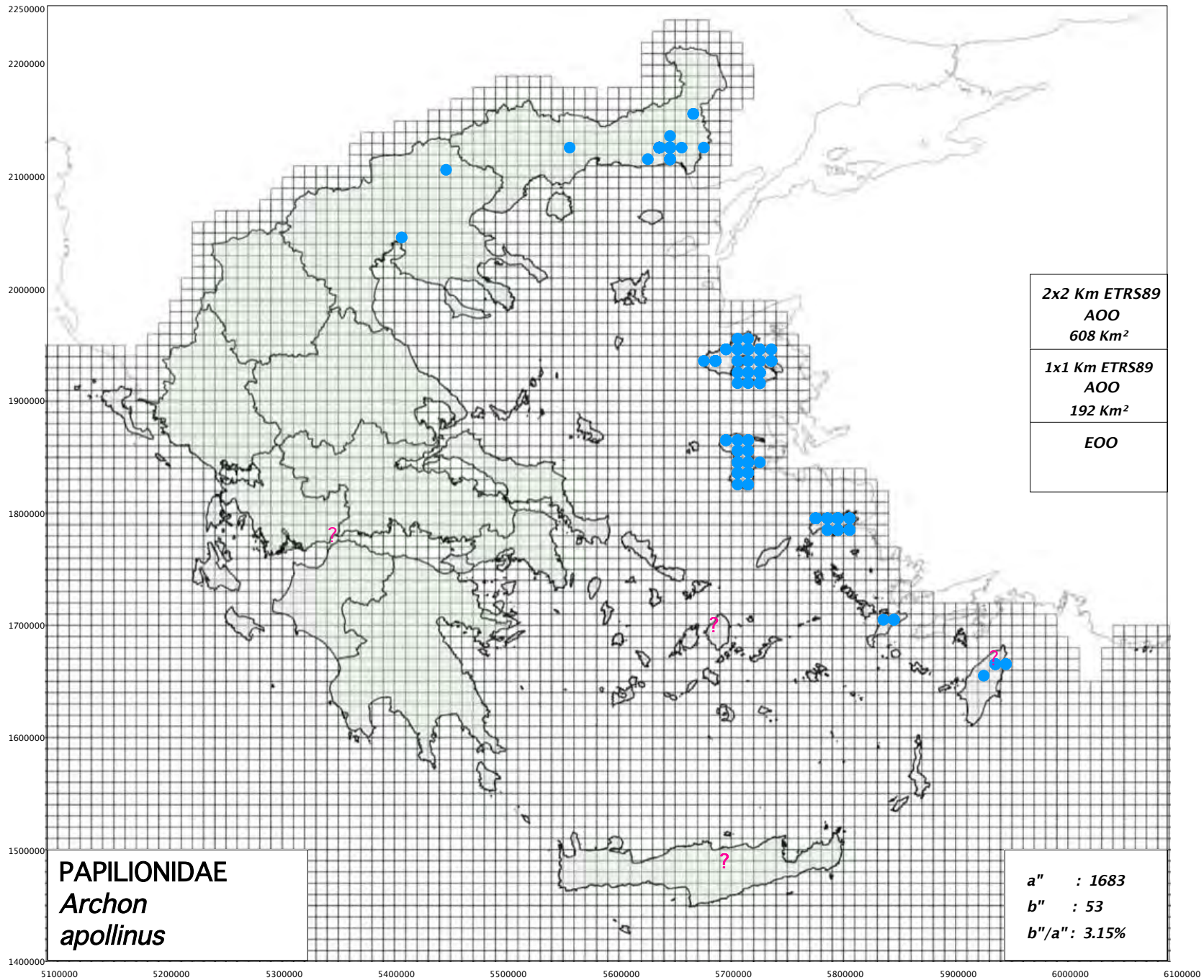


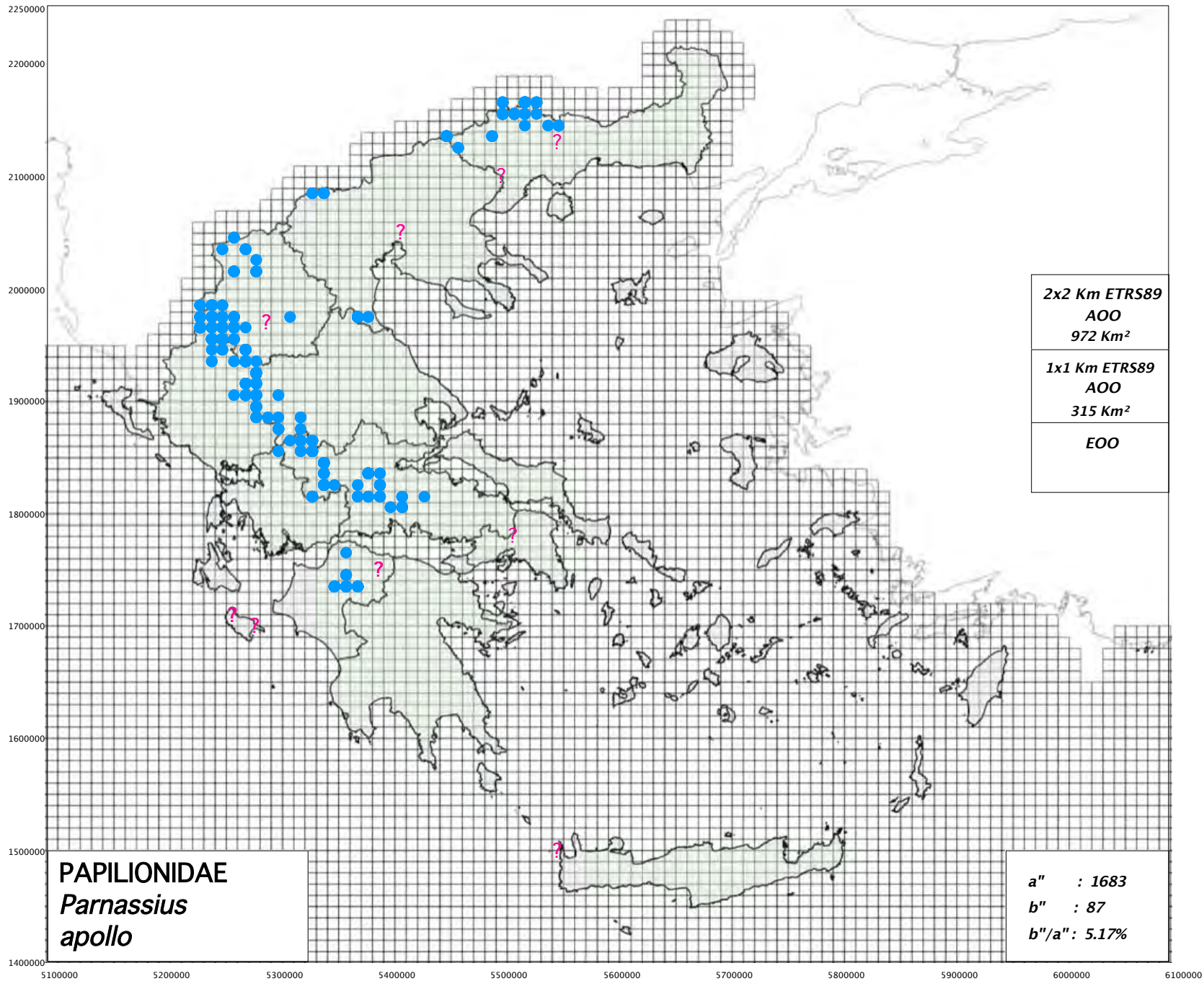


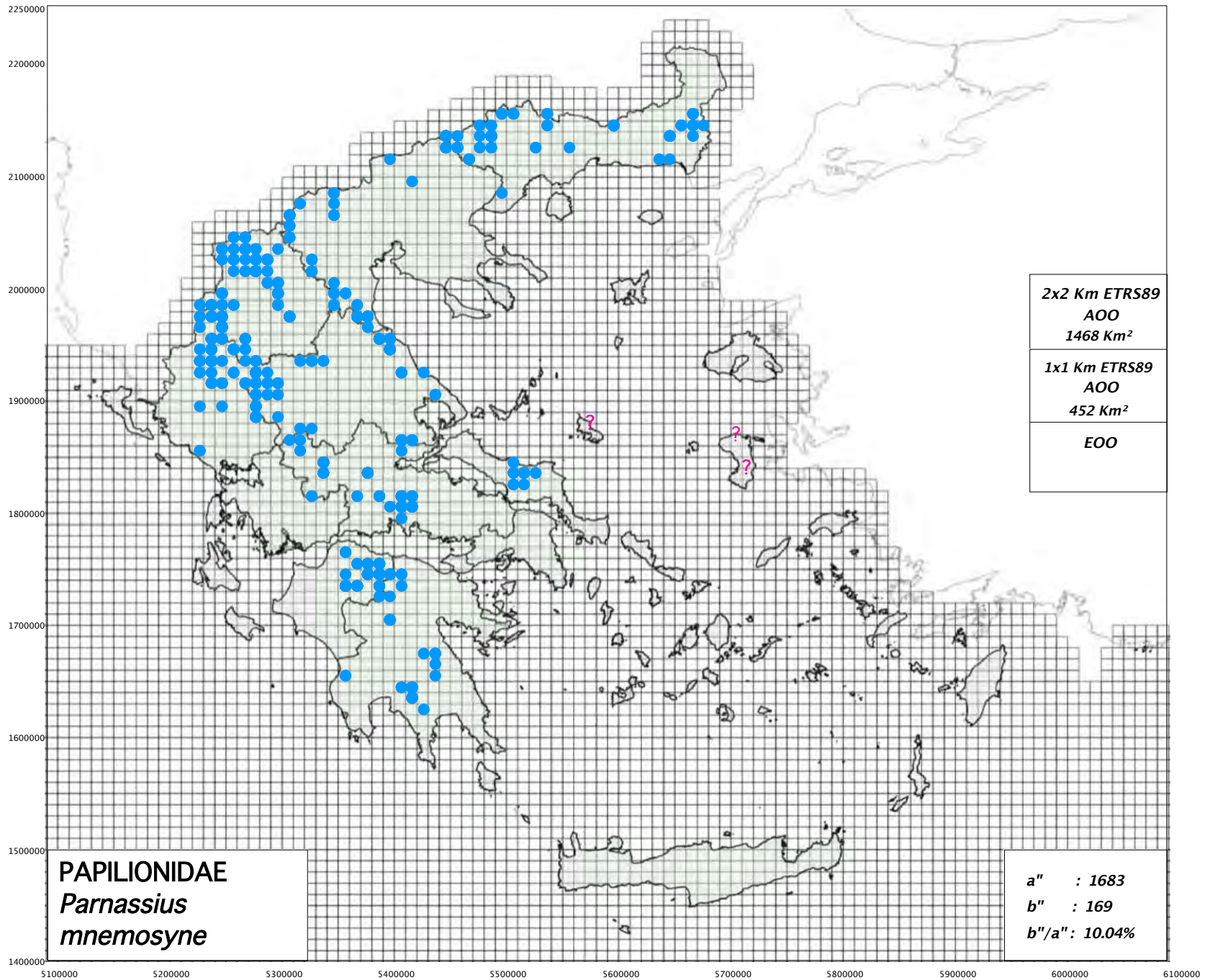


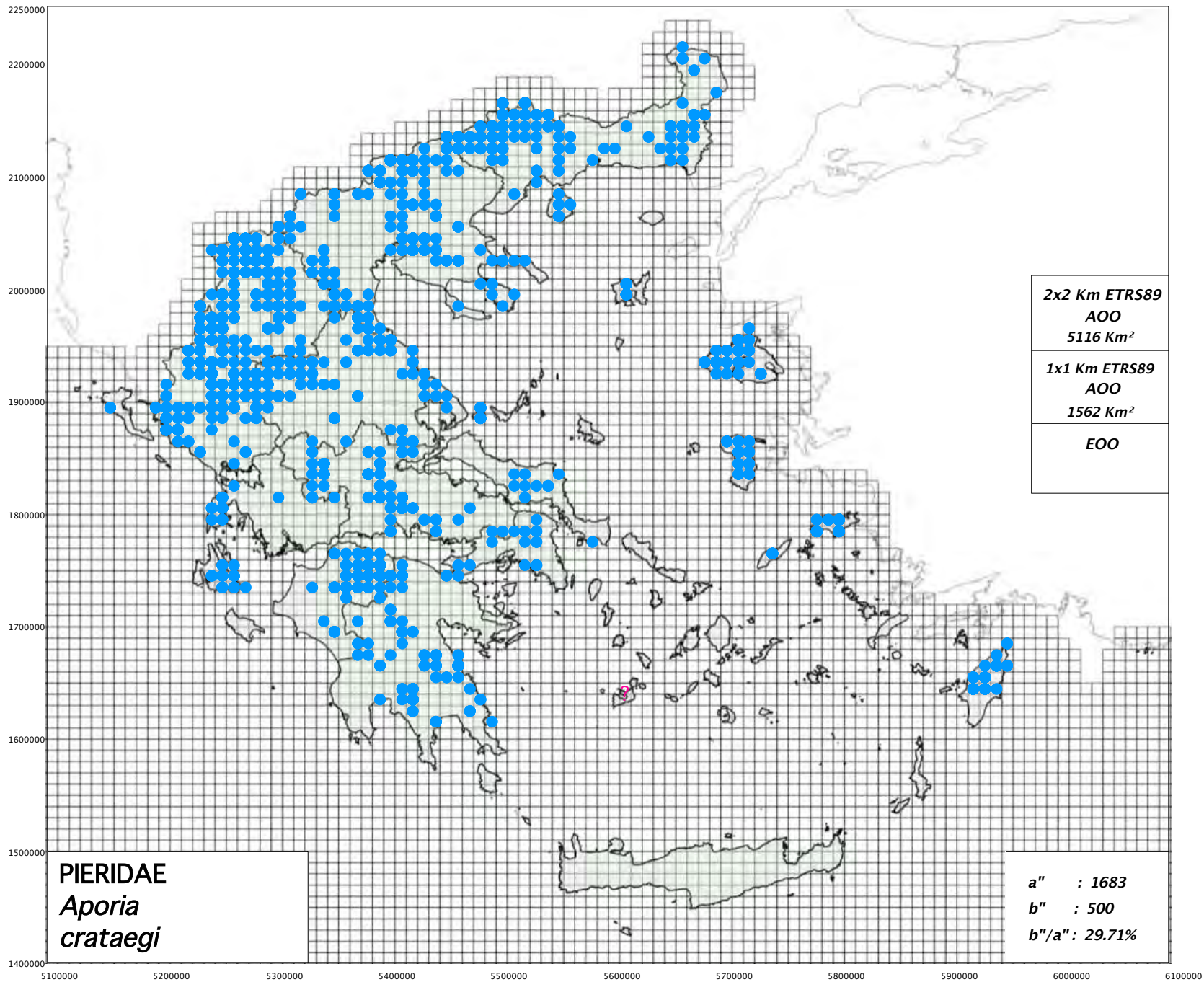


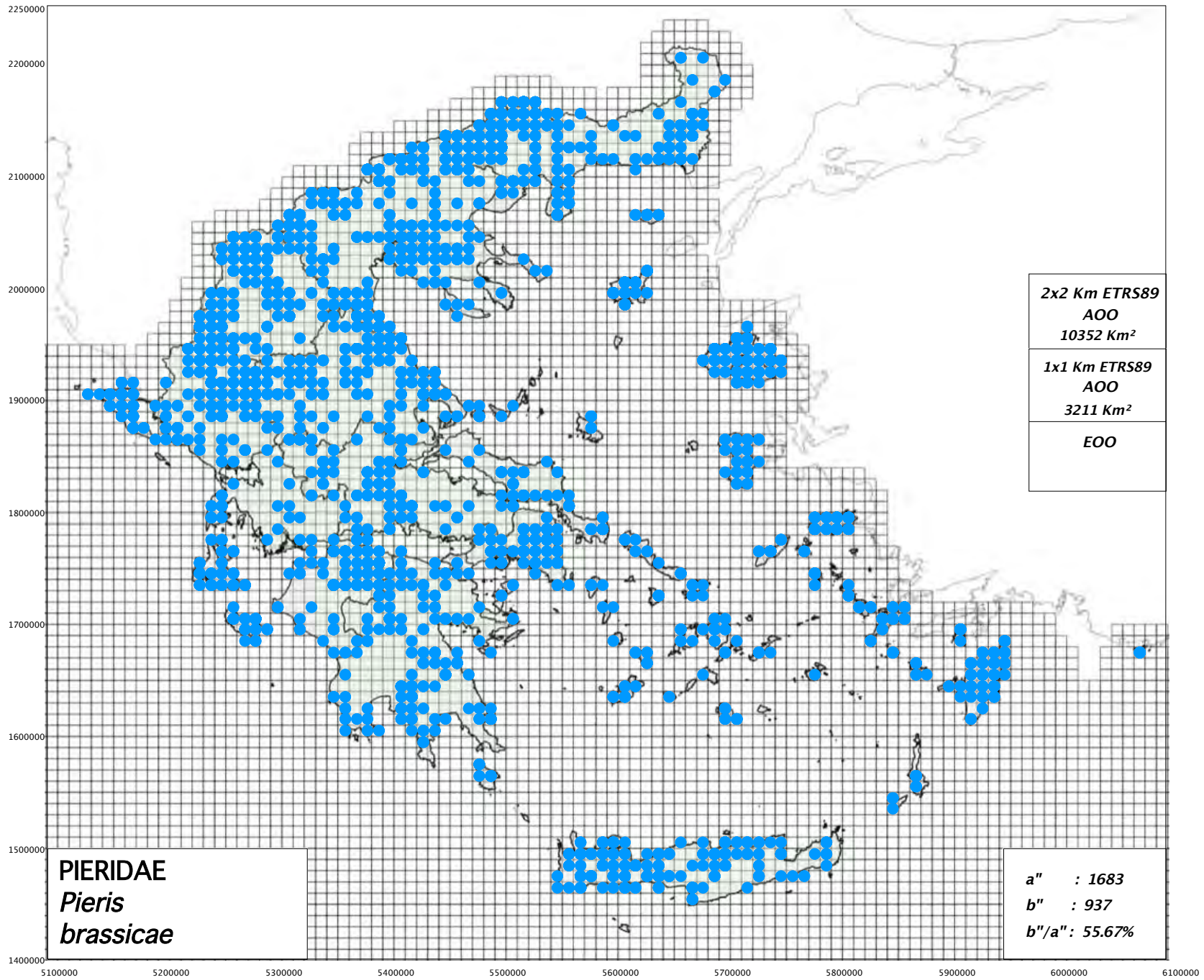


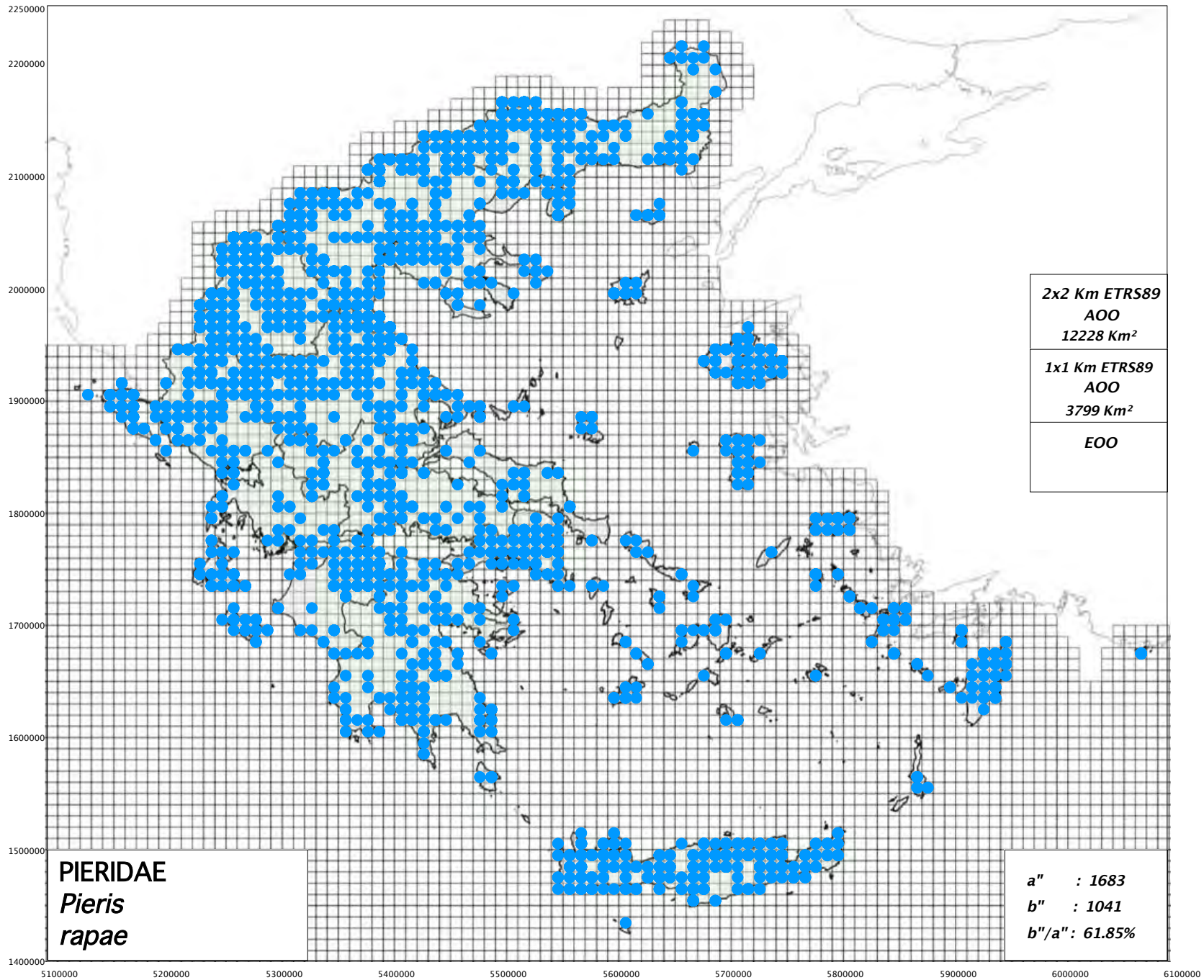


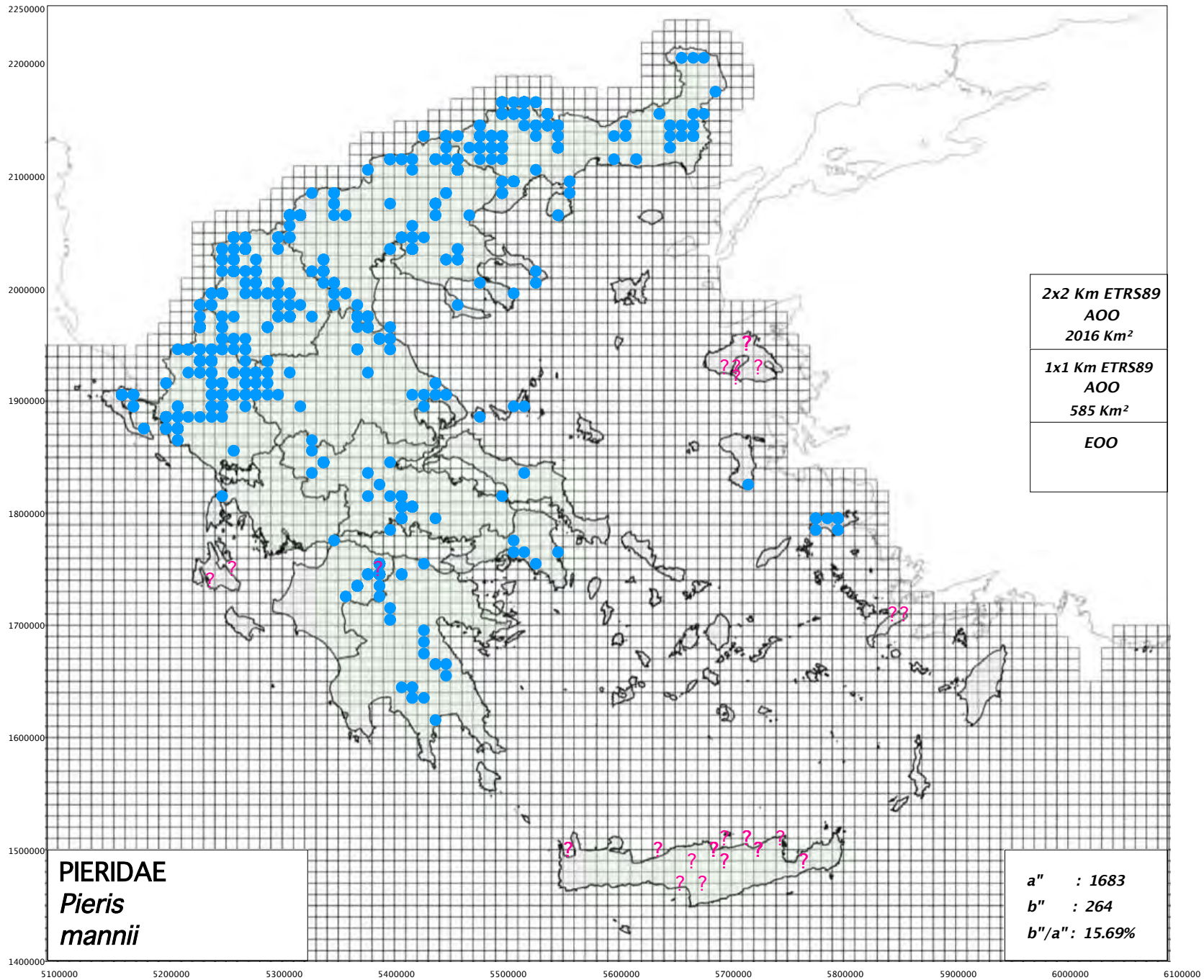


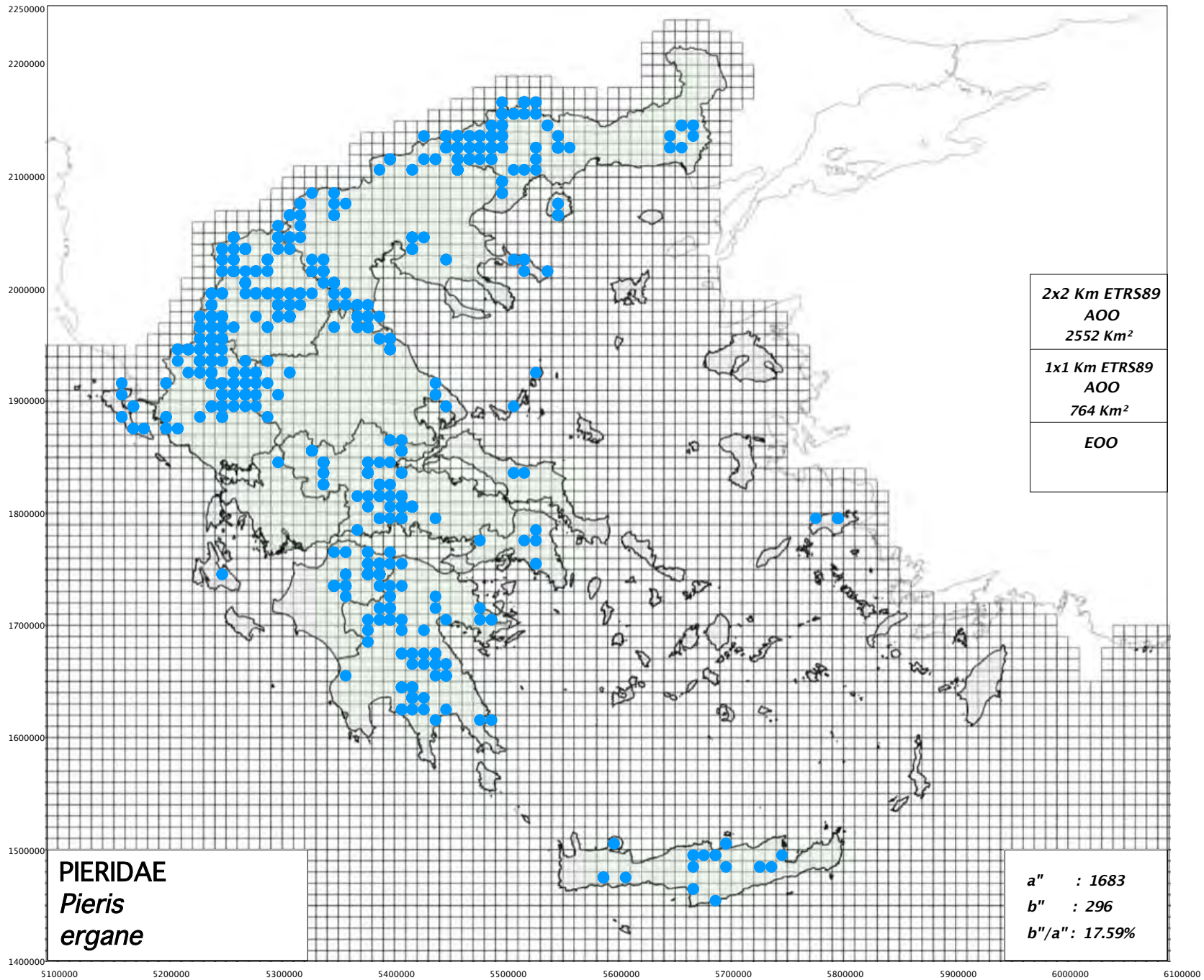


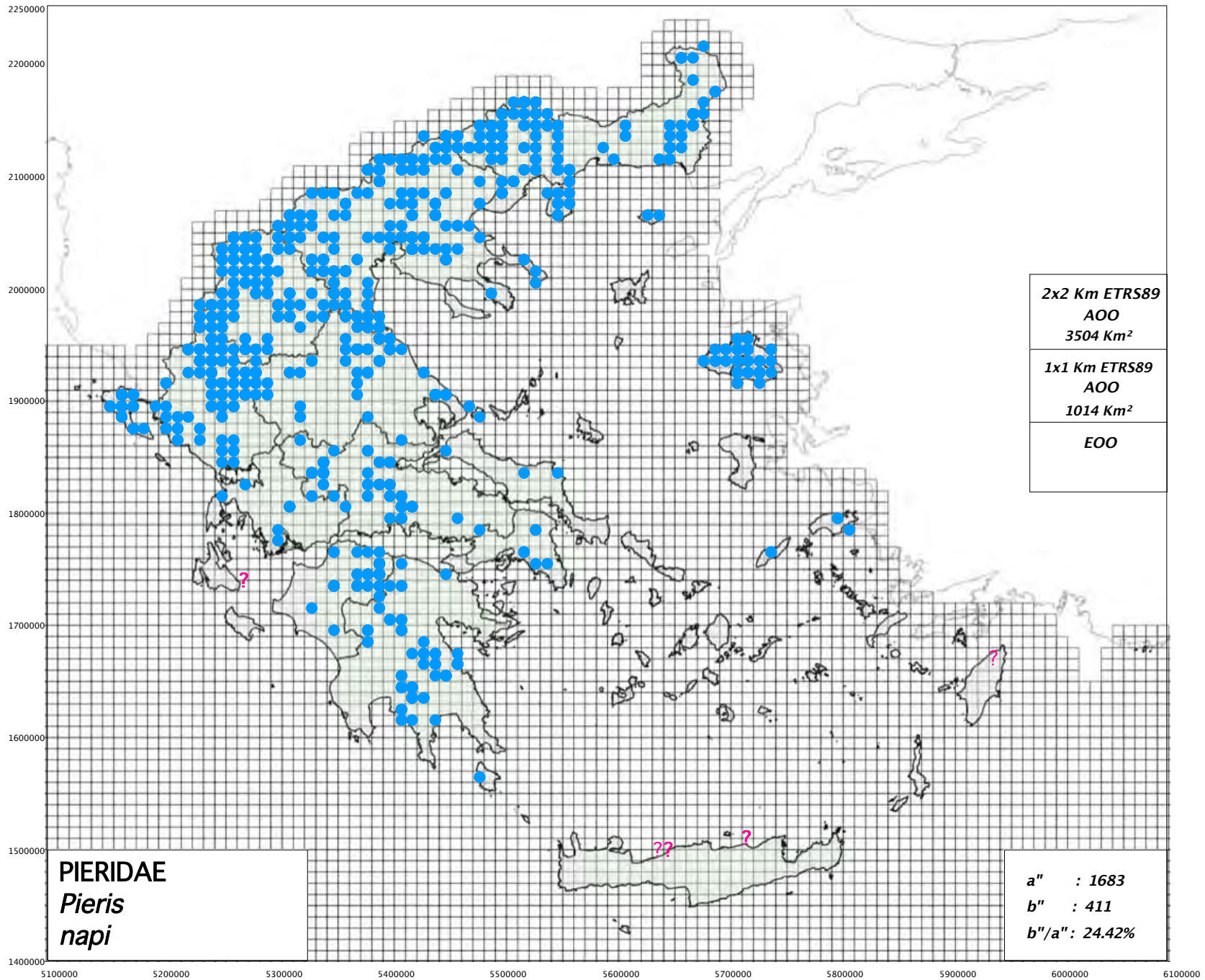


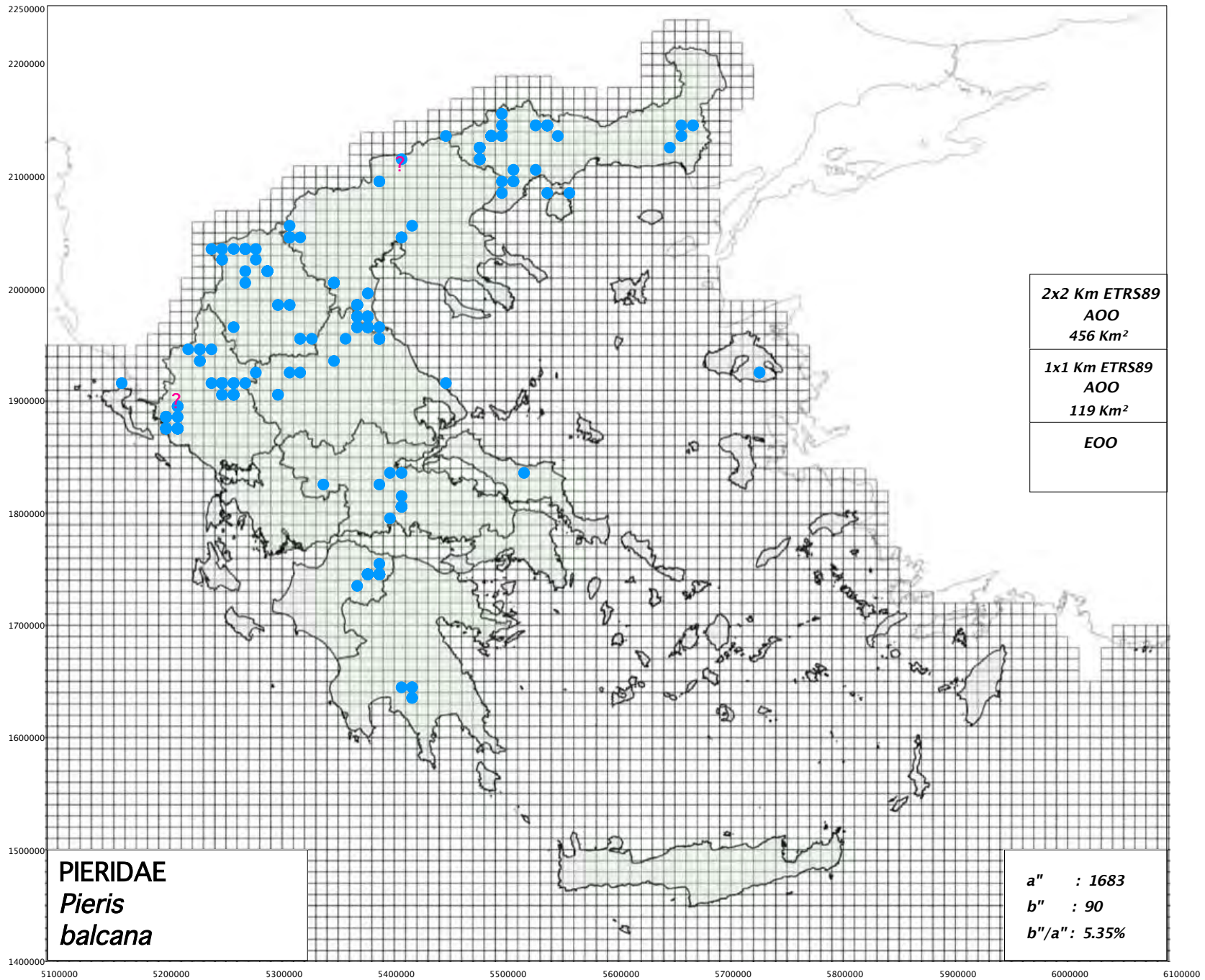


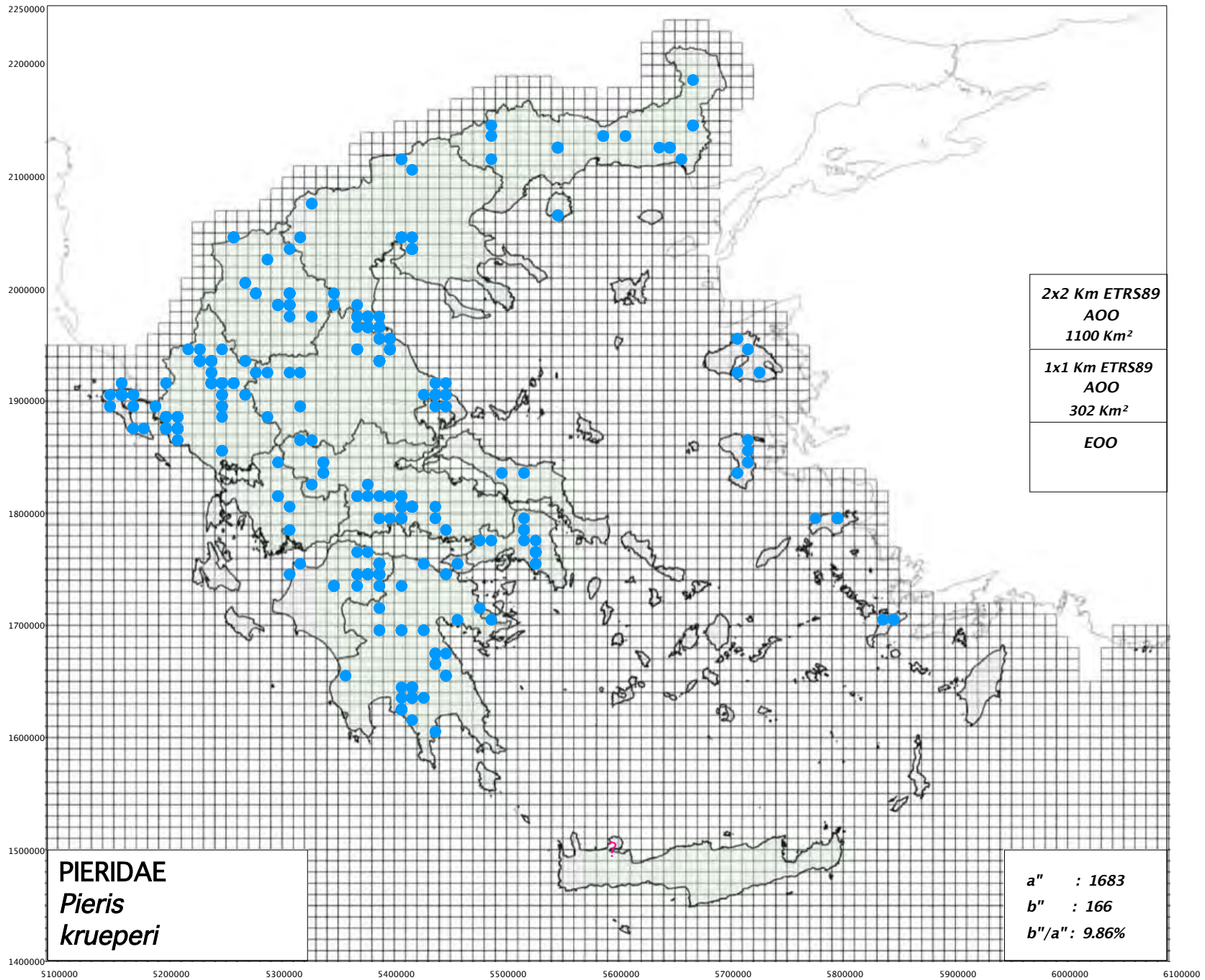


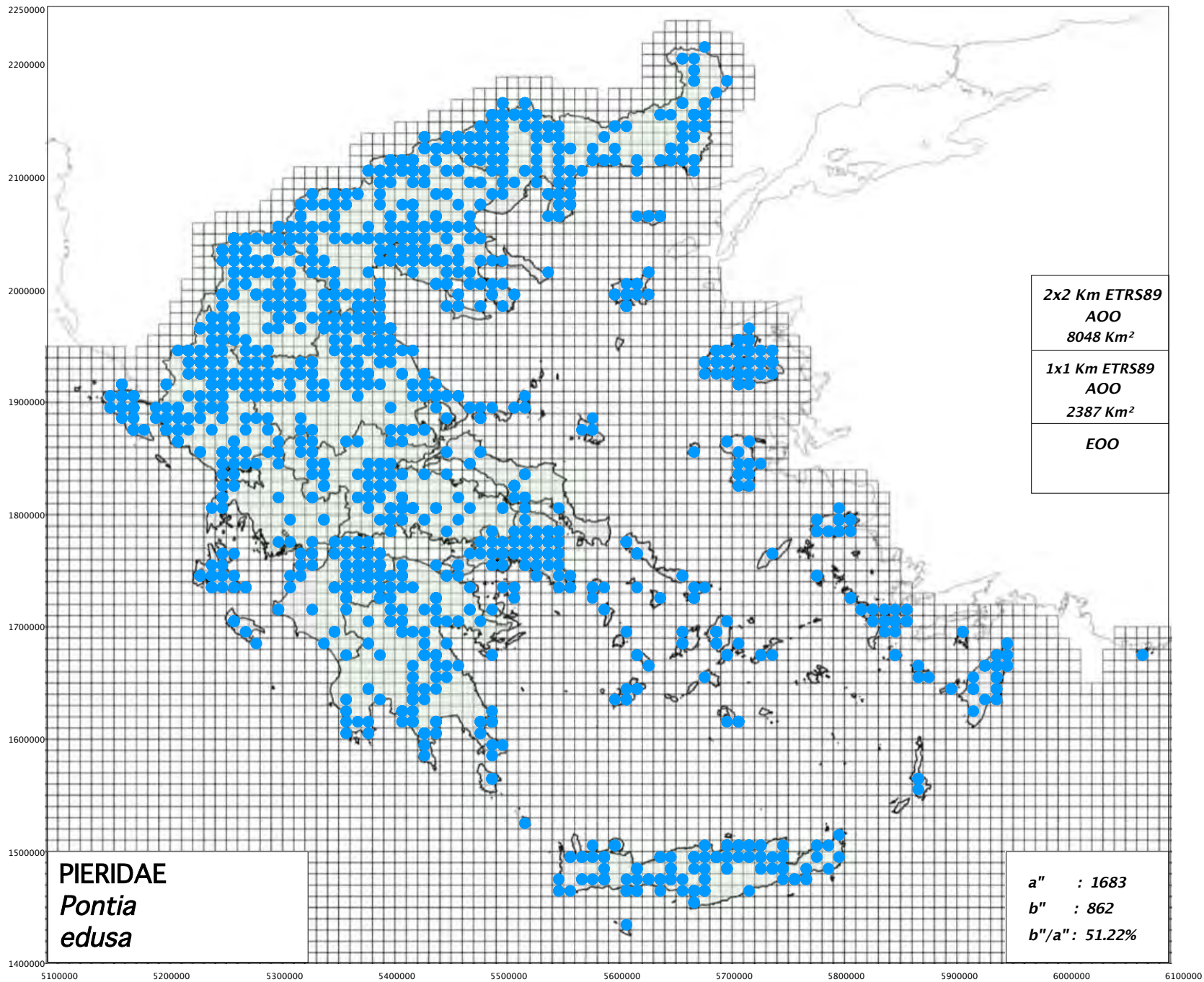


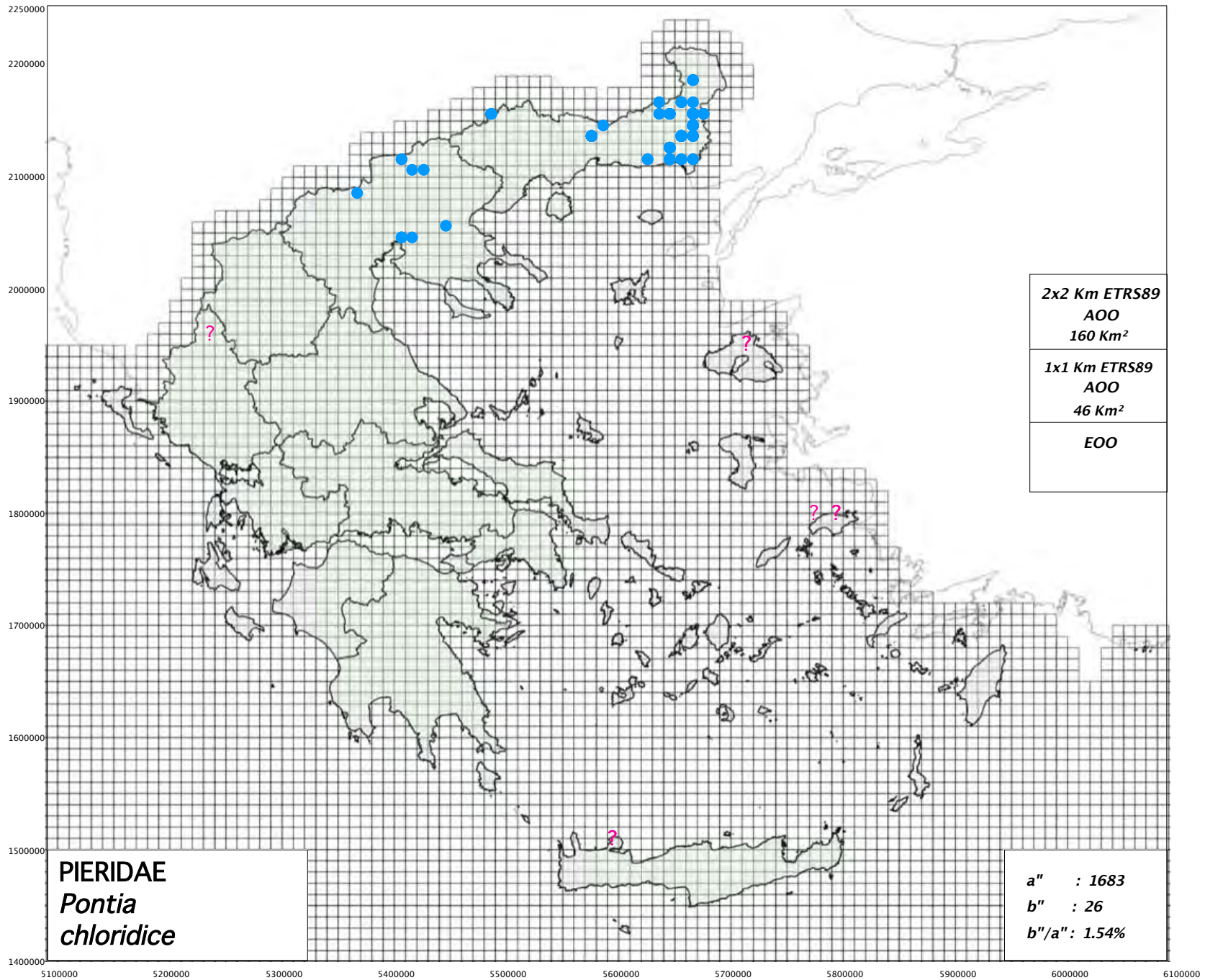


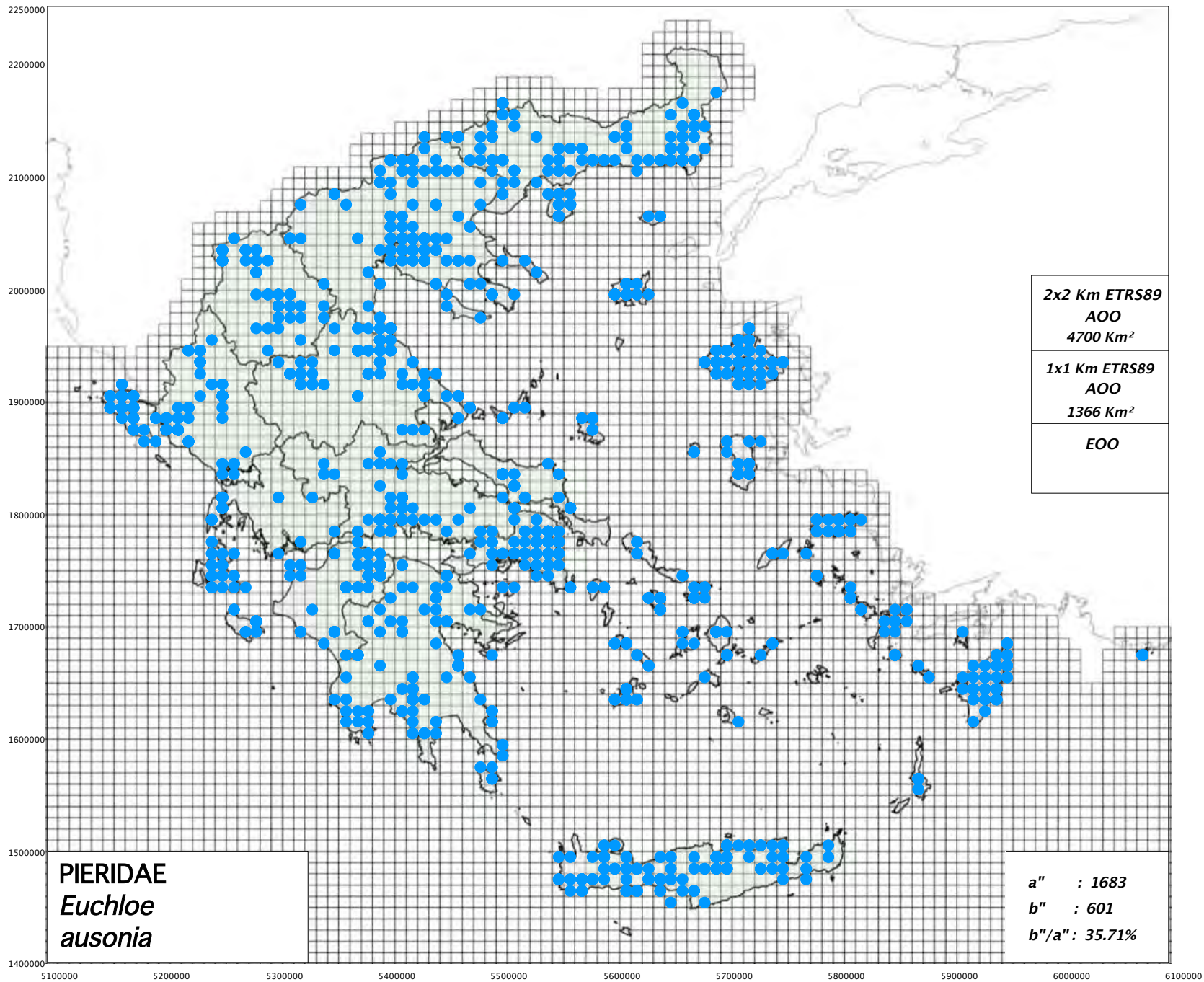


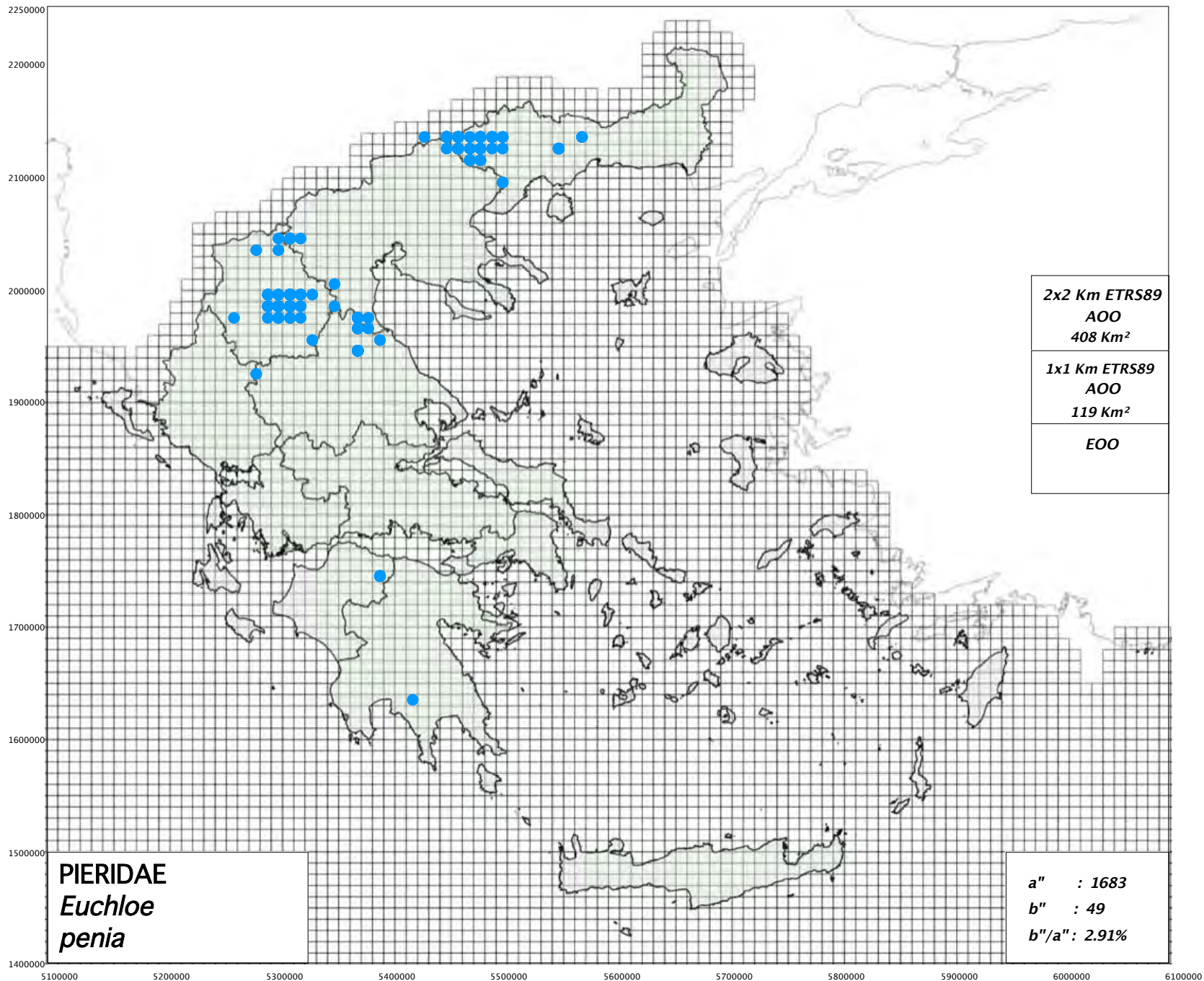


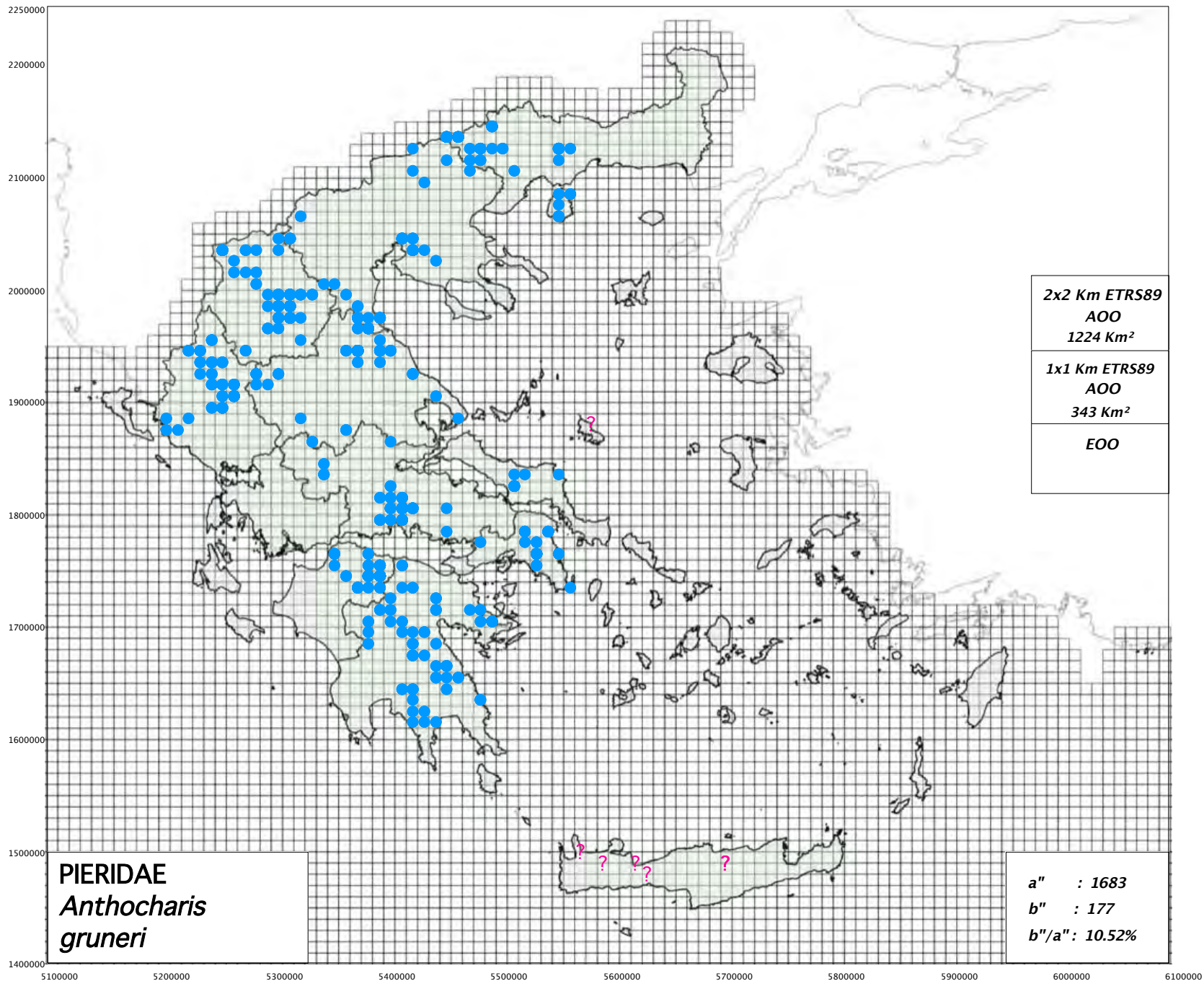


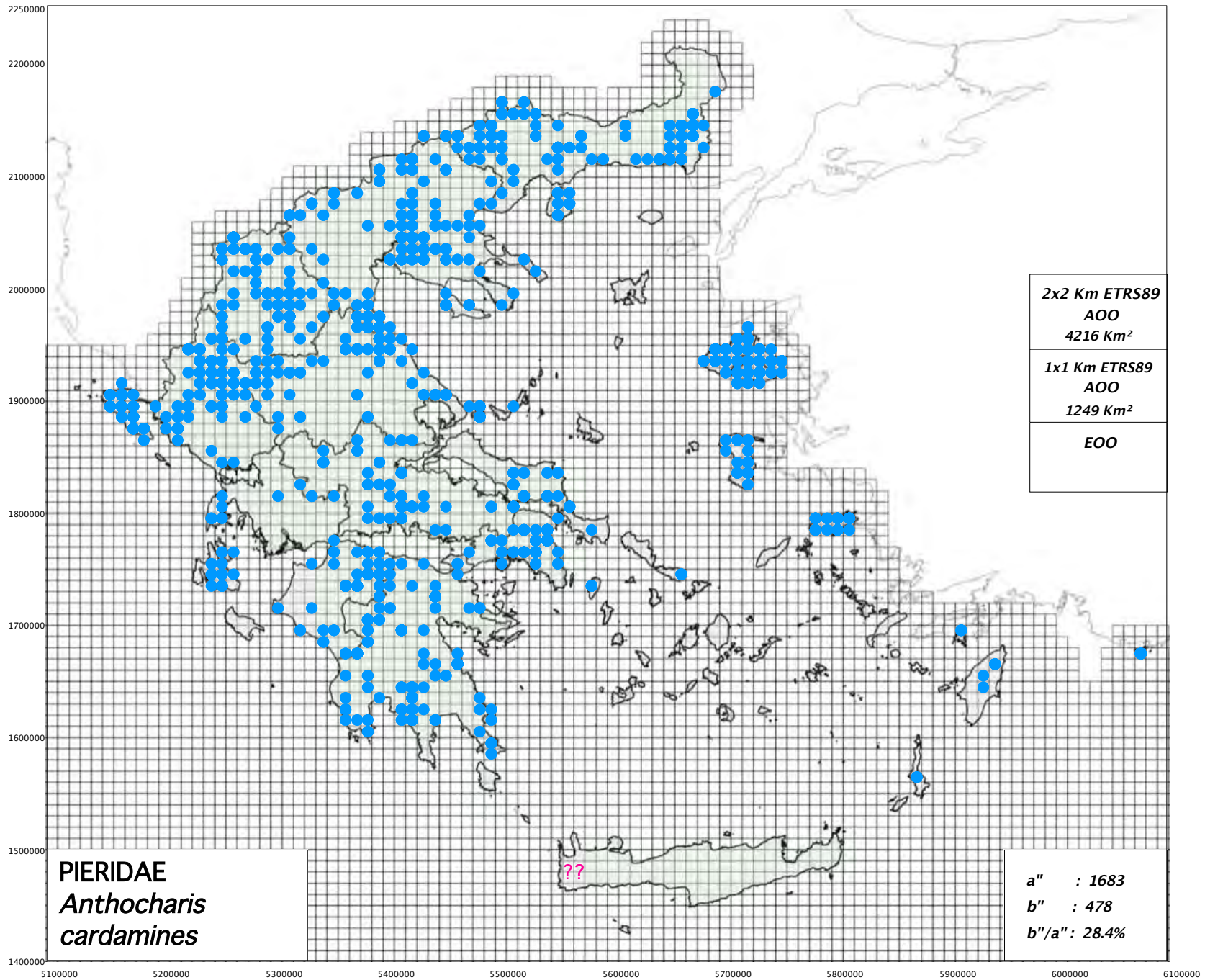


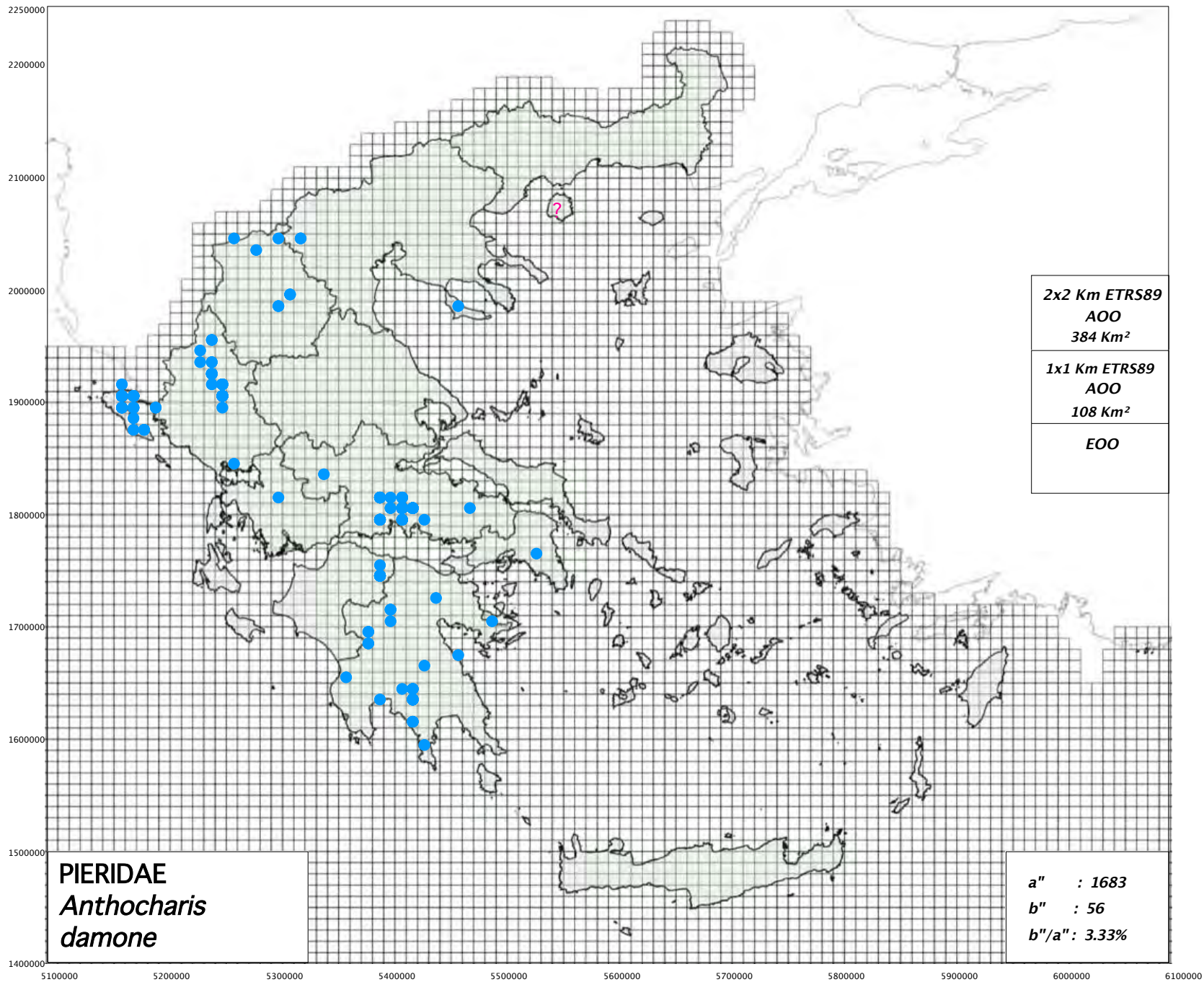


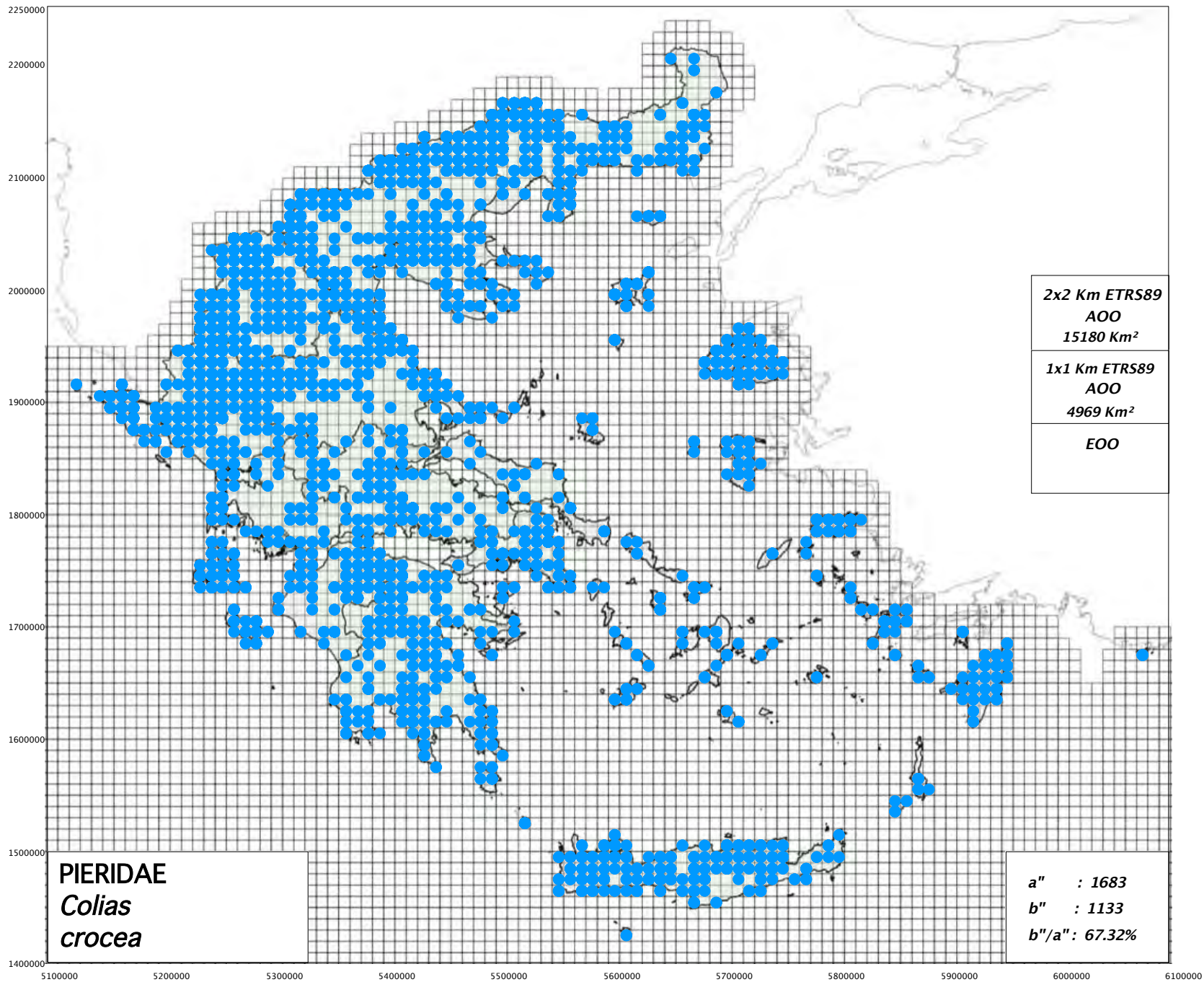


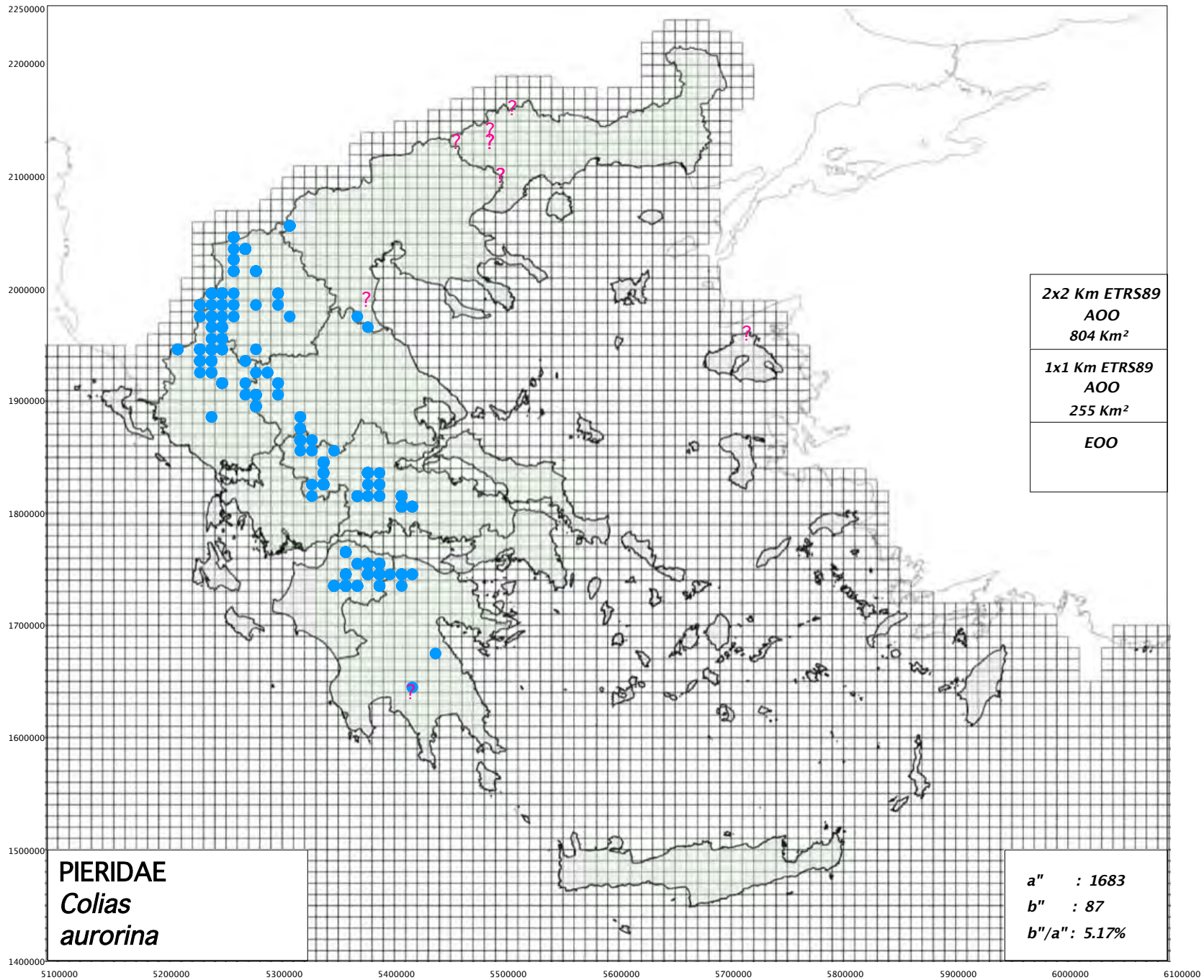


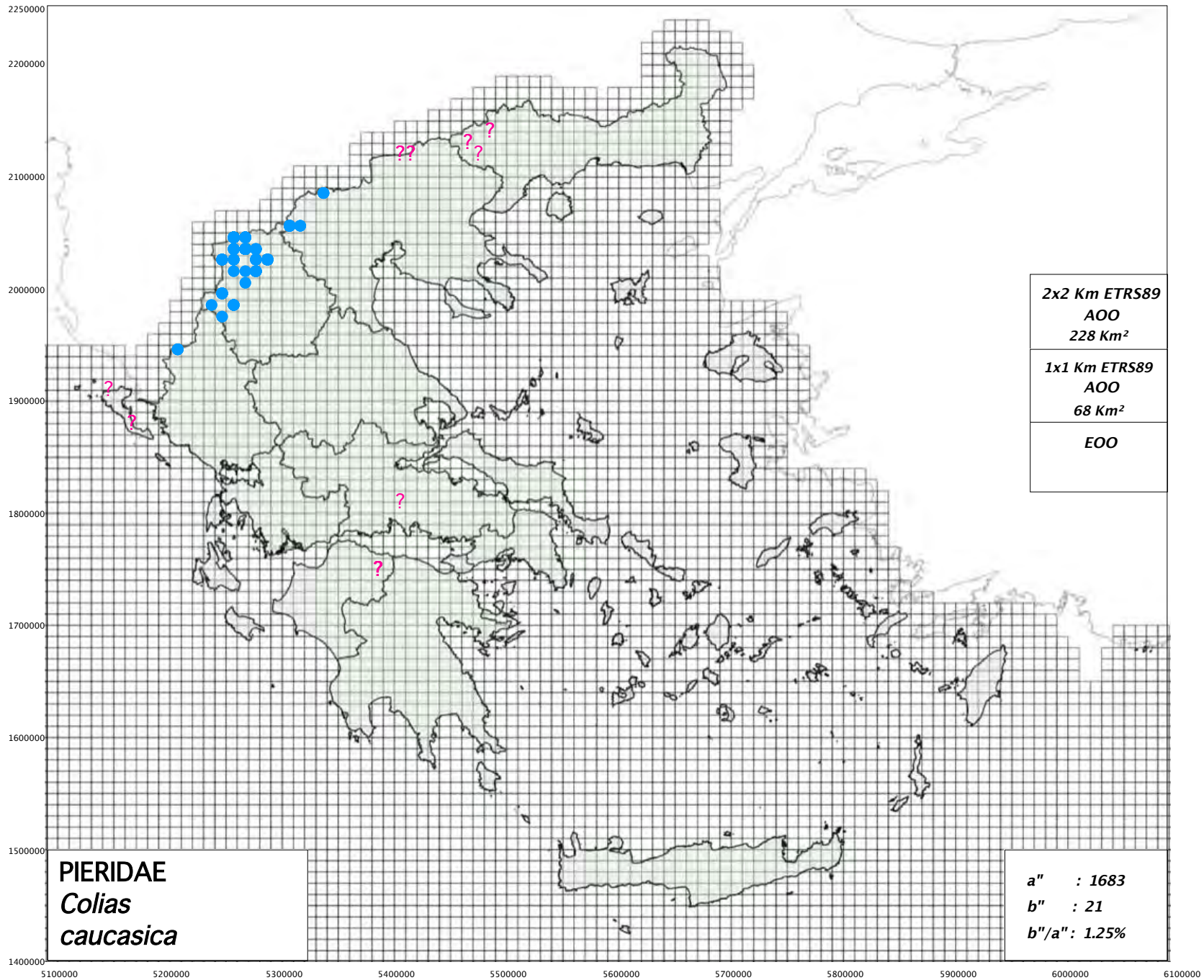


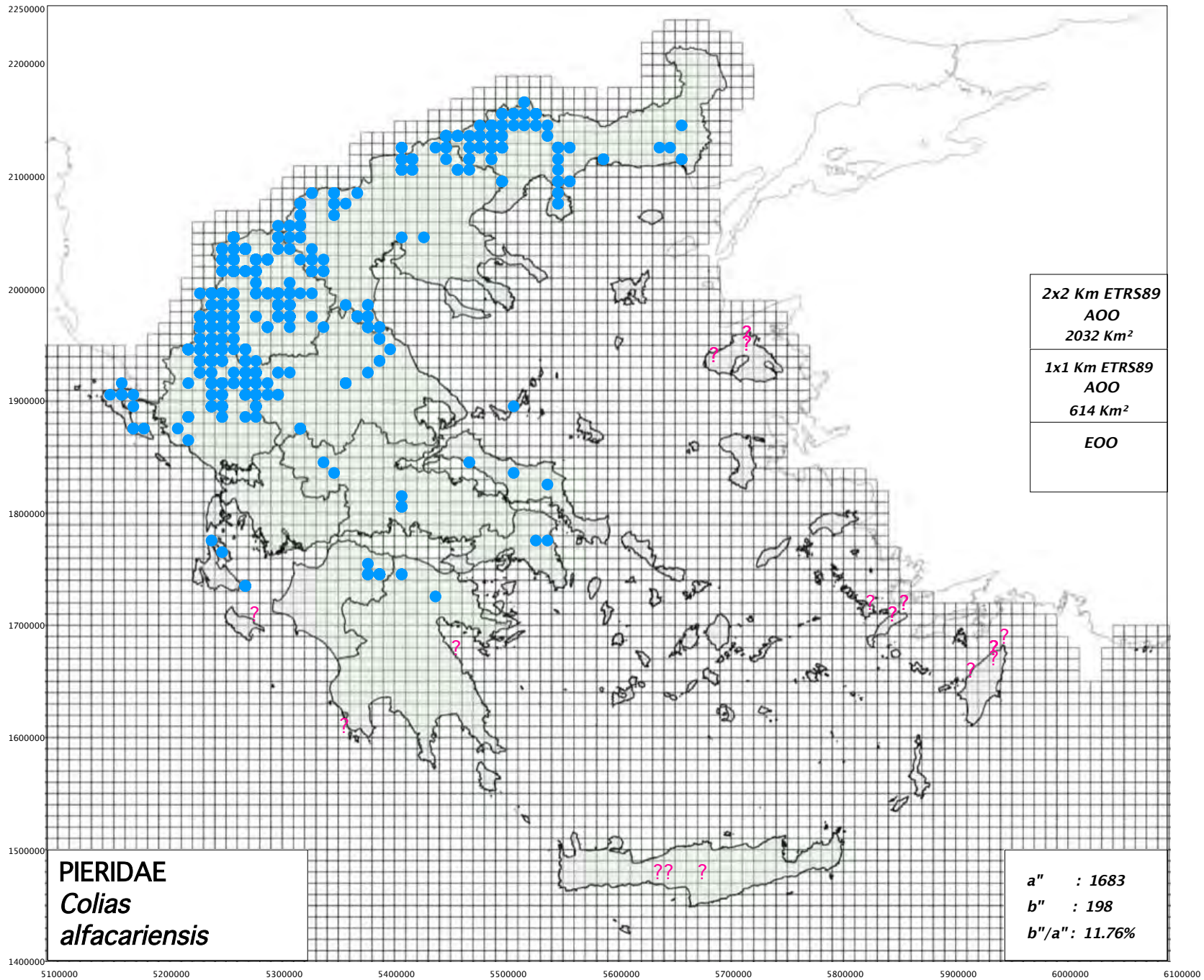


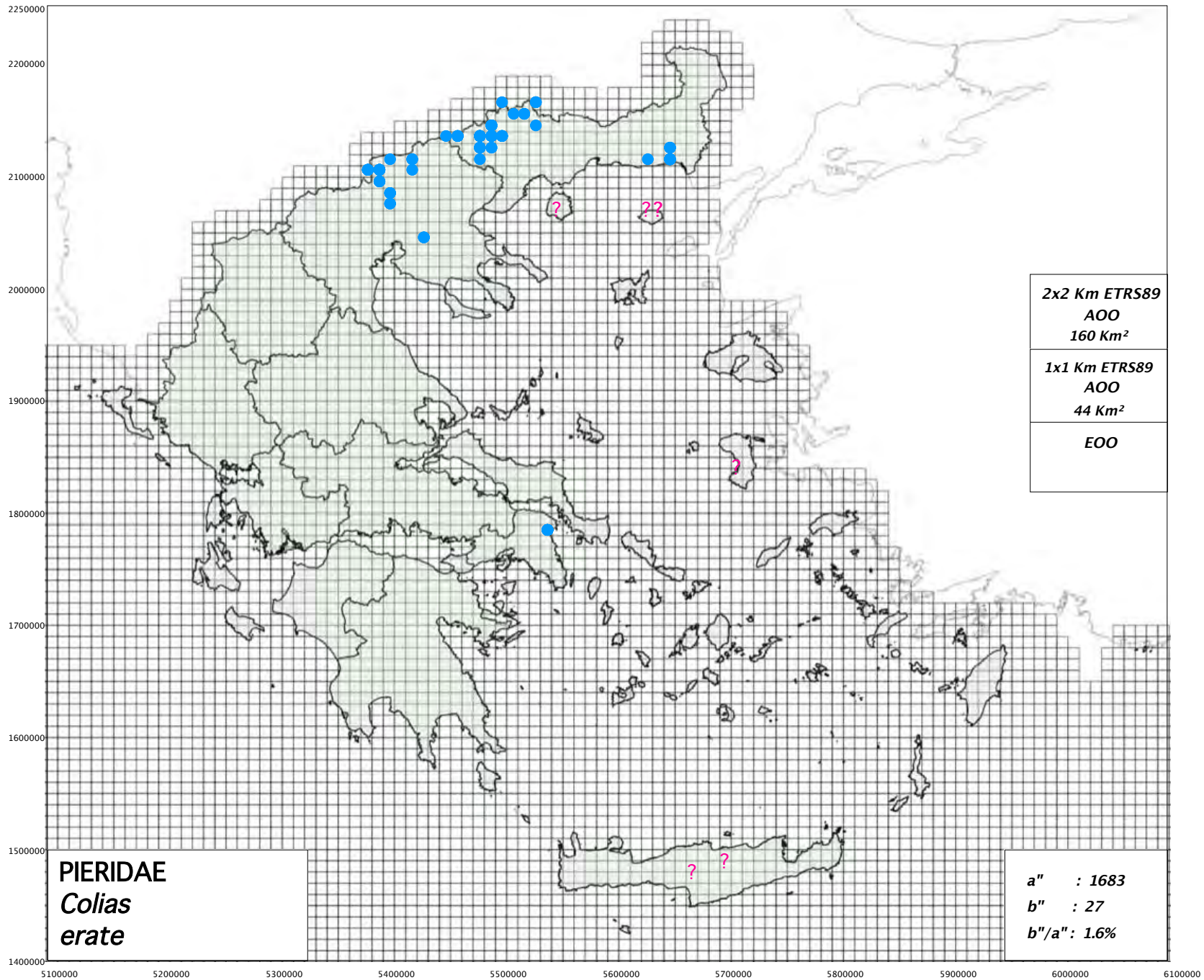


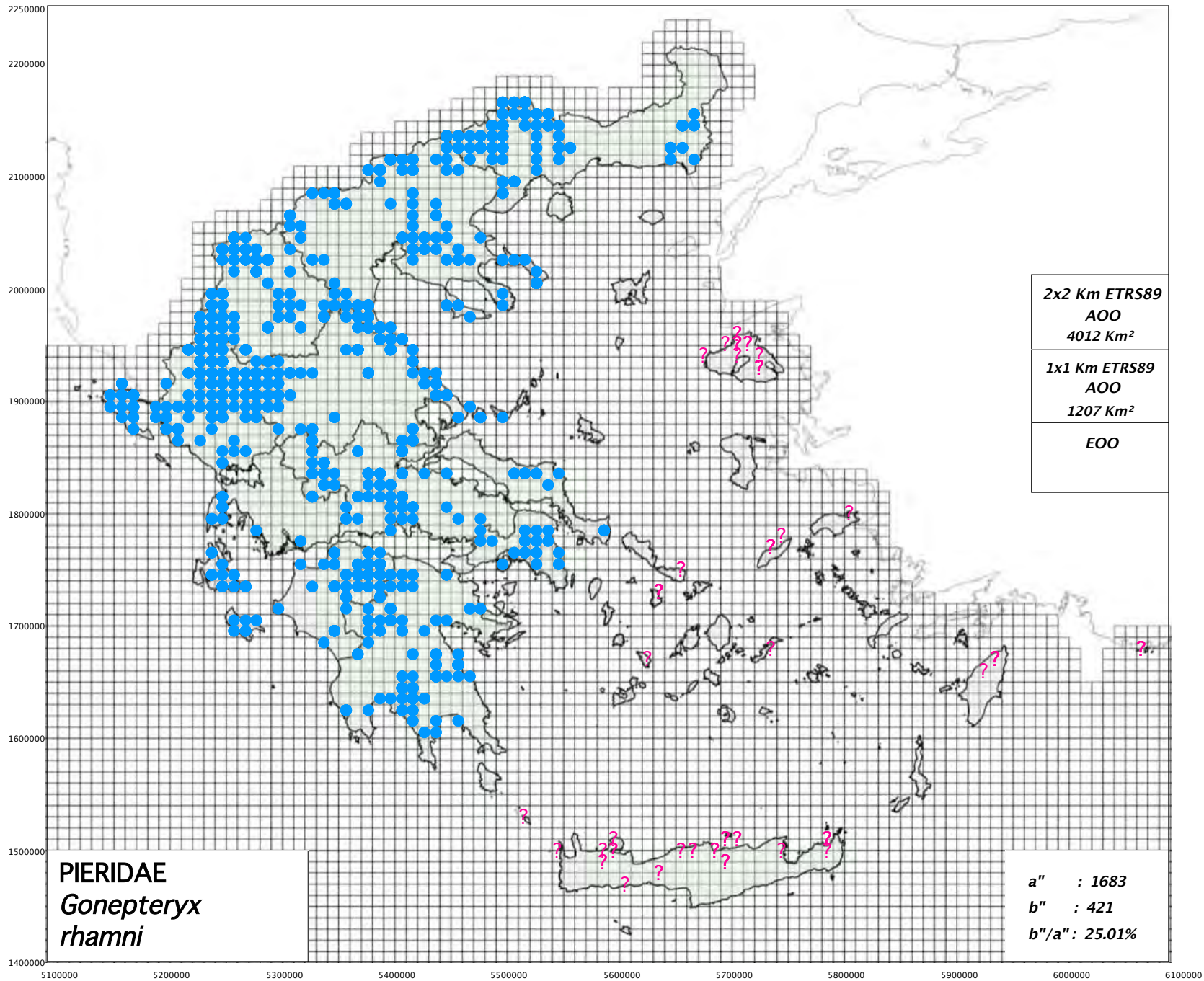


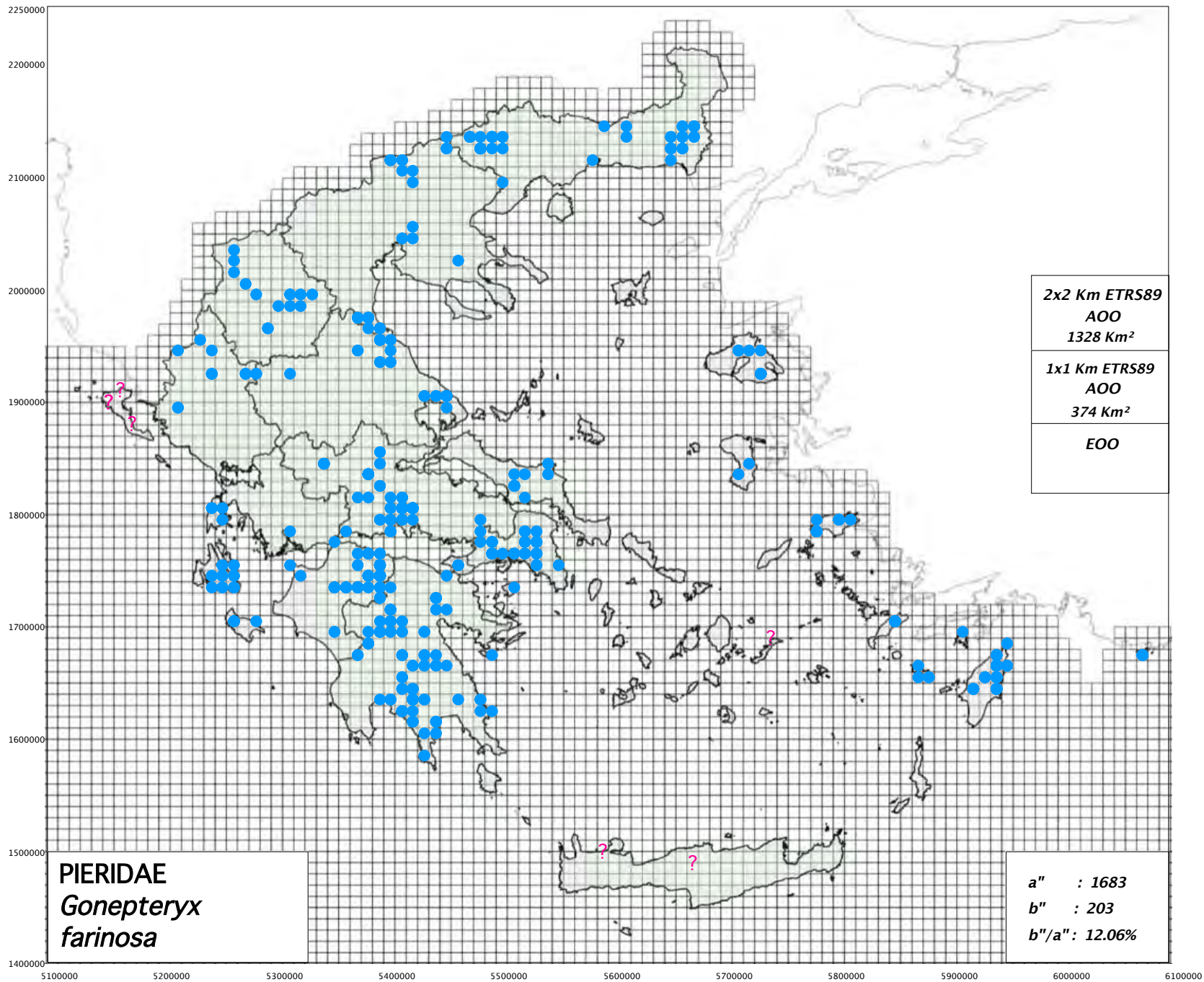


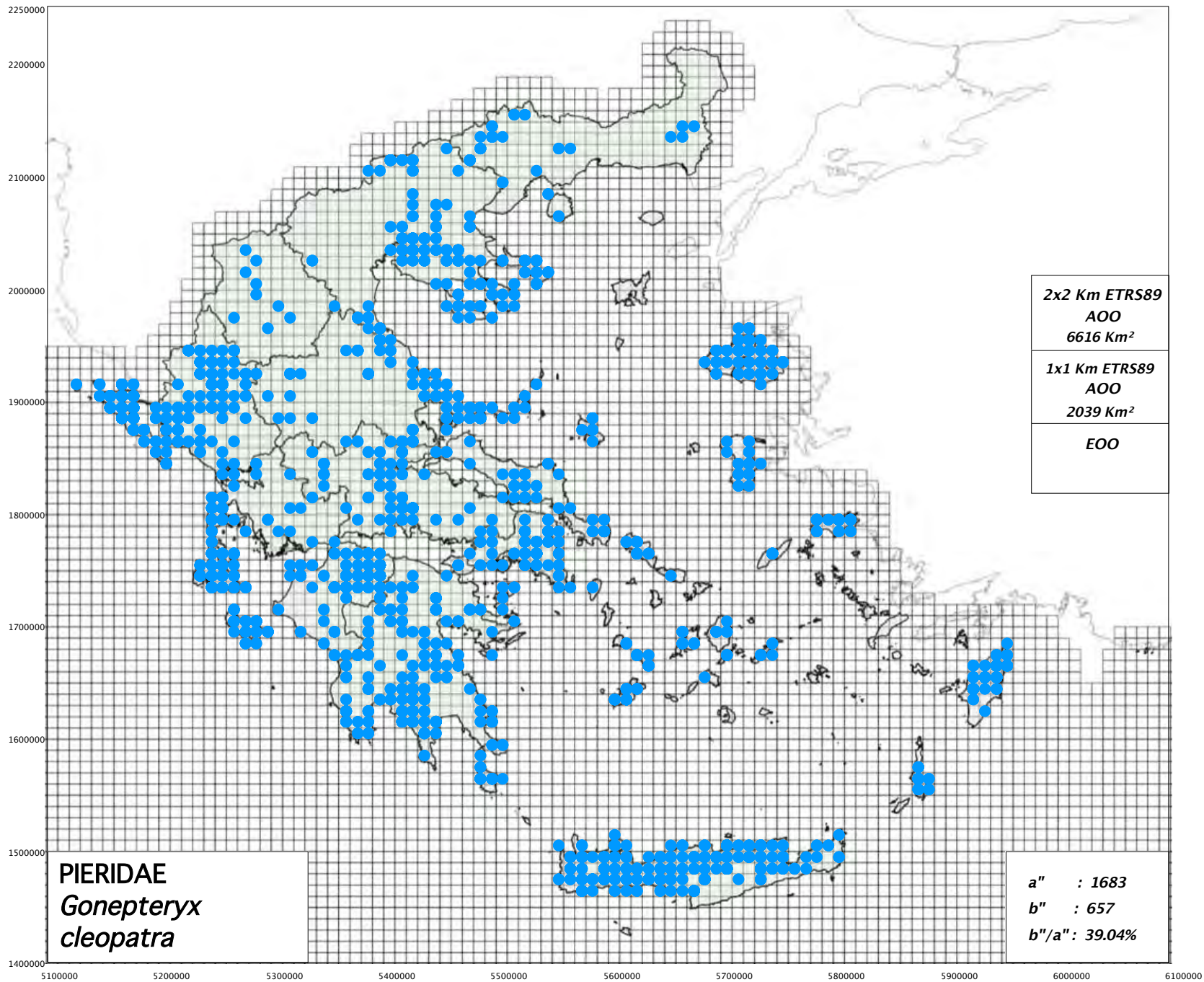


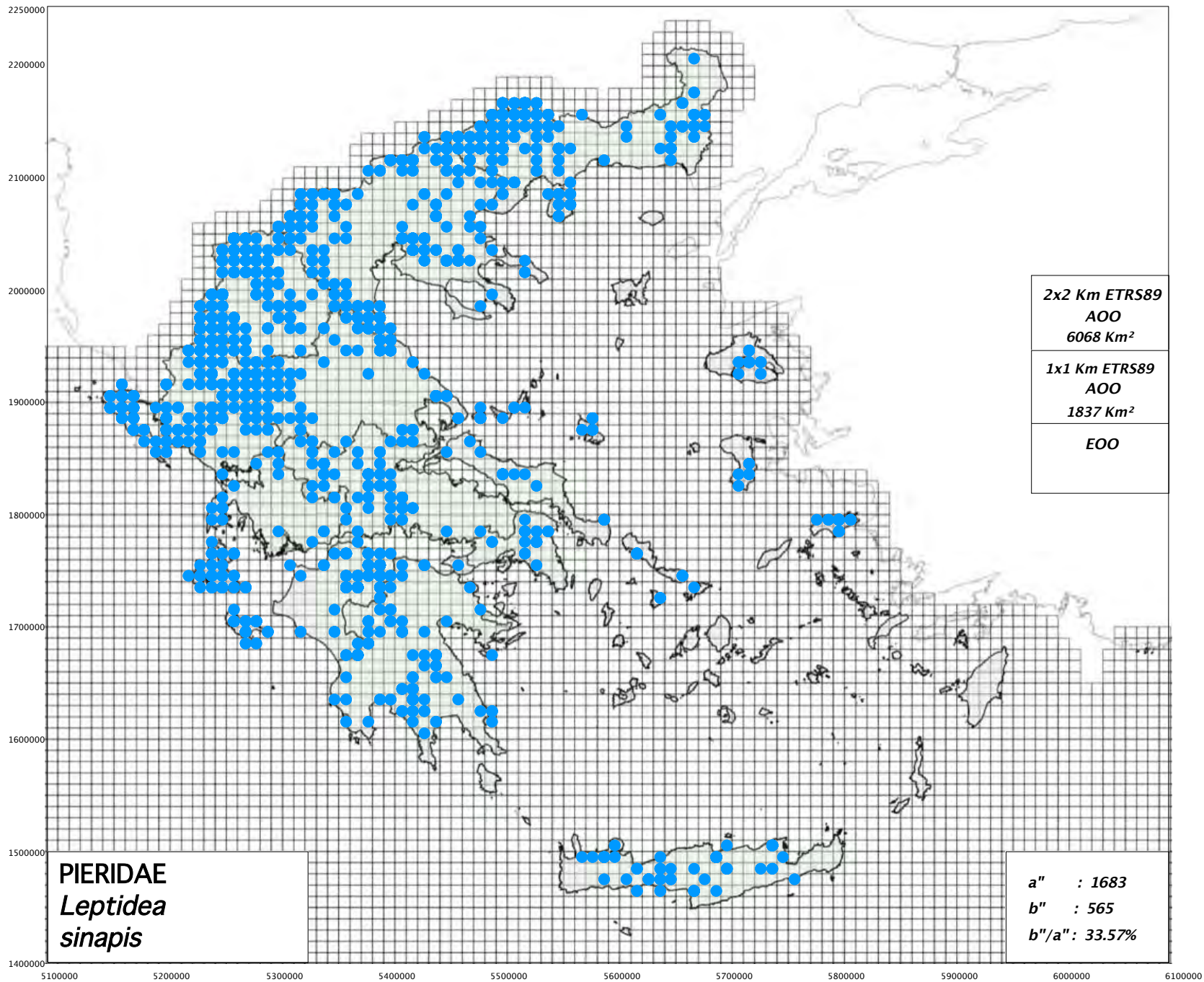


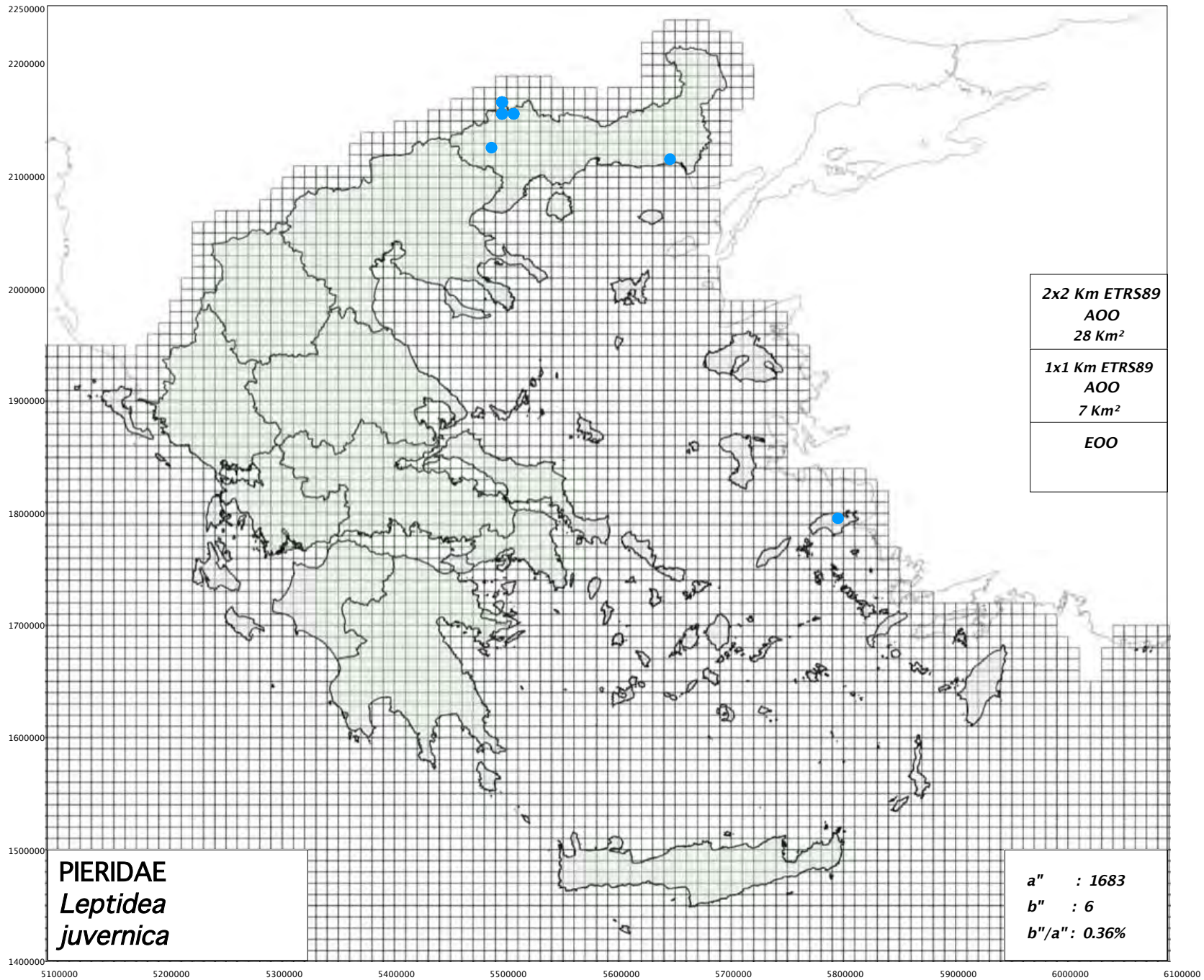


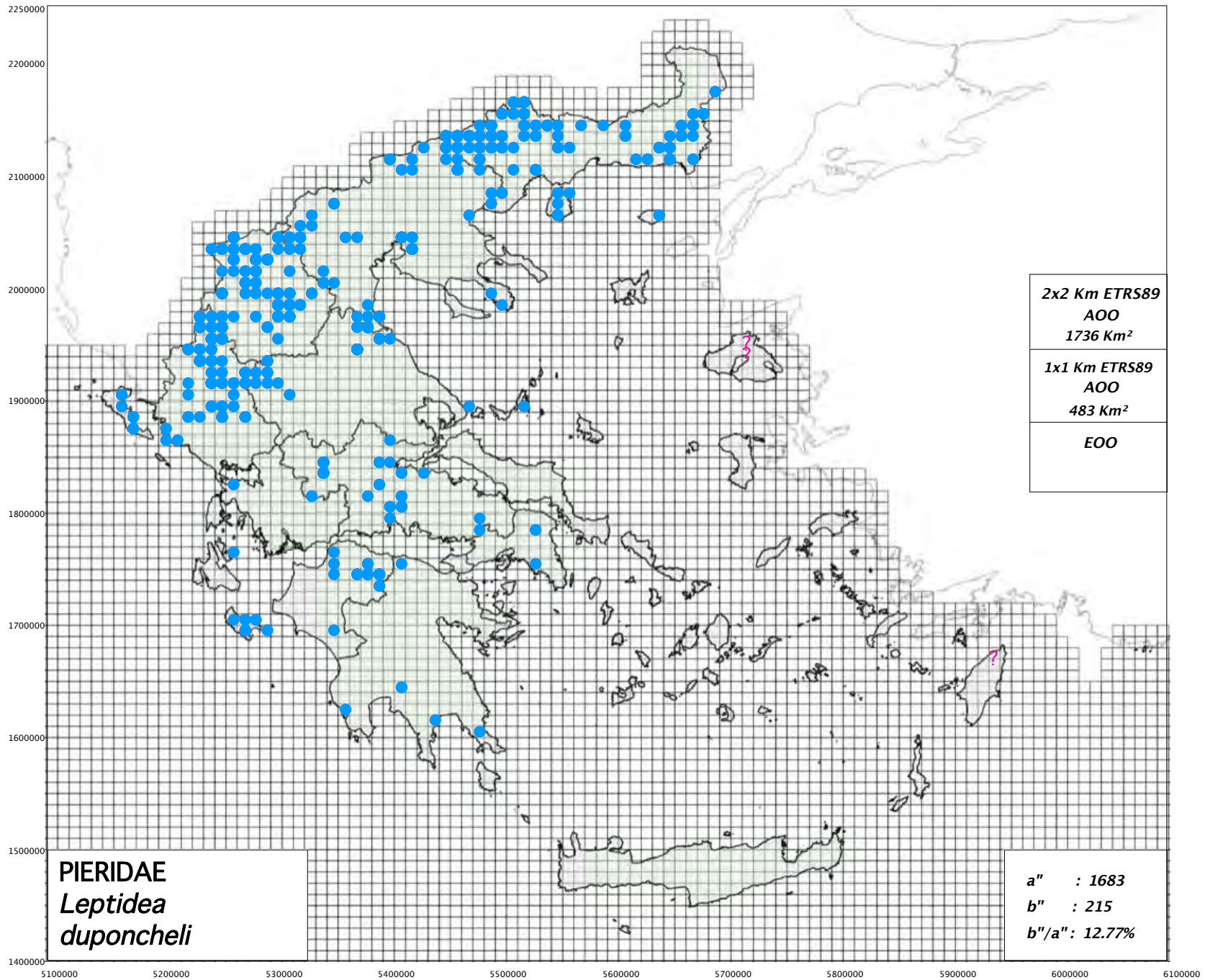


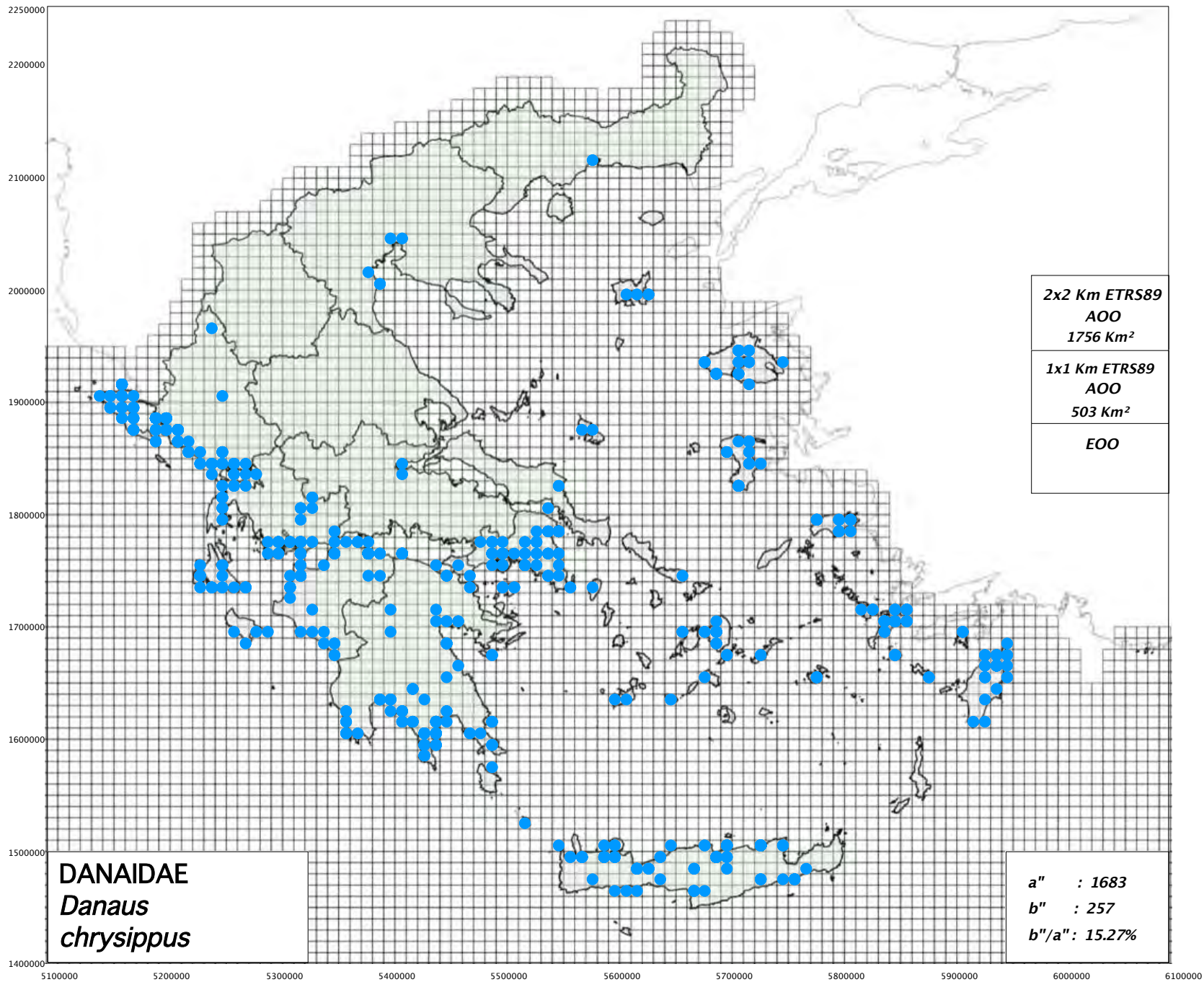


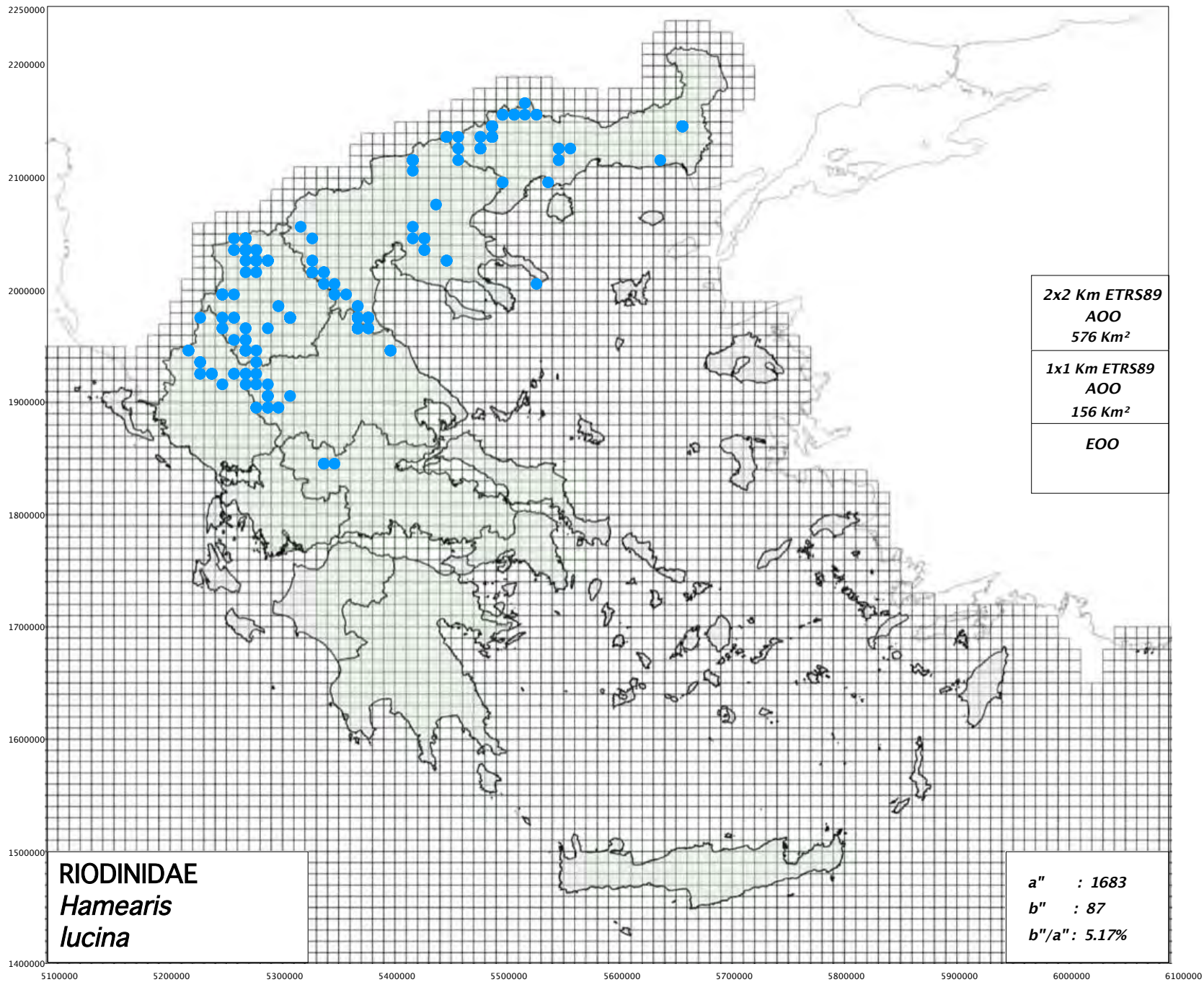


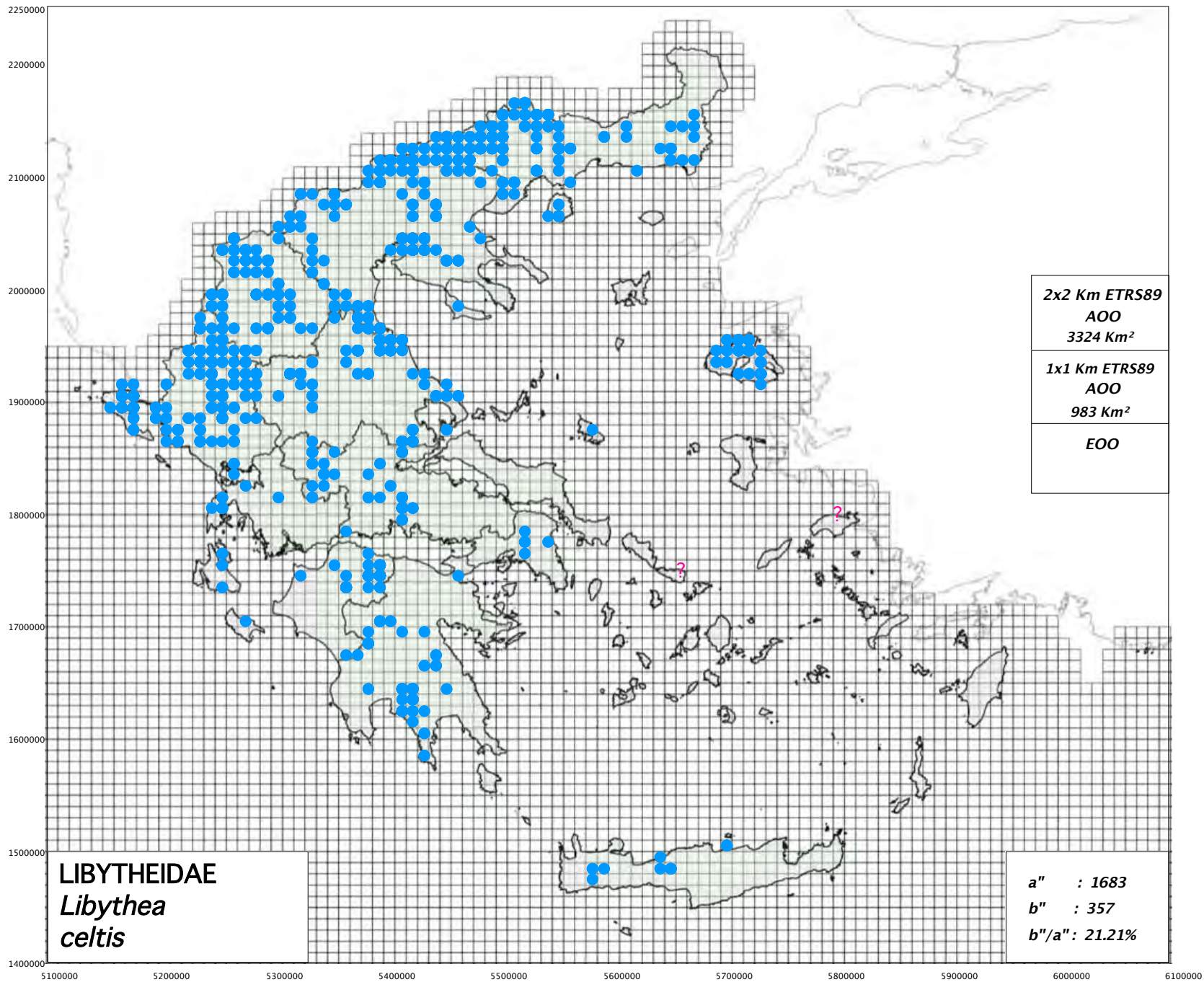


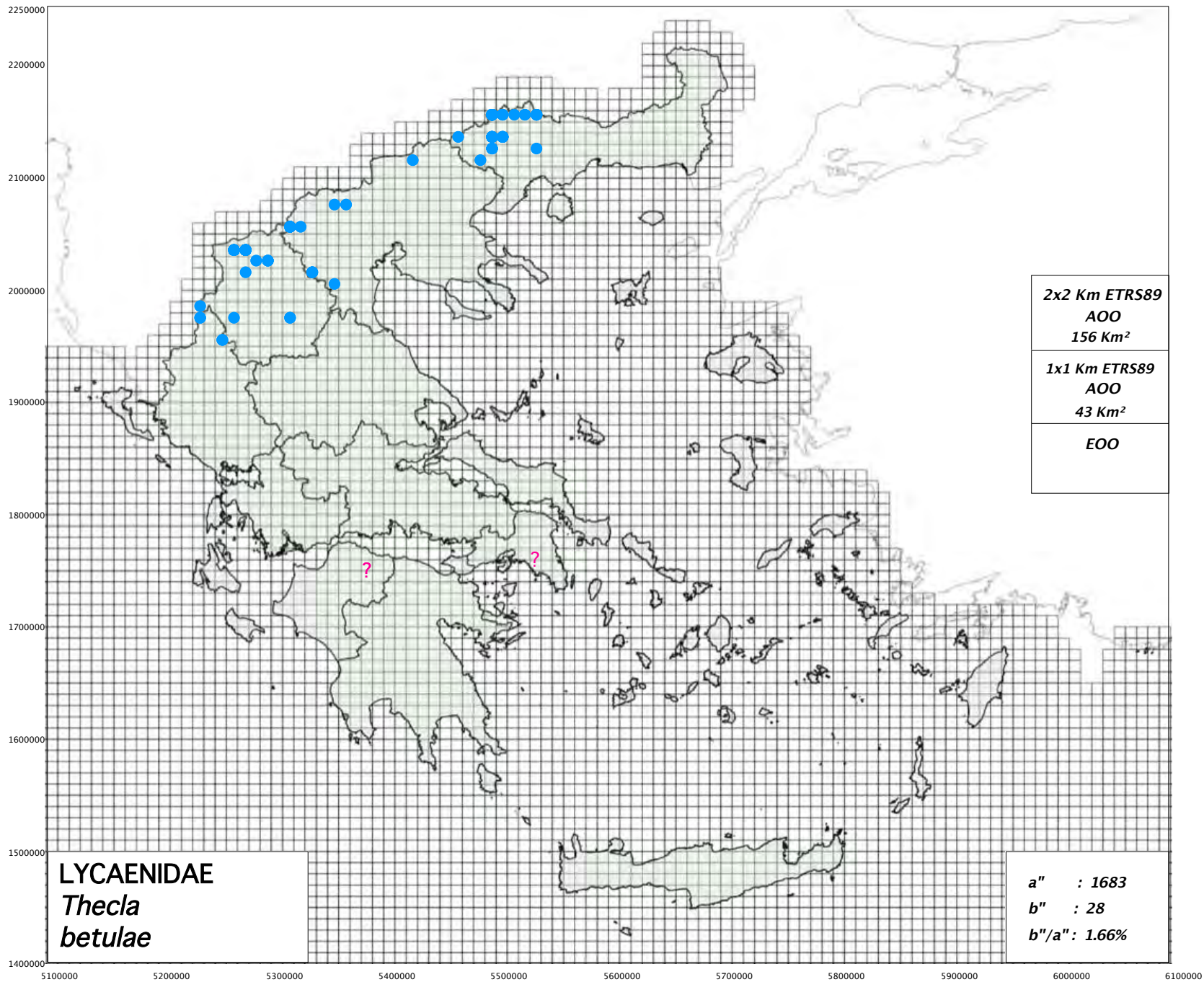












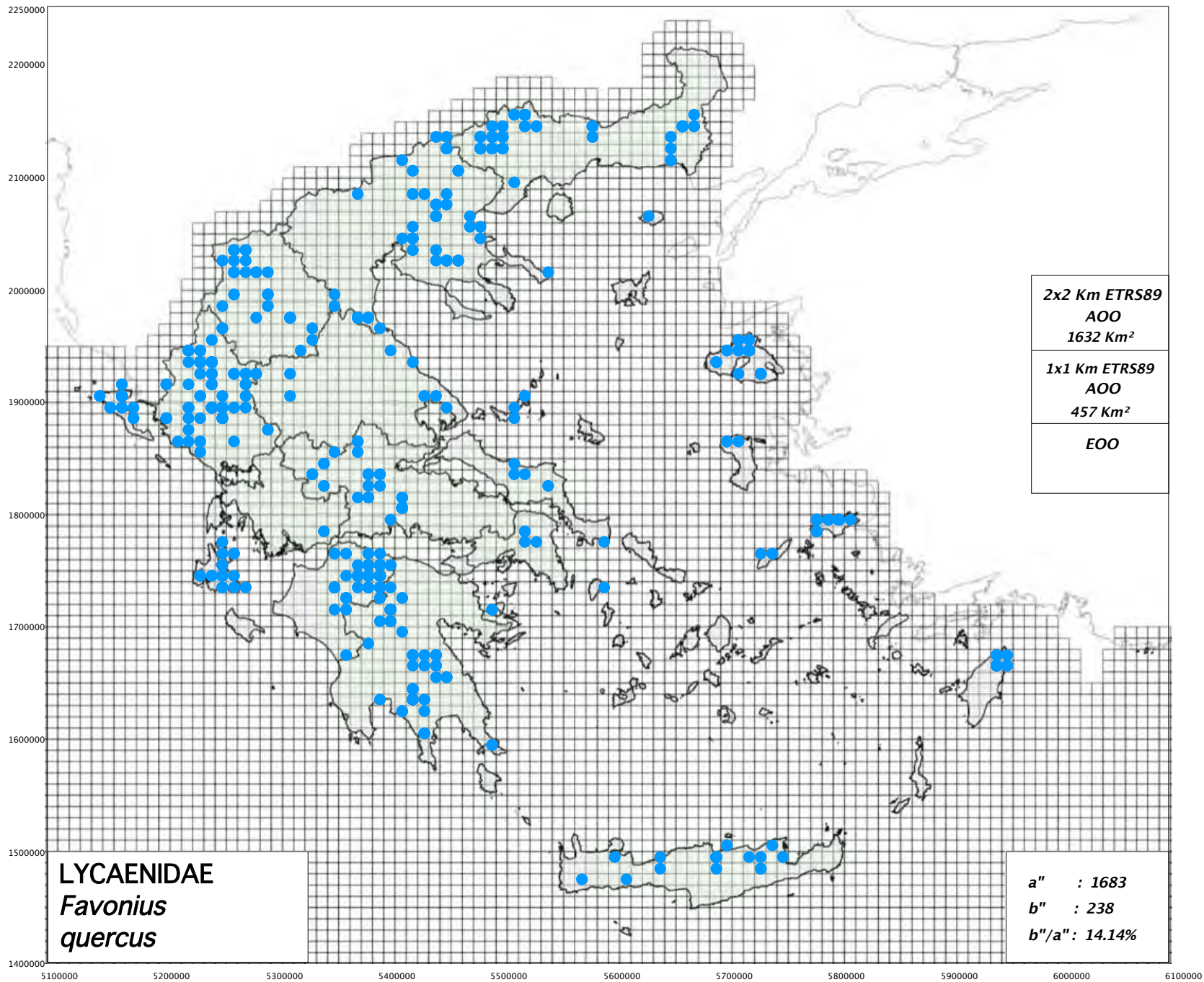
2x2 Km ETRS89
AOO
156 Km²

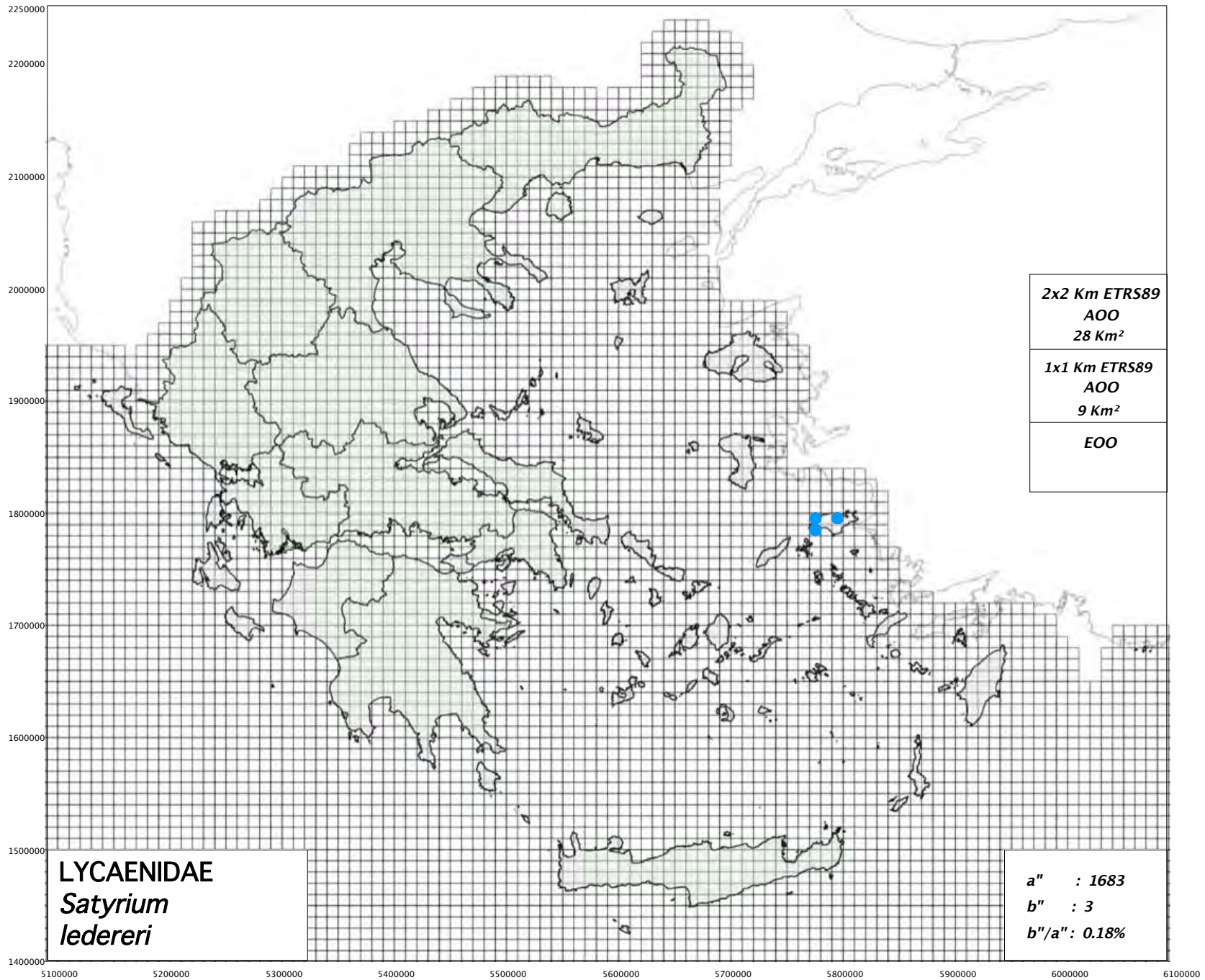
1x1 Km ETRS89
AOO
43 Km²

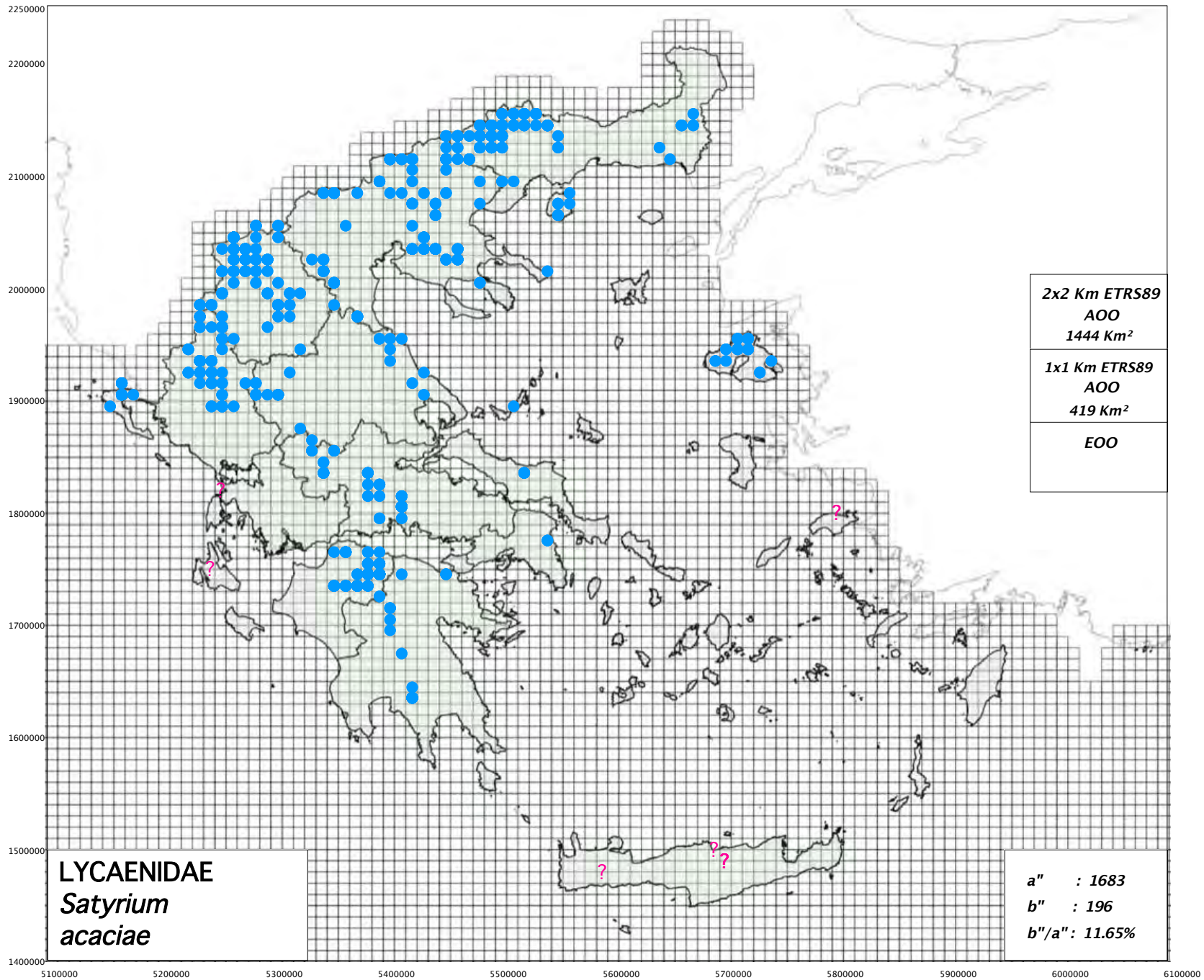
EOO

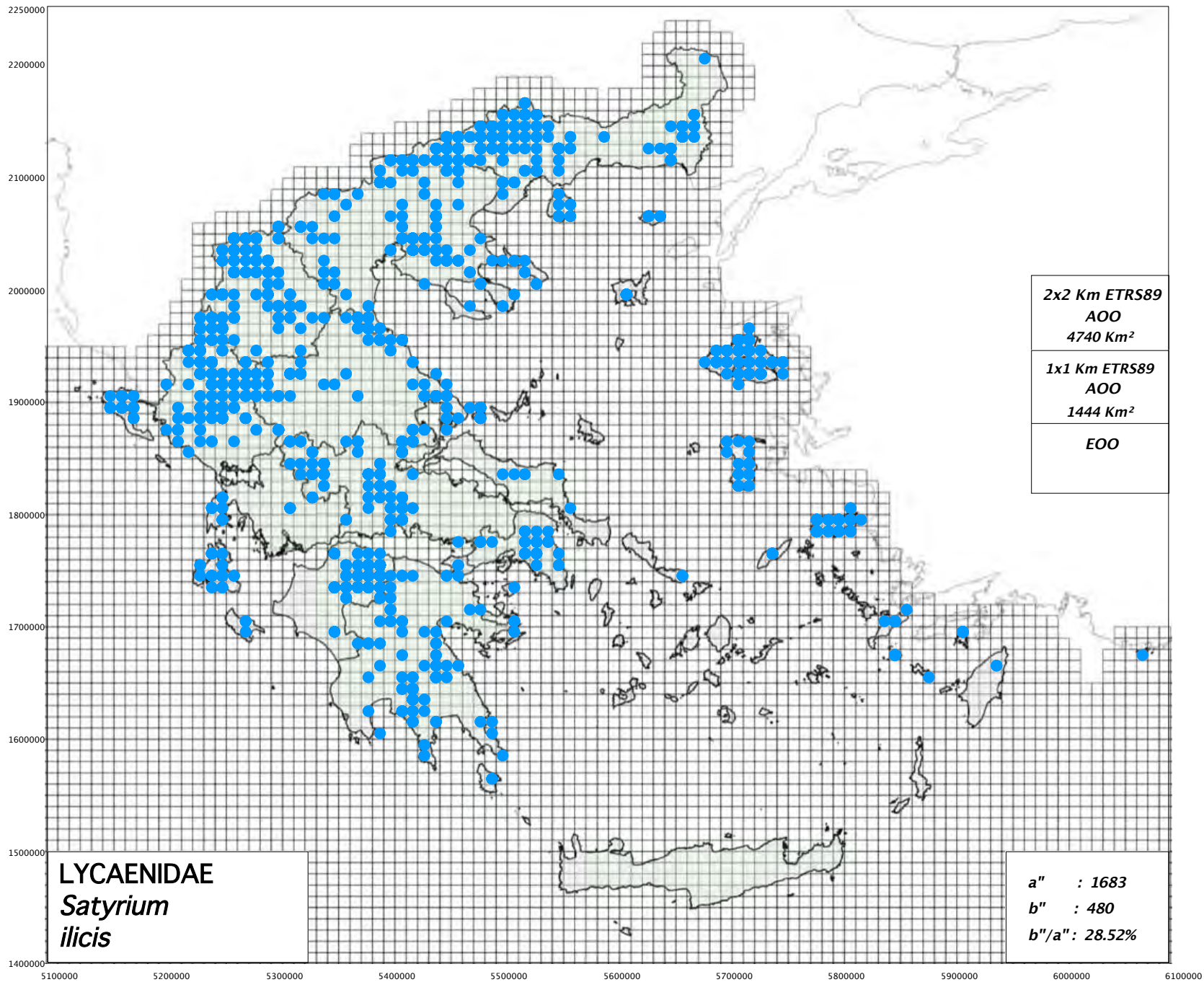
LYCAENIDAE
Thecla
betulae

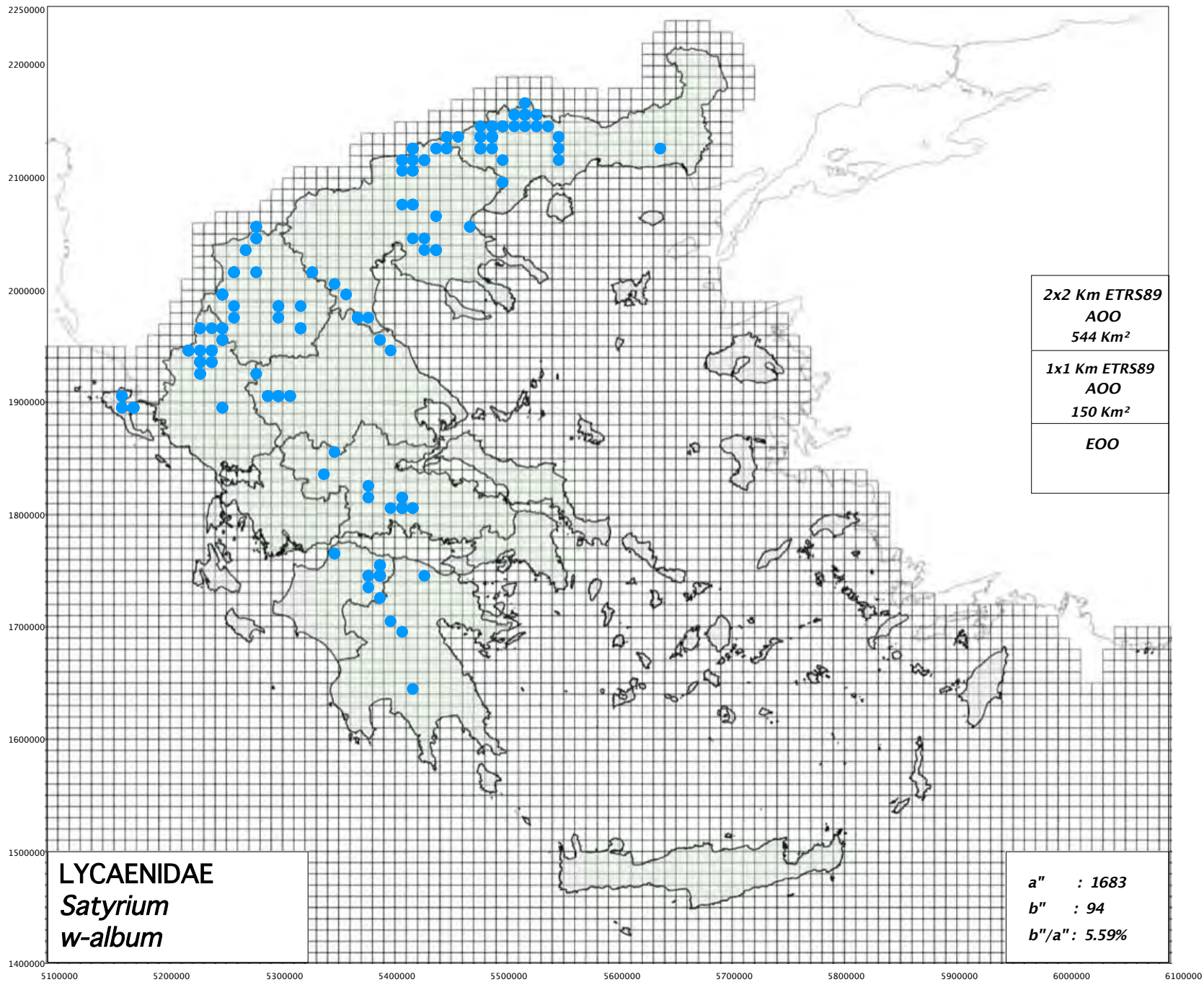
a" : 1683
b" : 28
b"/a" : 1.66%

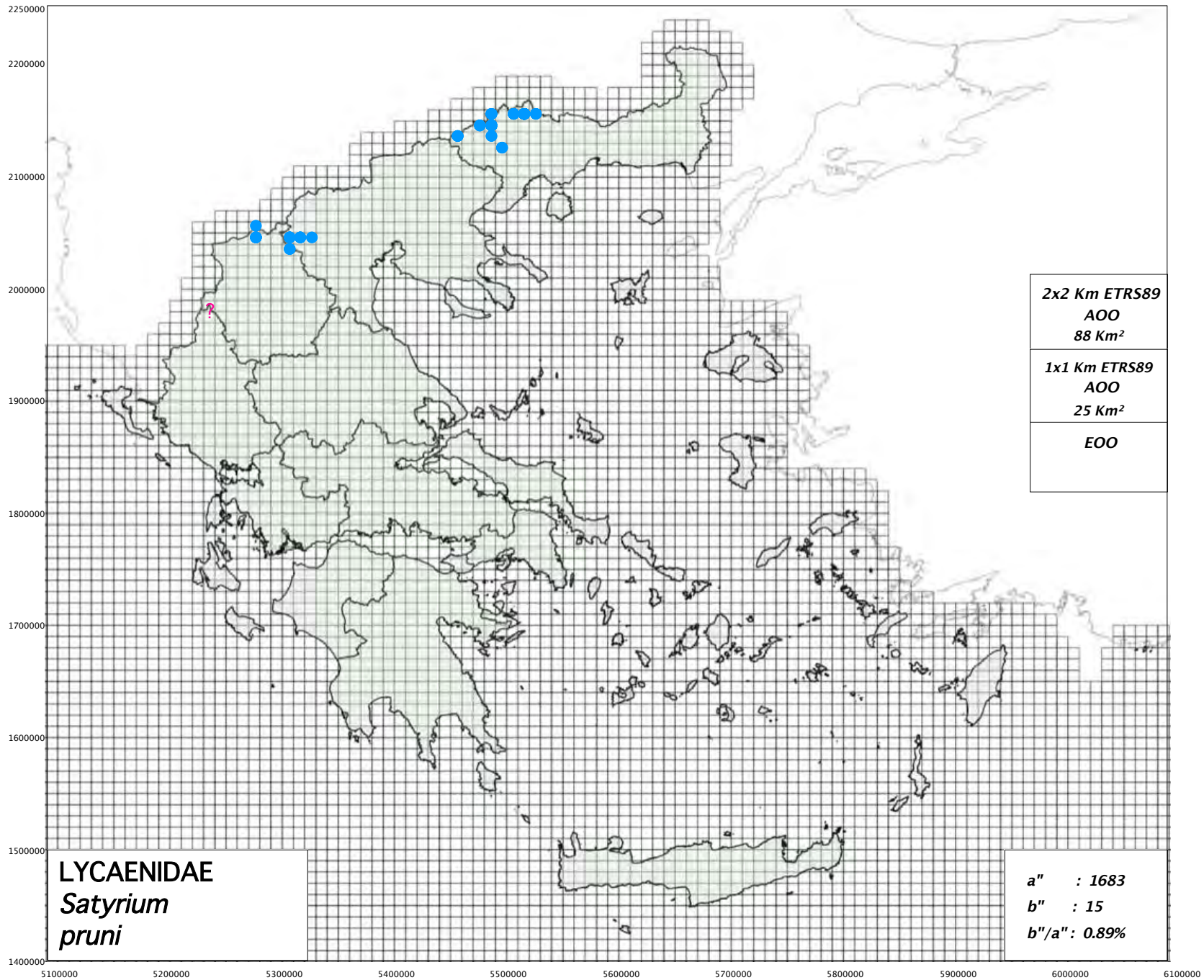












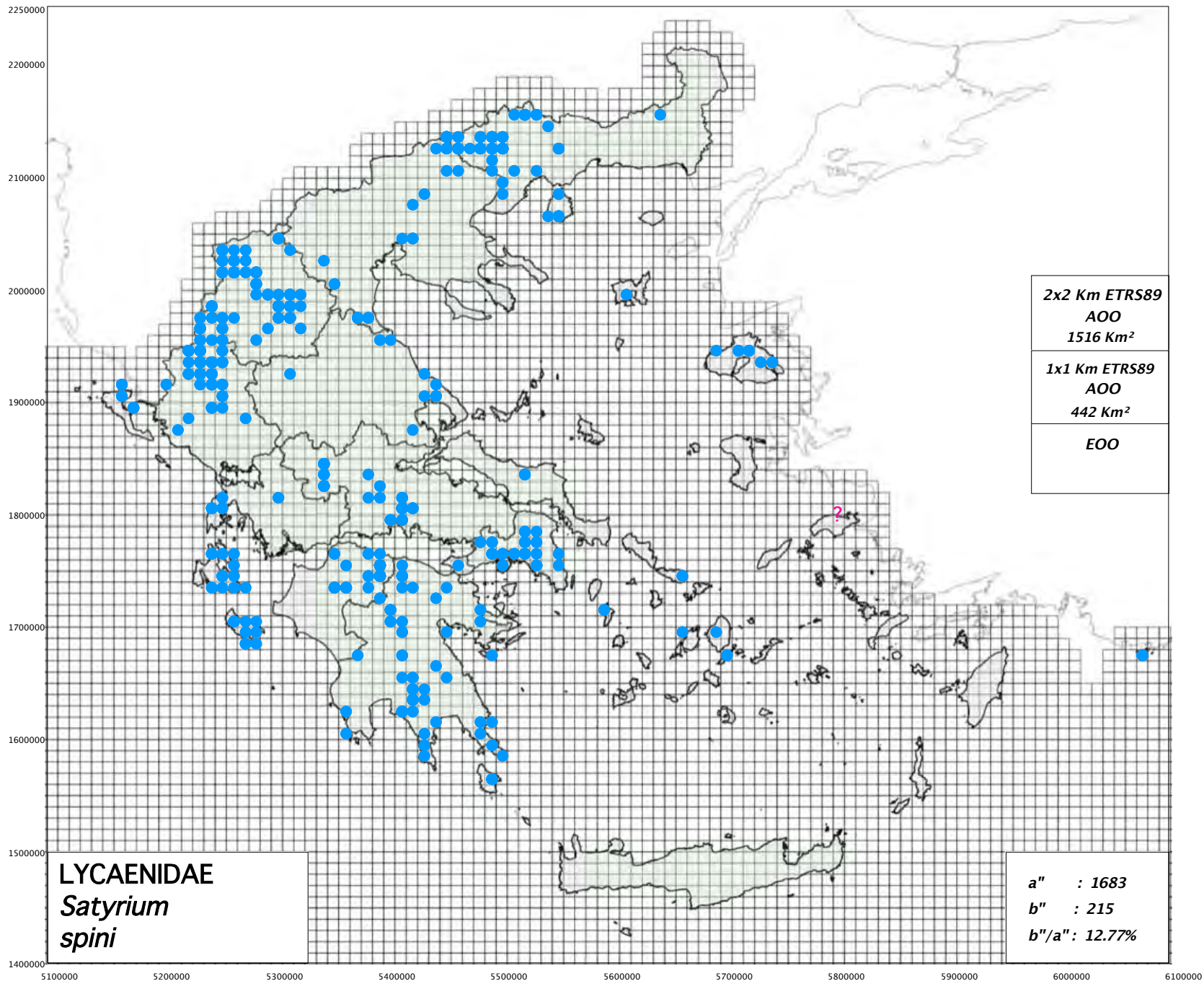
2x2 Km ETRS89
AOO
88 Km²

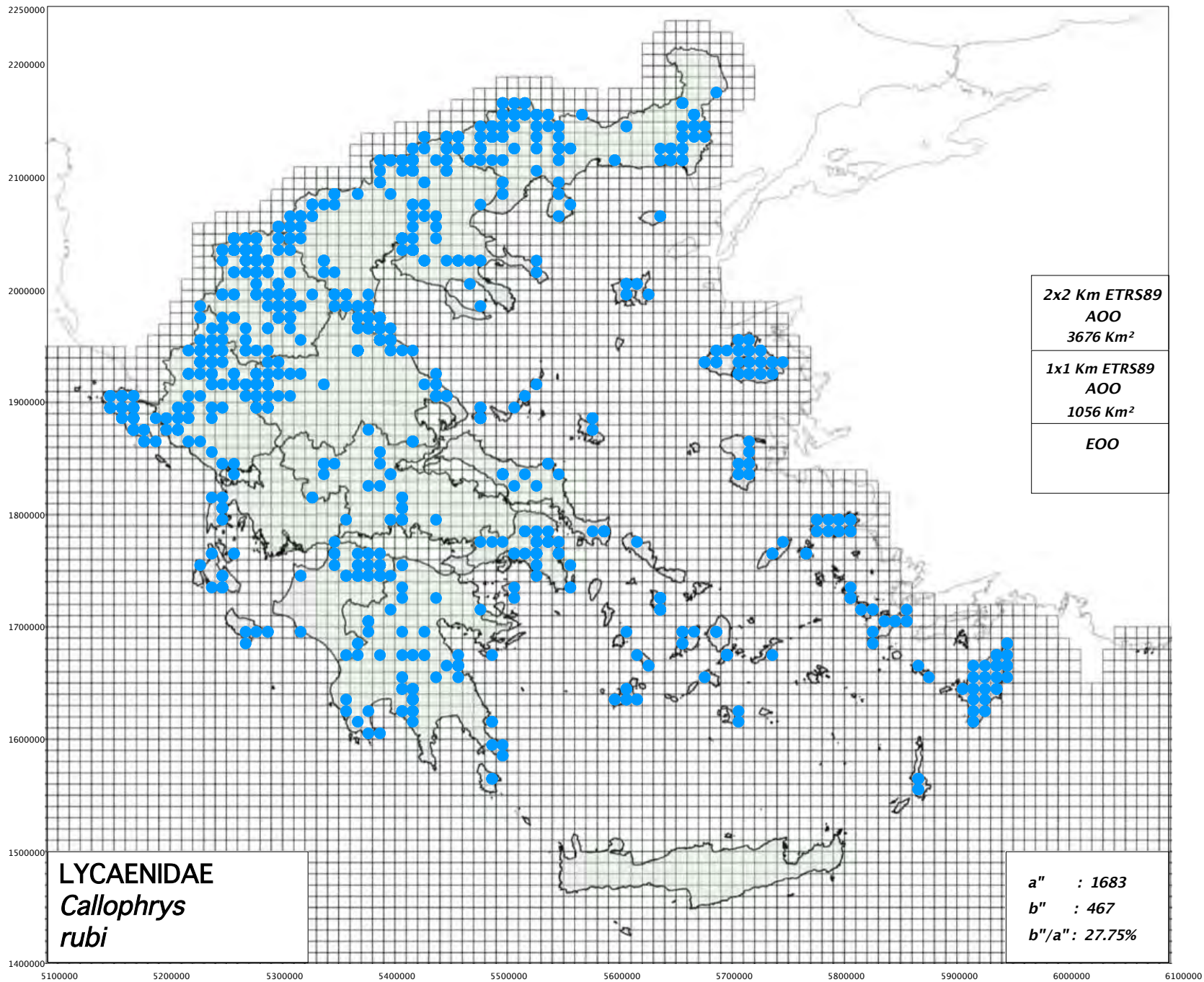
1x1 Km ETRS89
AOO
25 Km²

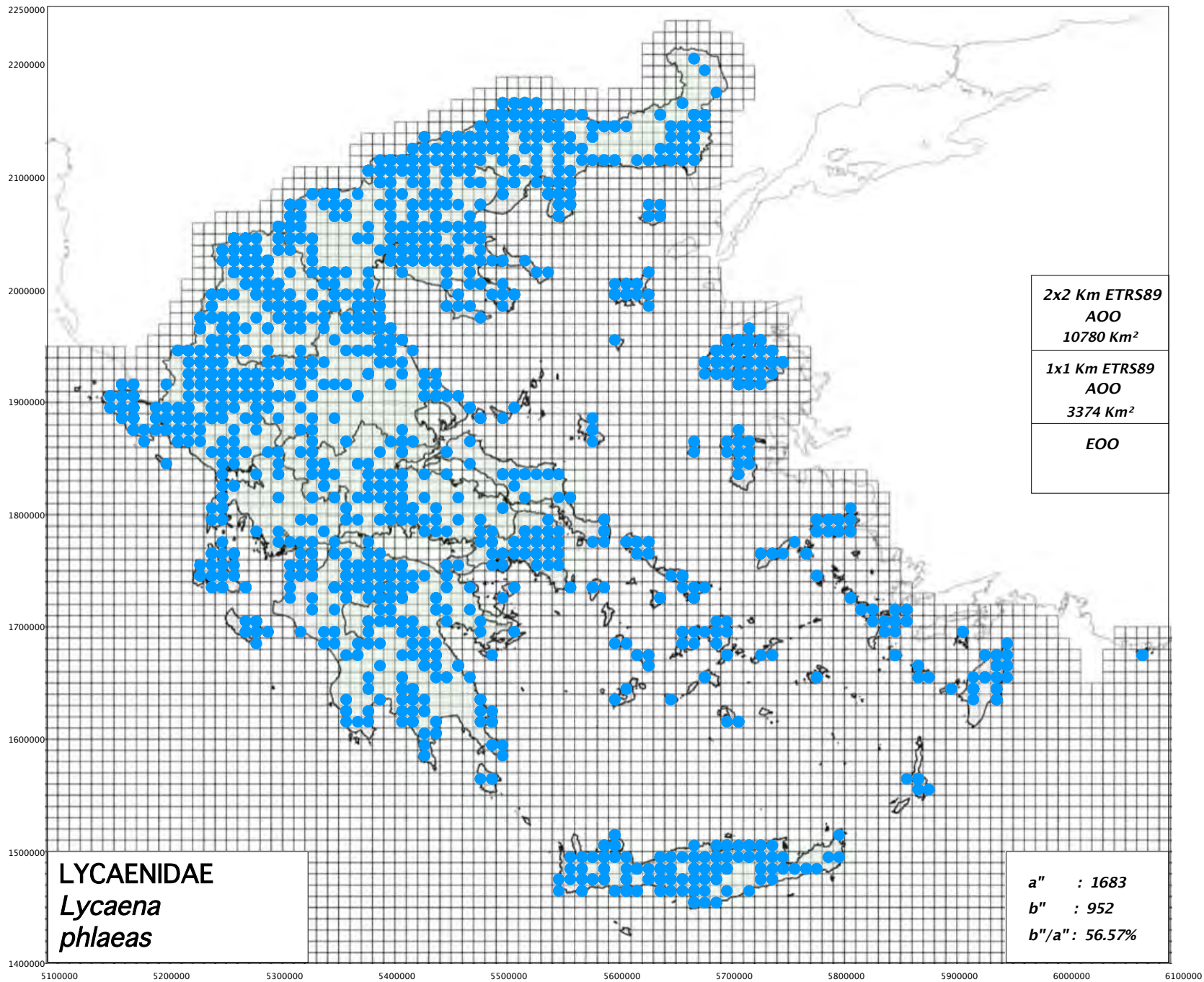
EOO

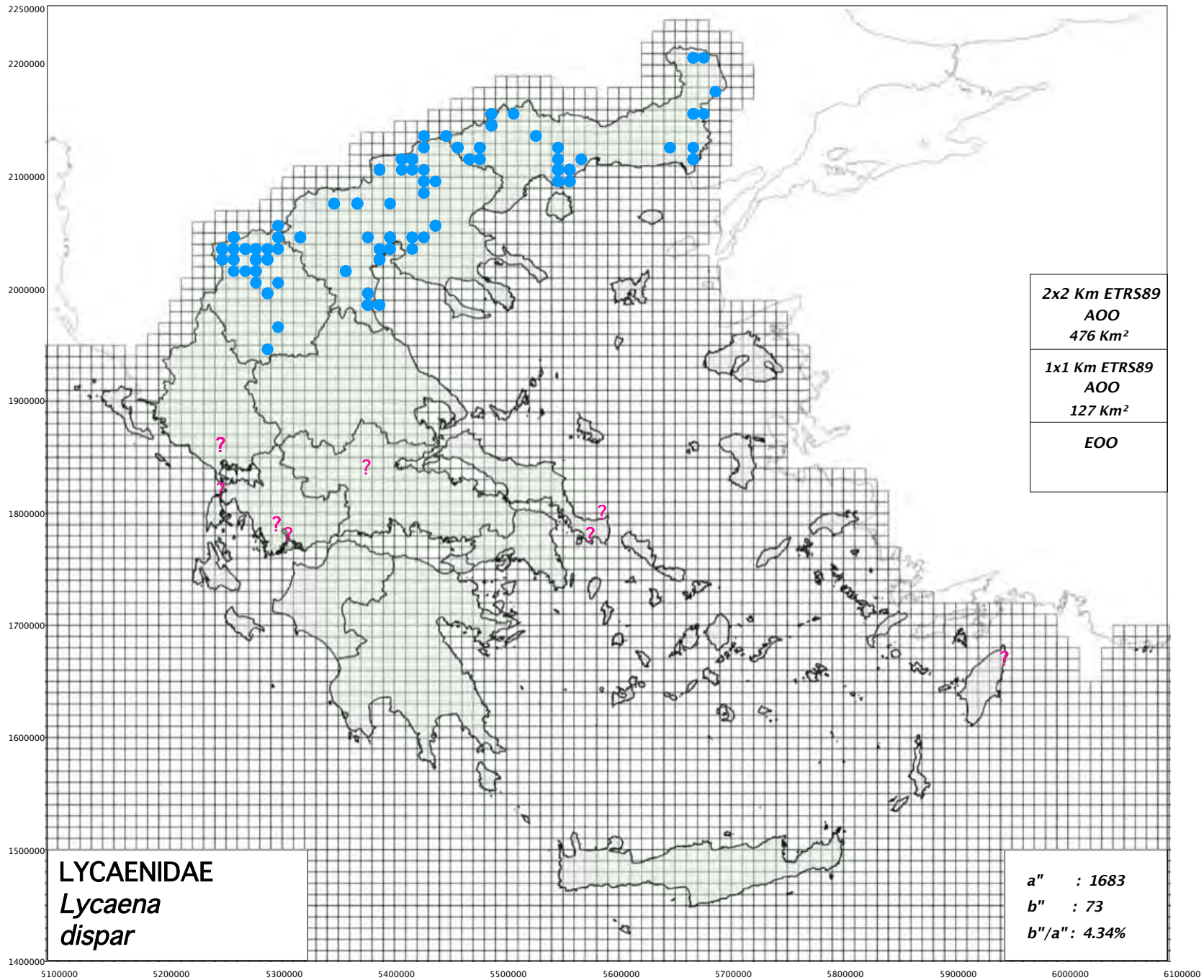
LYCAENIDAE
Satyrium
pruni

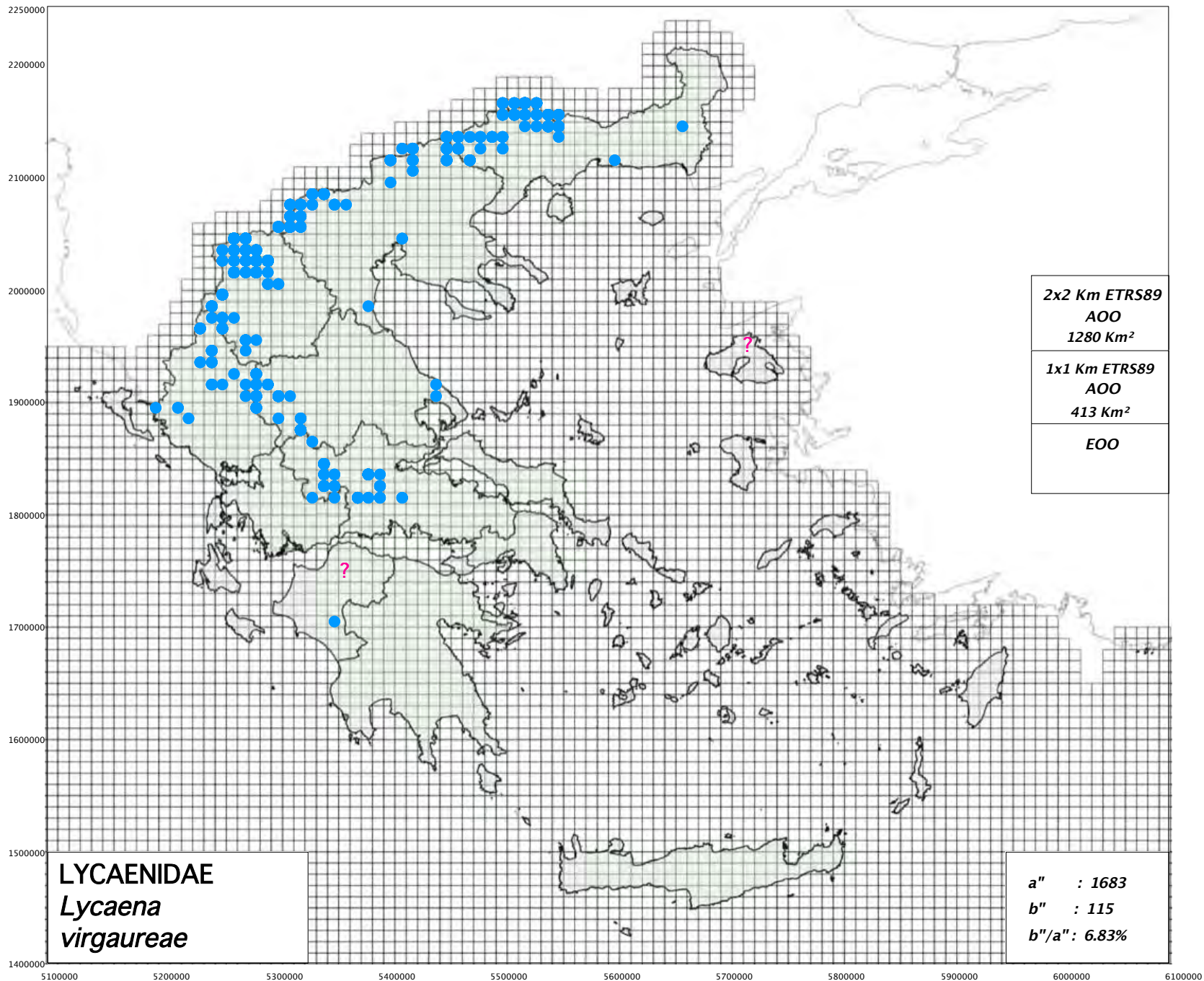
a'' : 1683
b'' : 15
b''/a'' : 0.89%

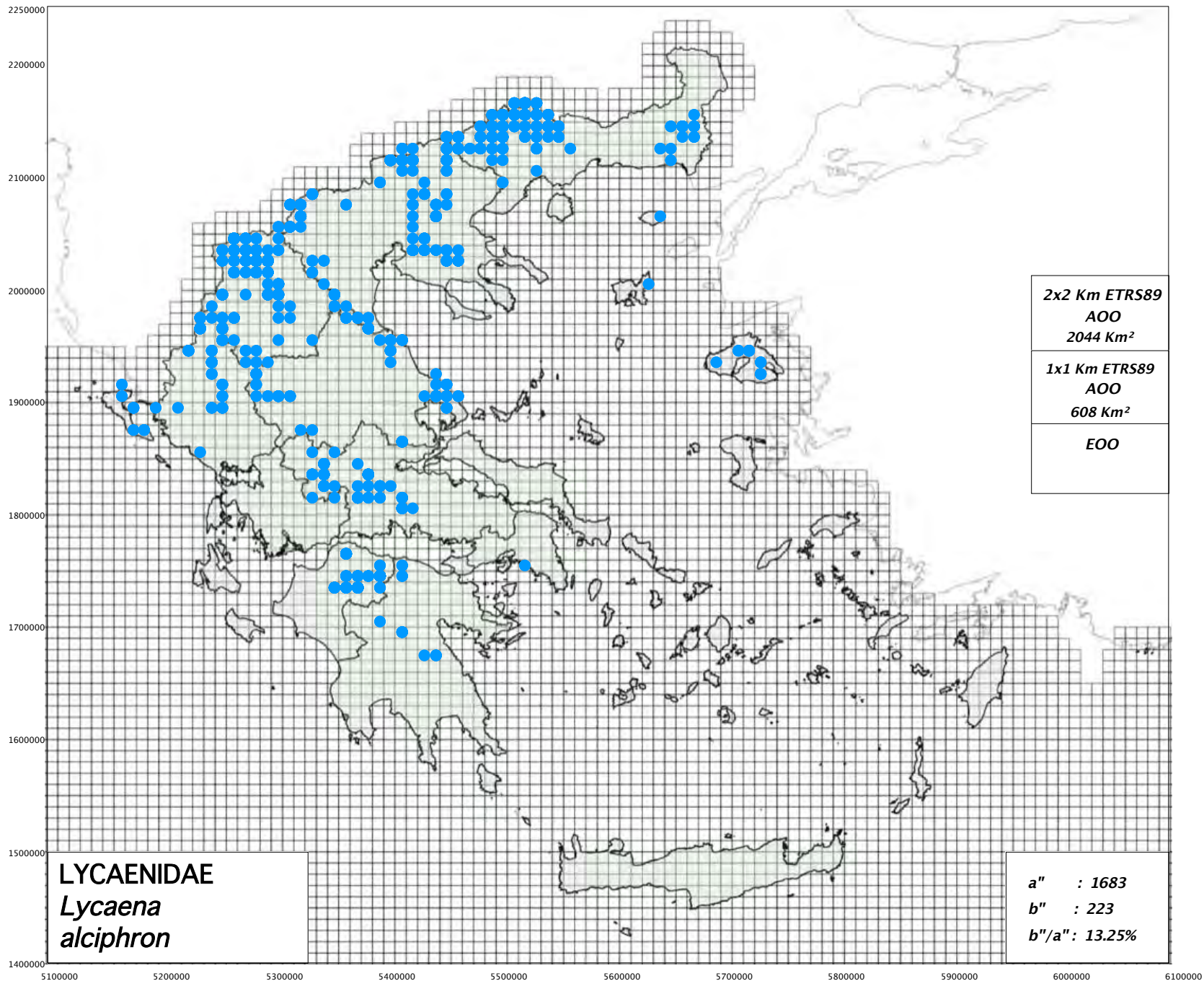


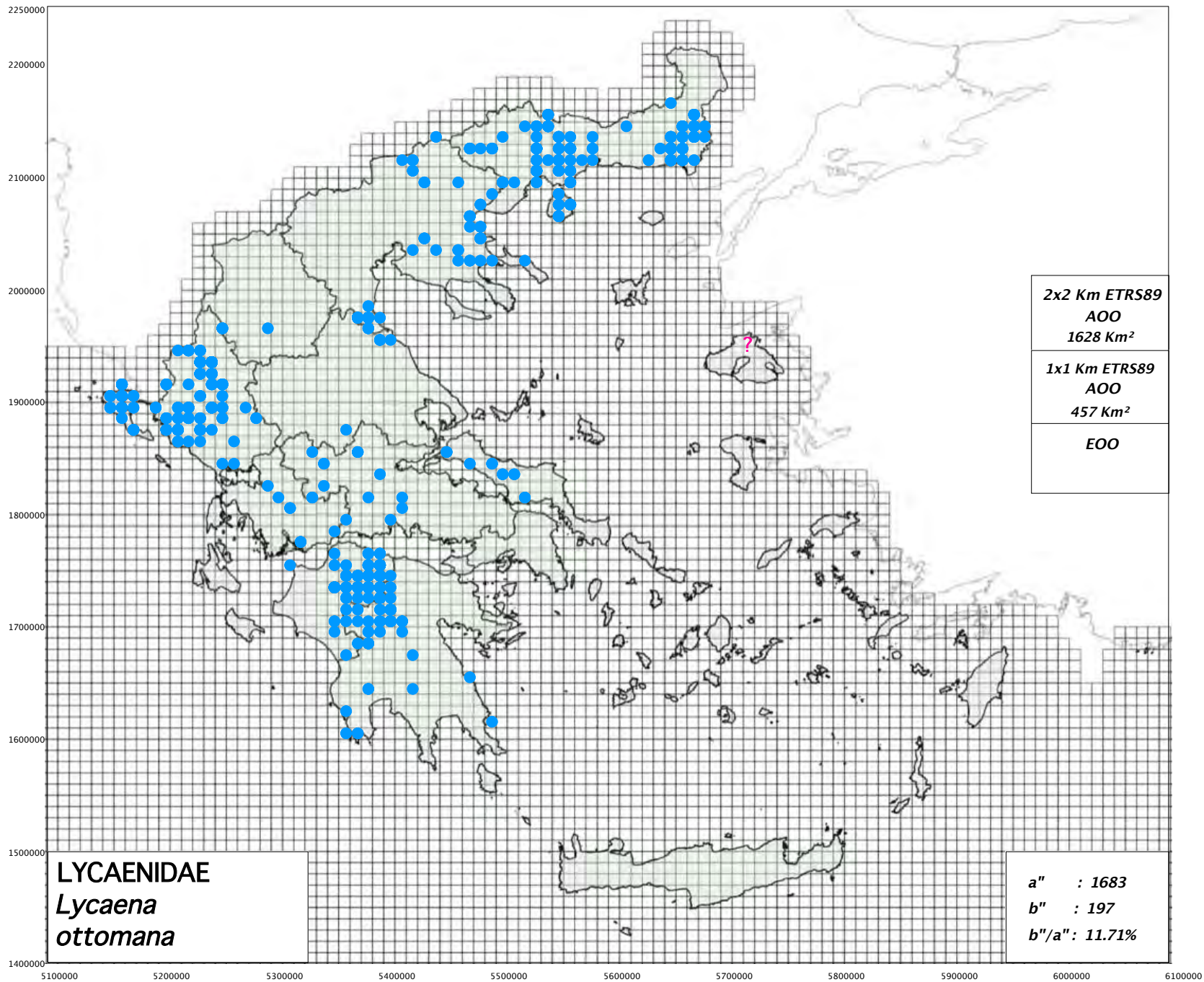


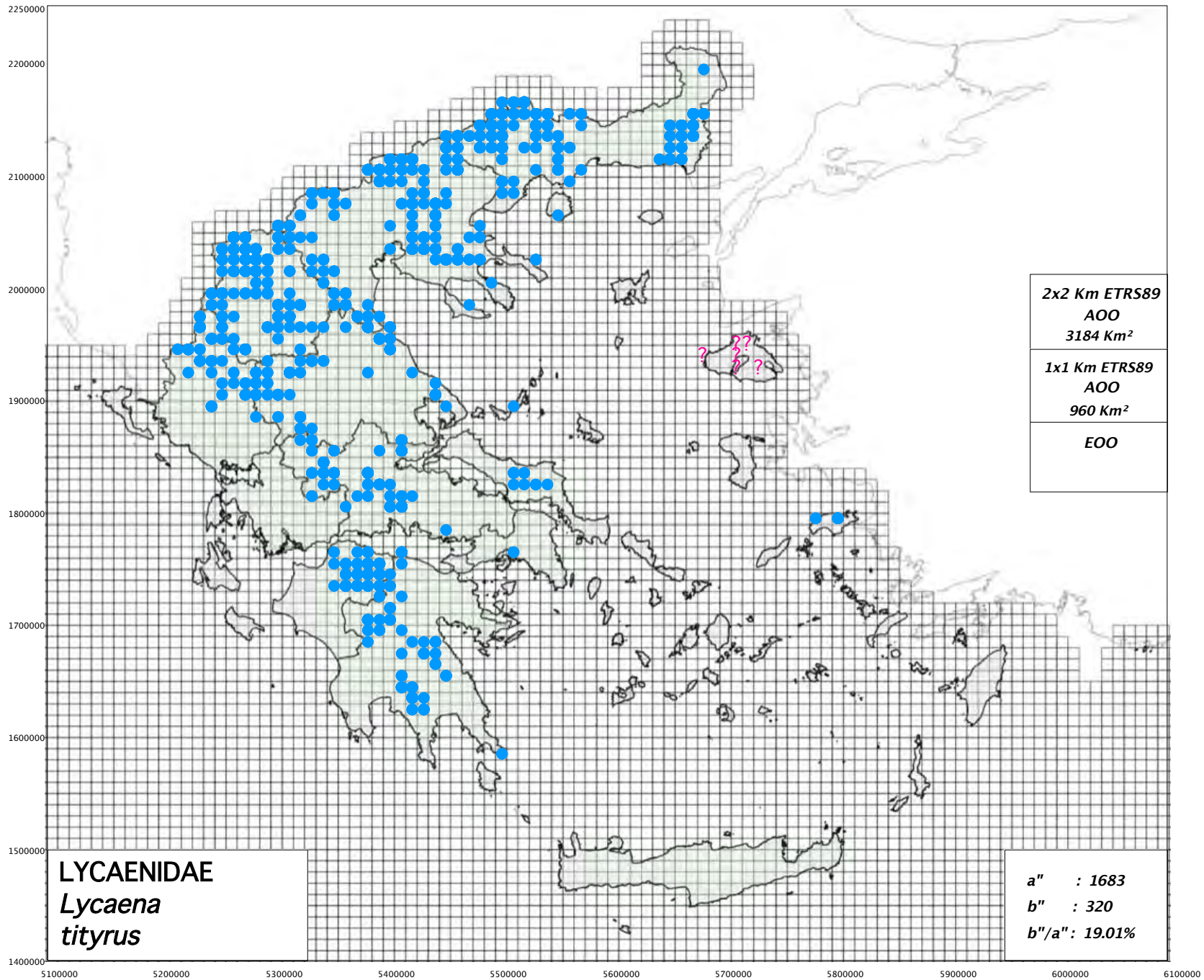


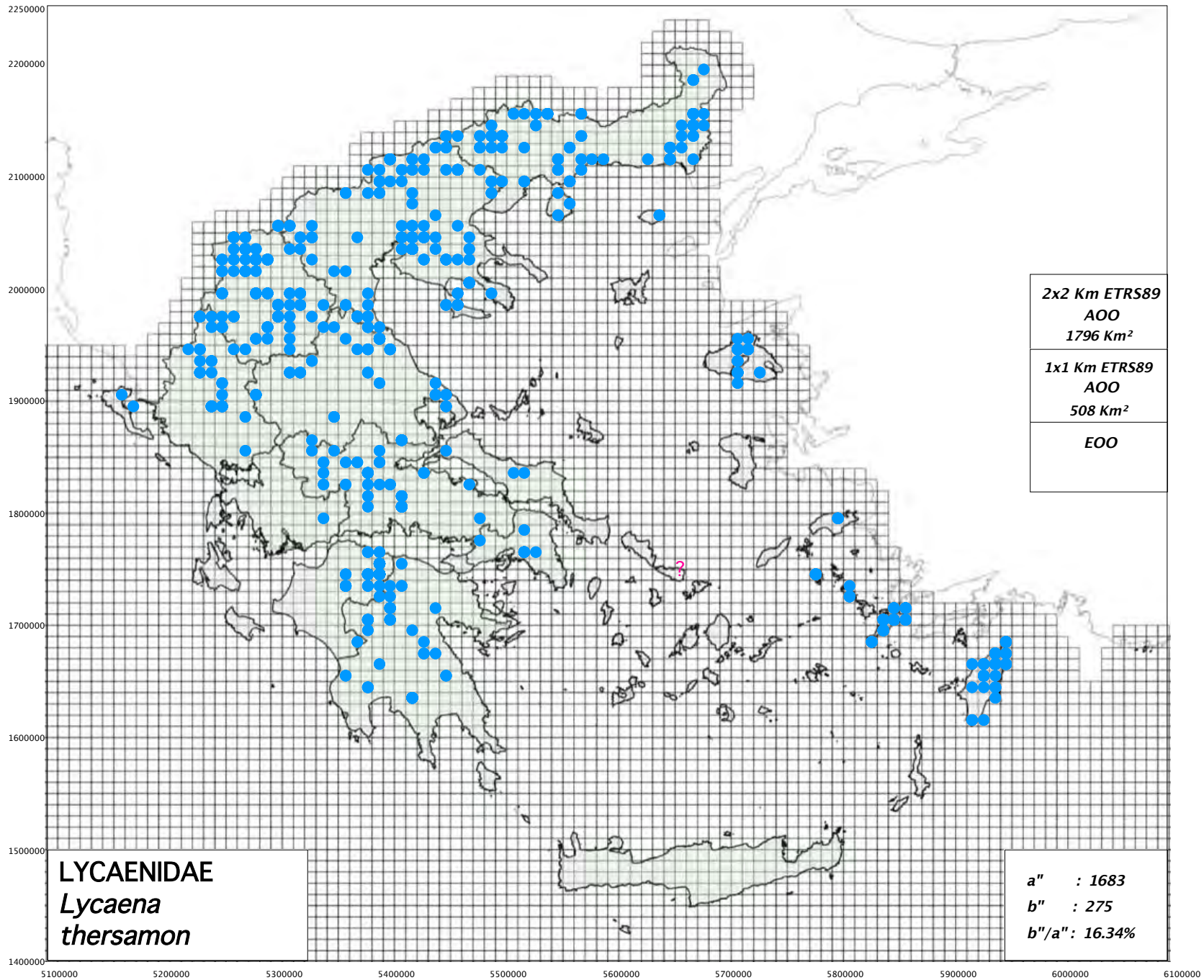


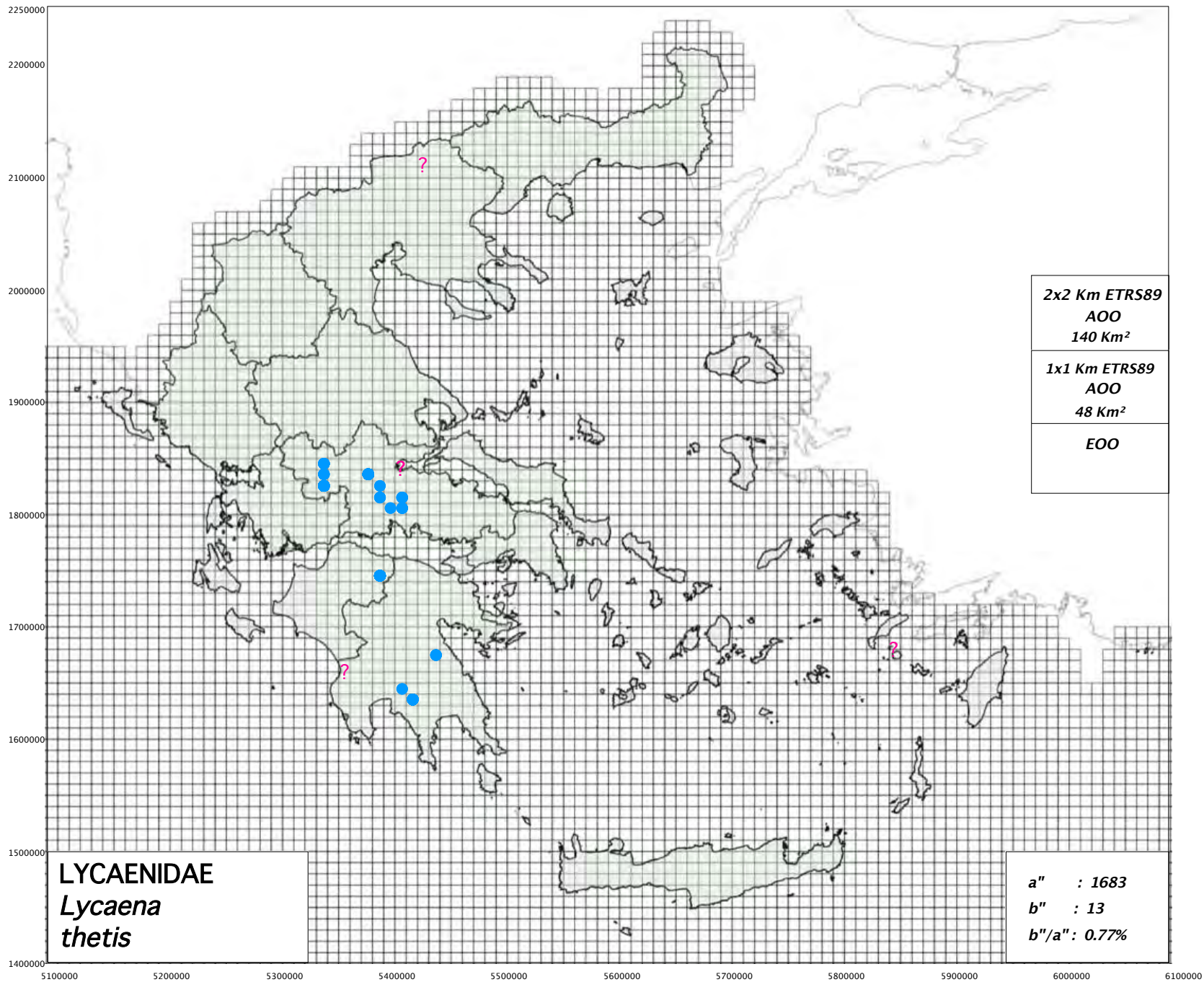


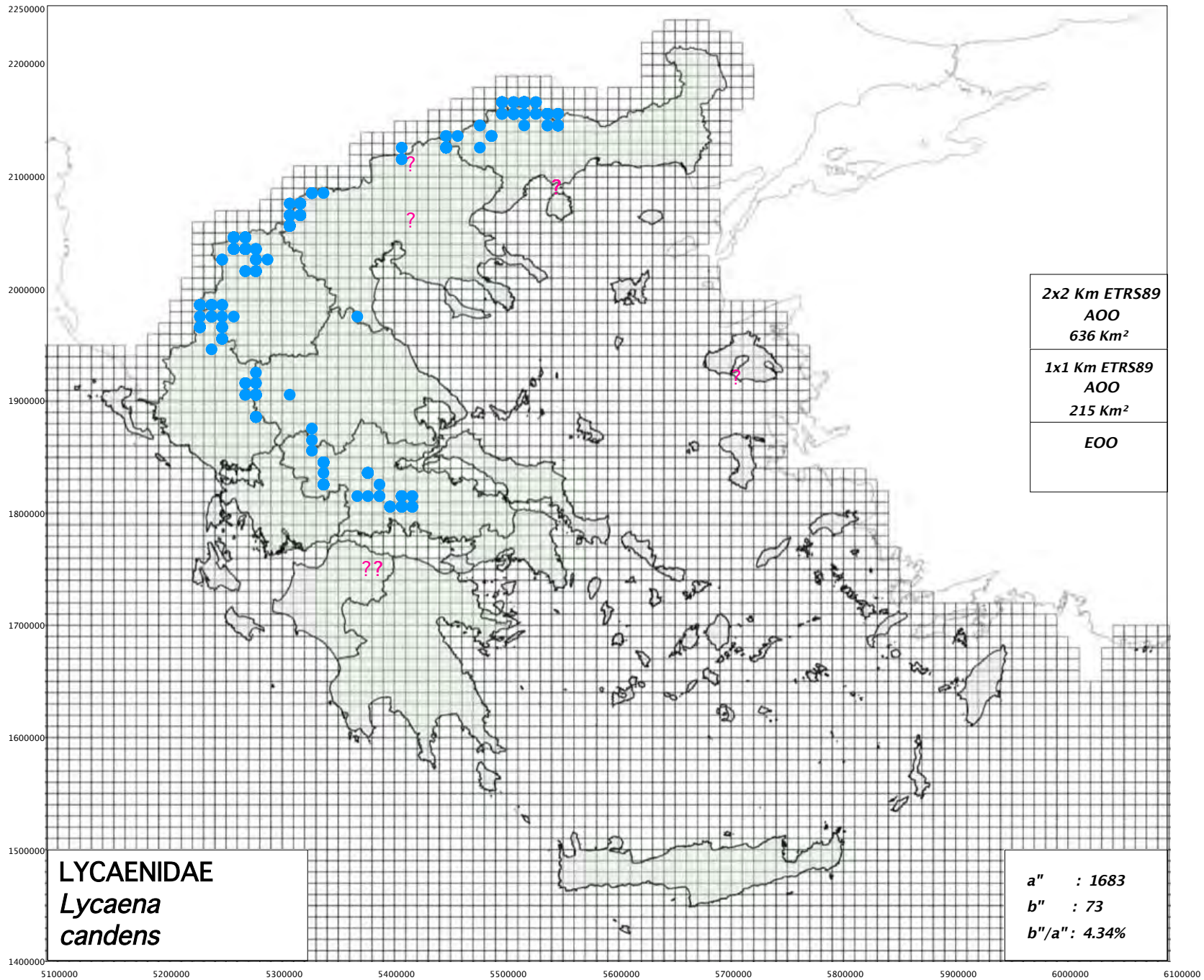


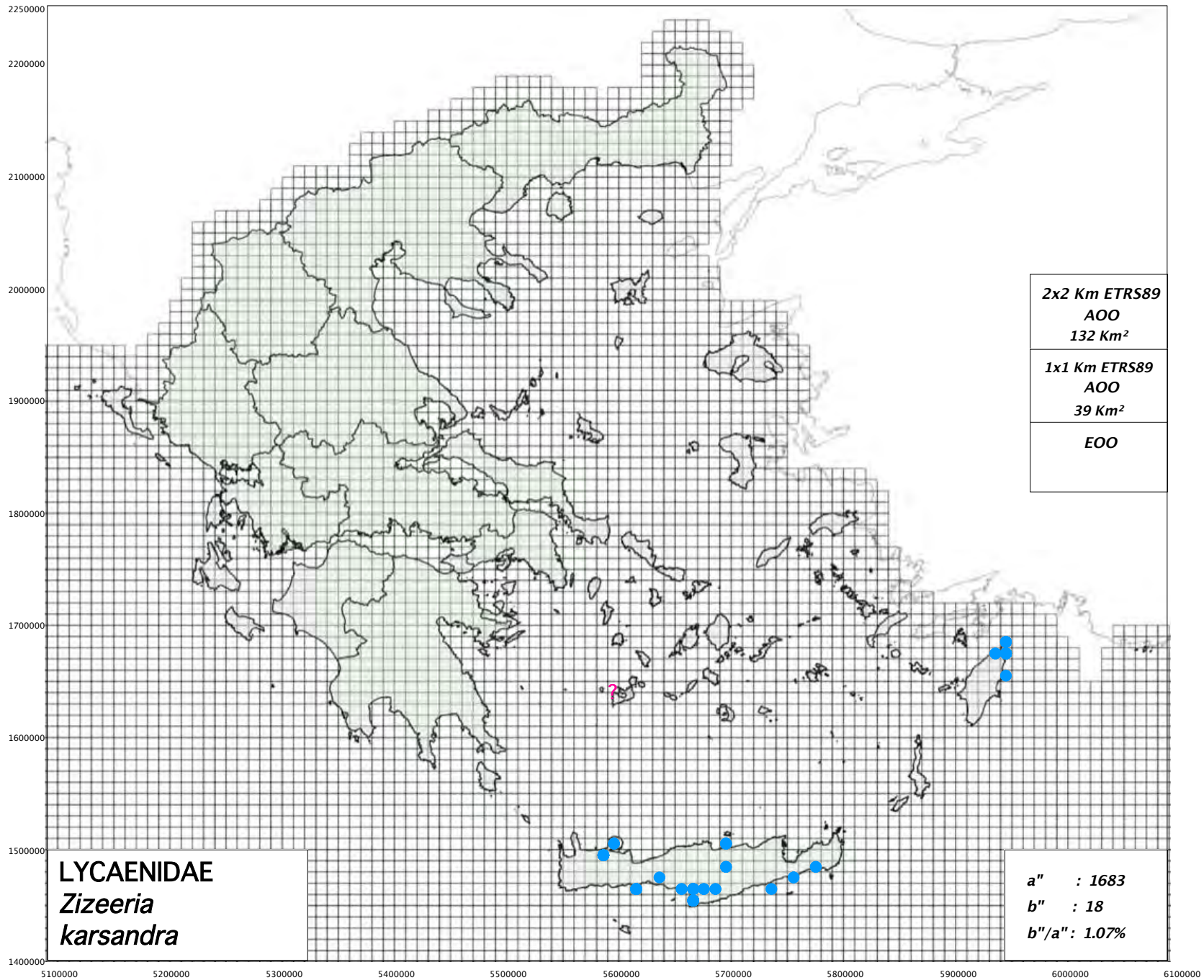


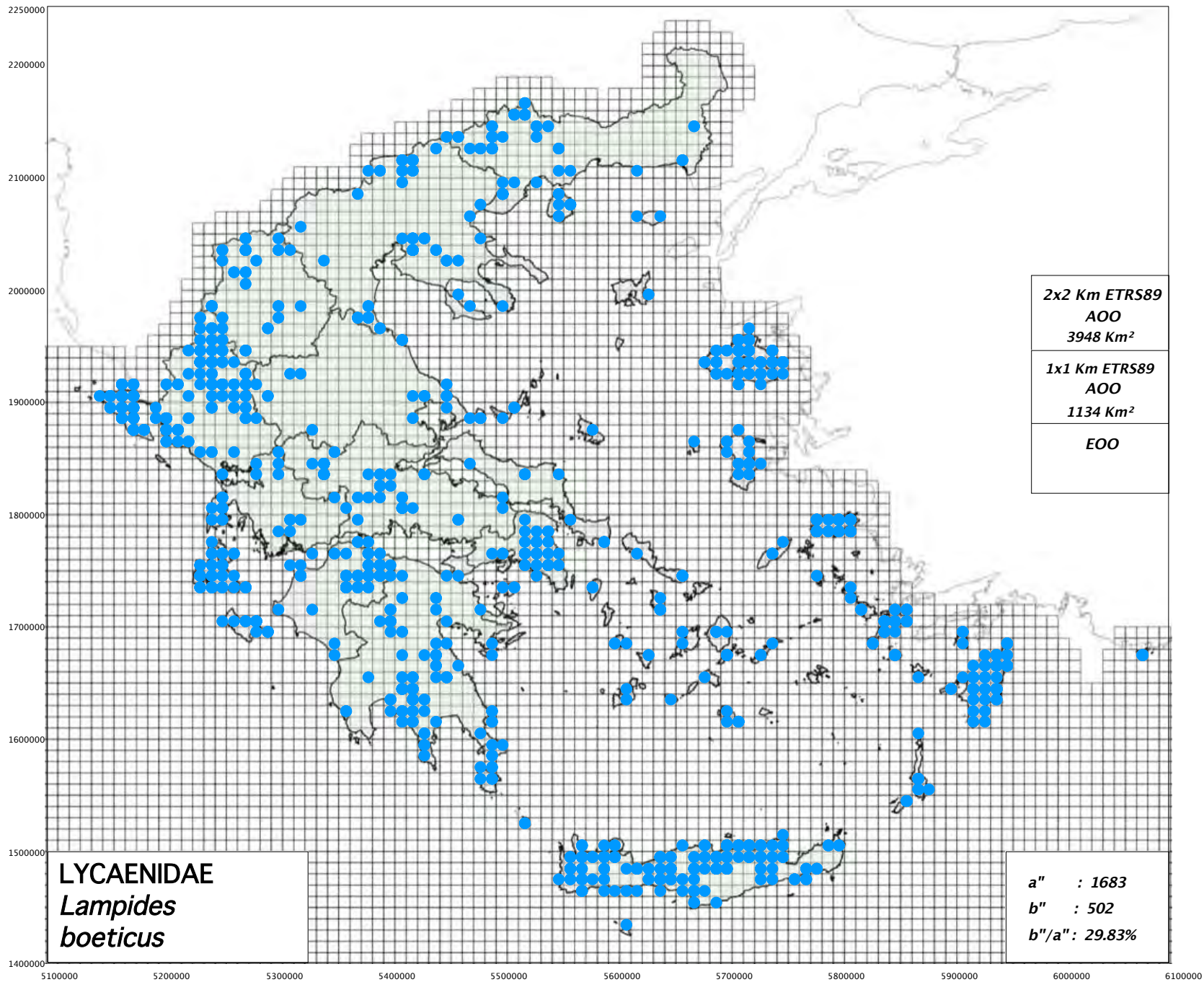


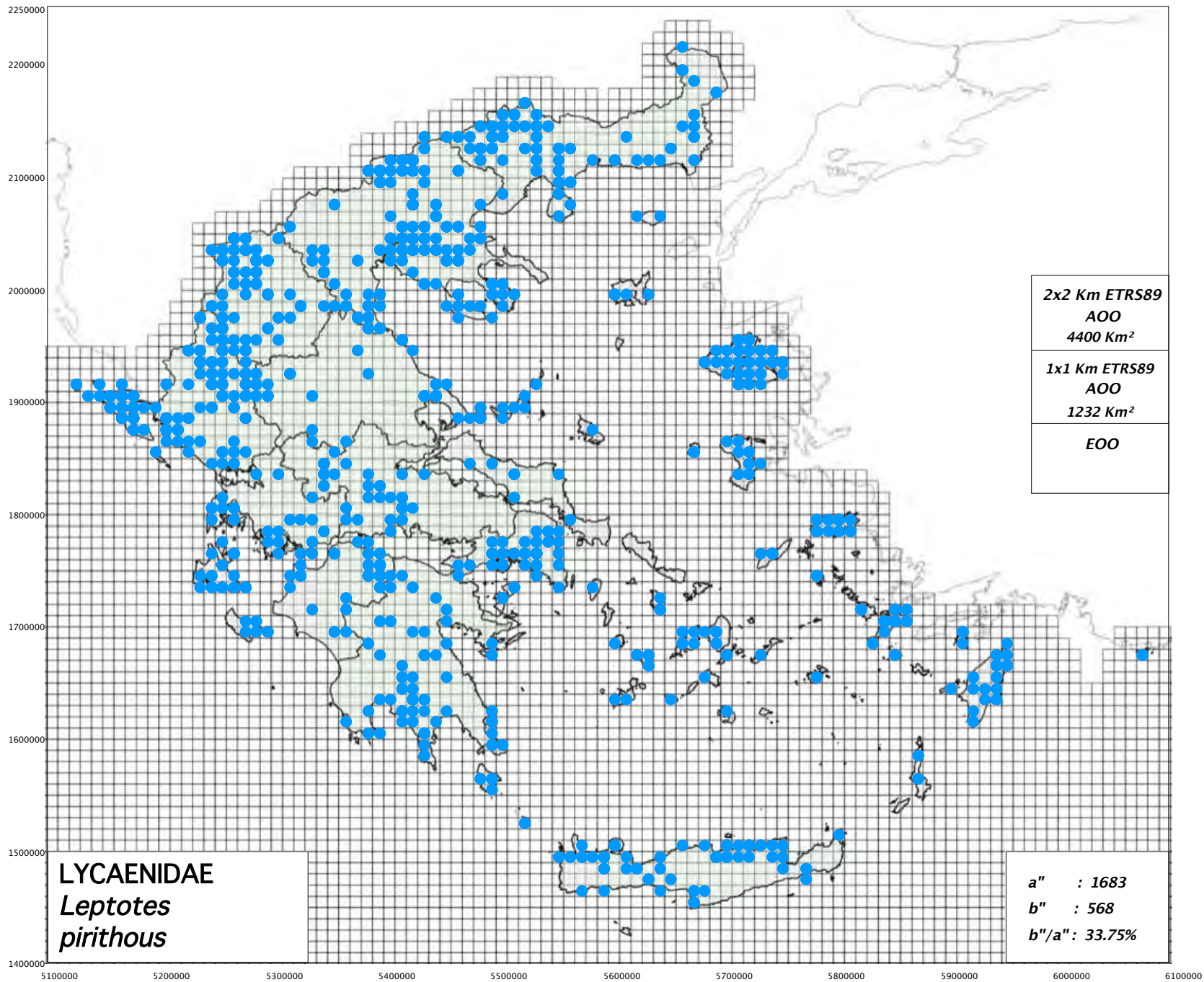


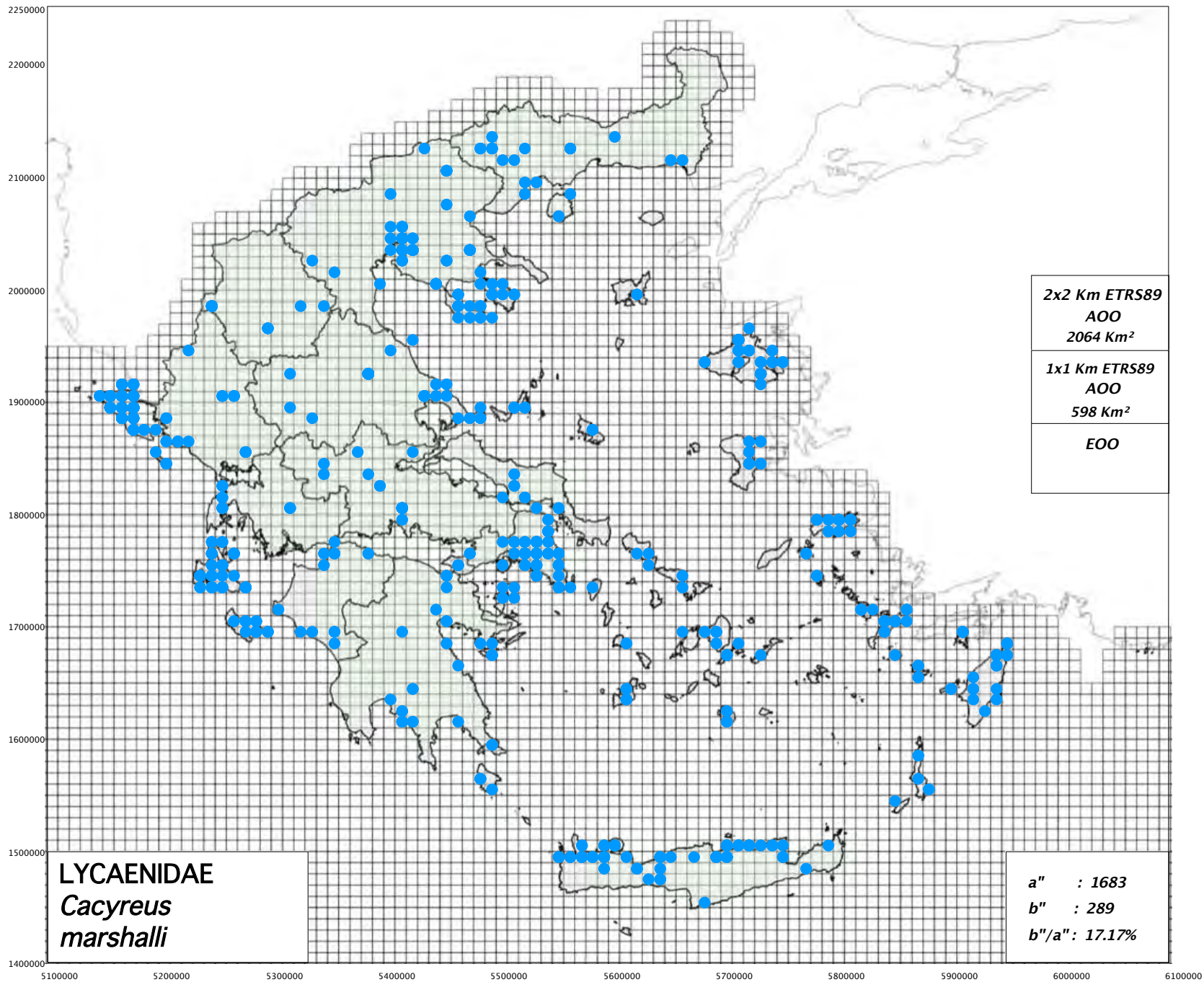


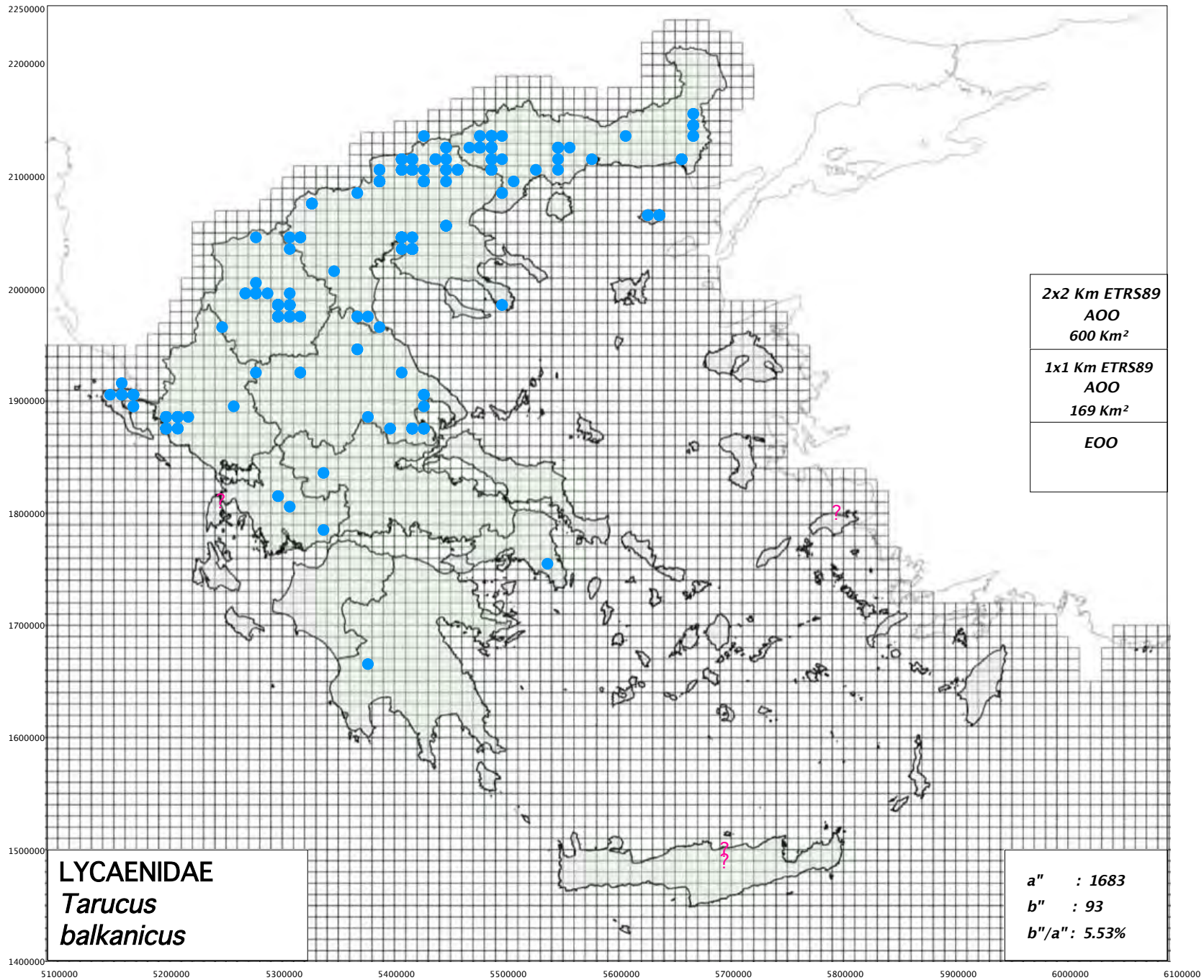


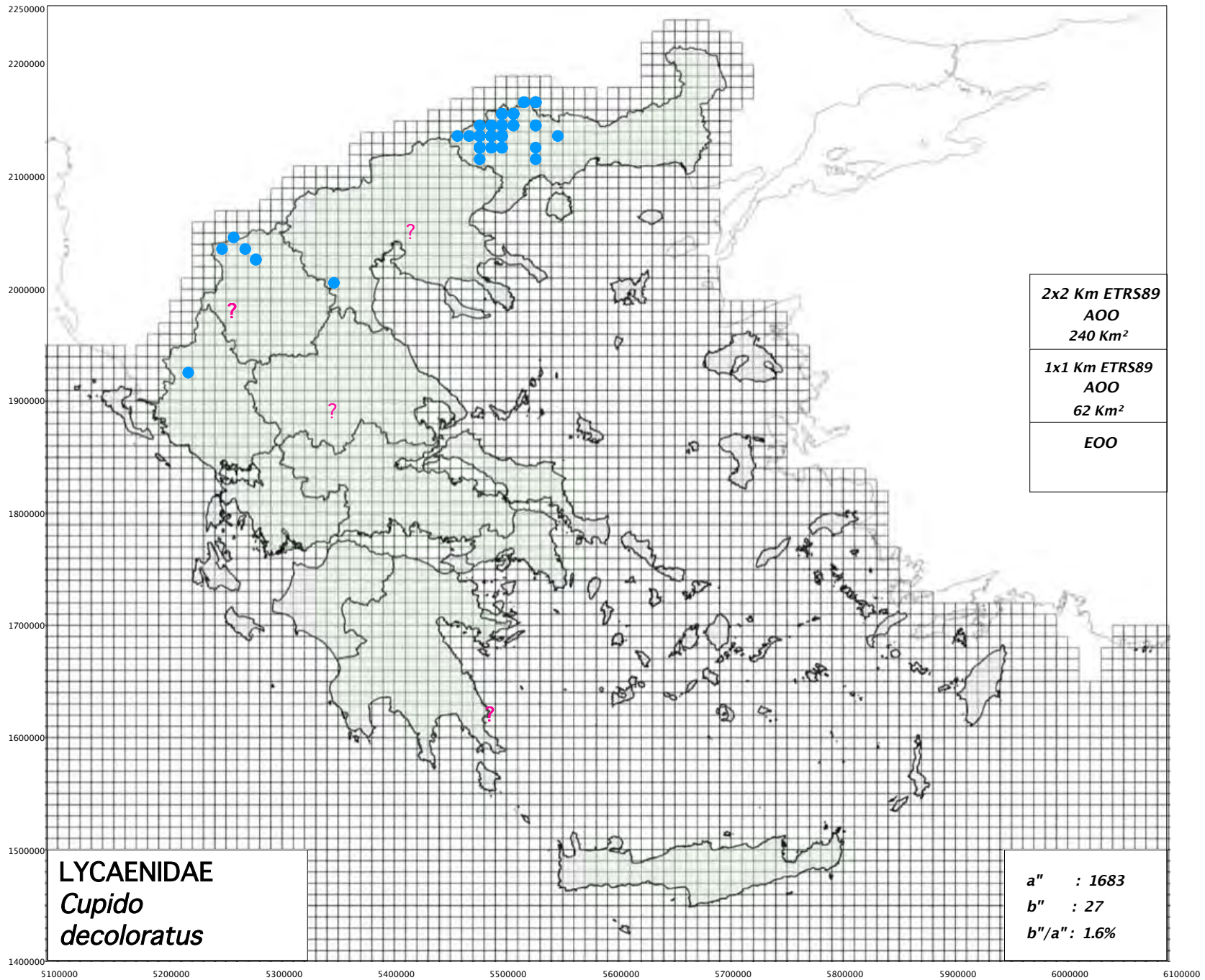


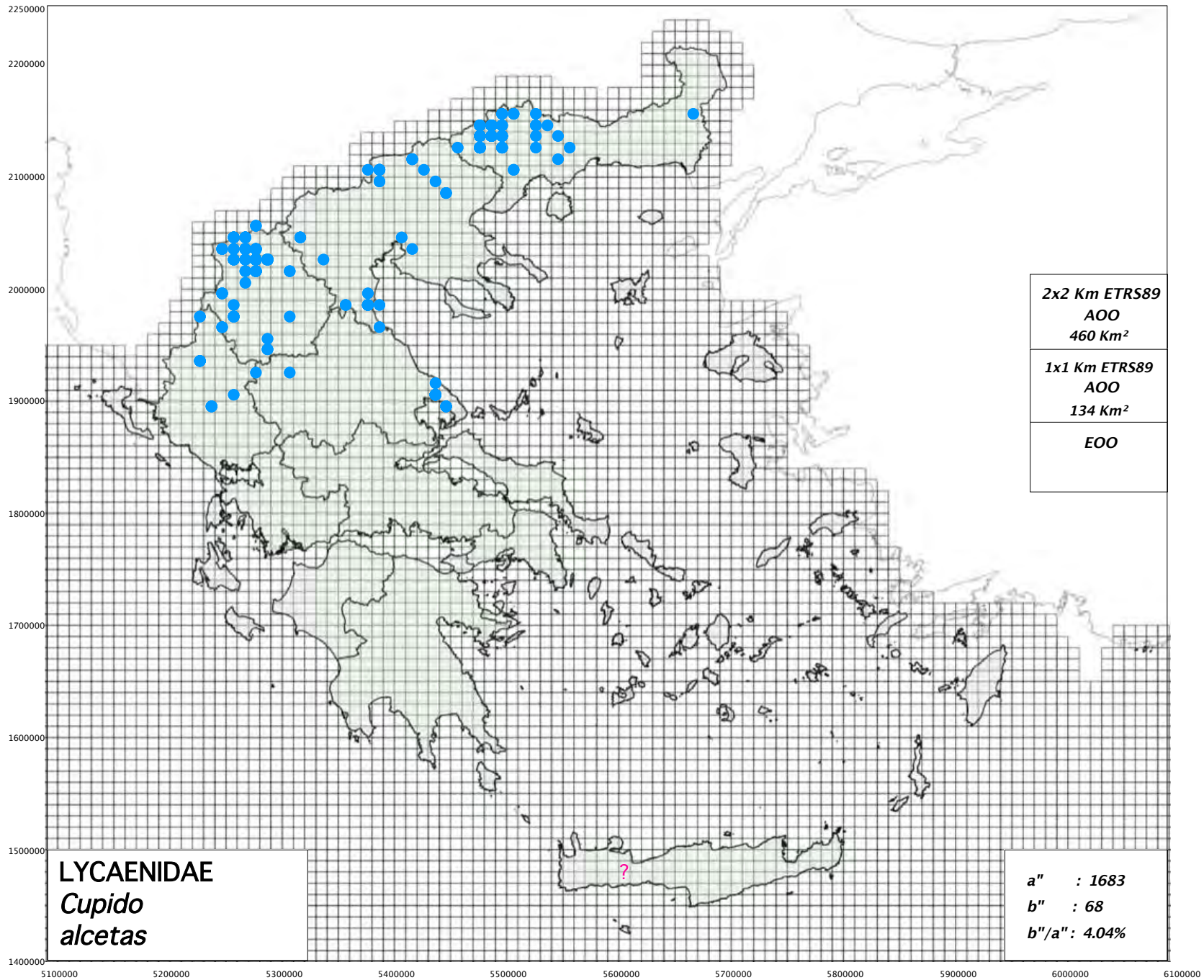


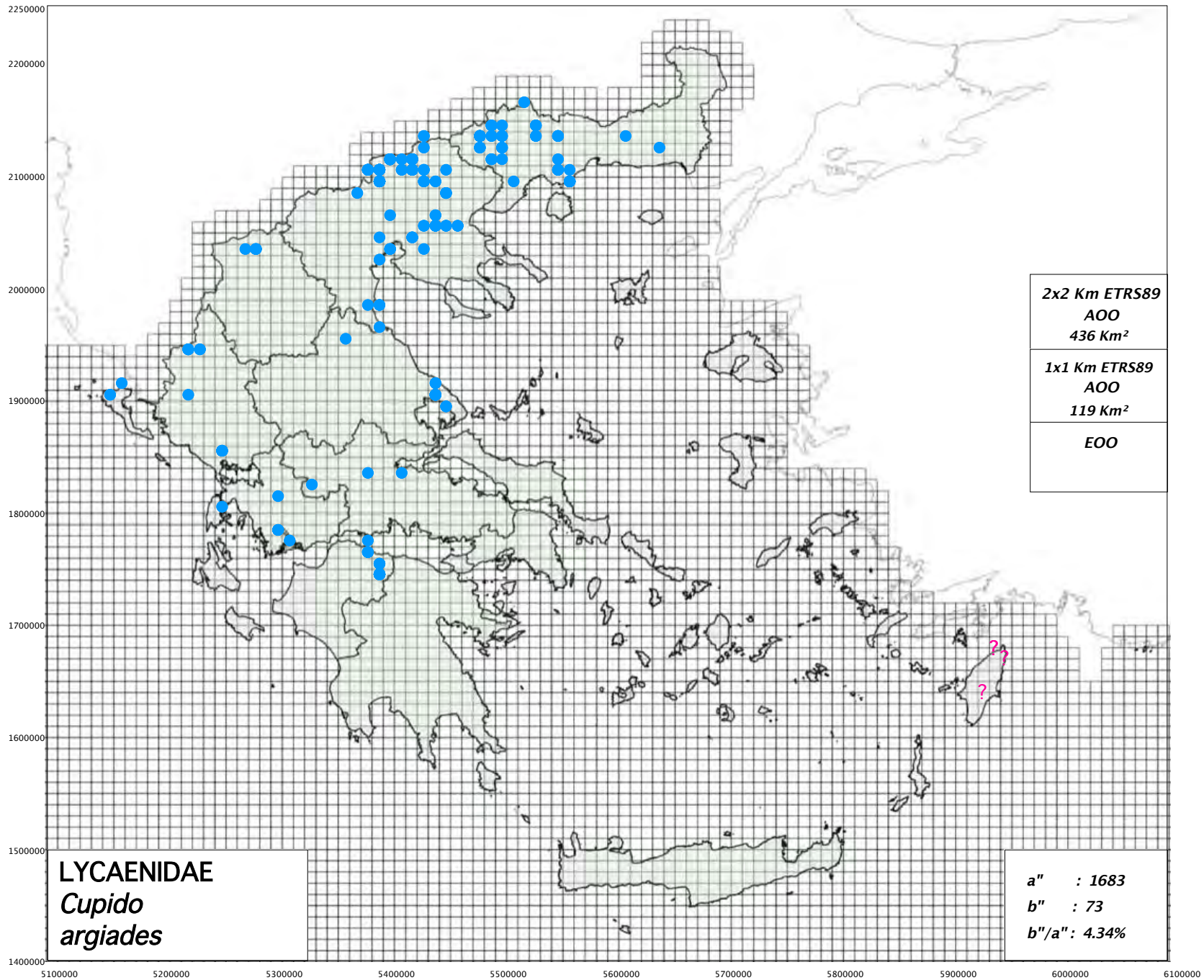


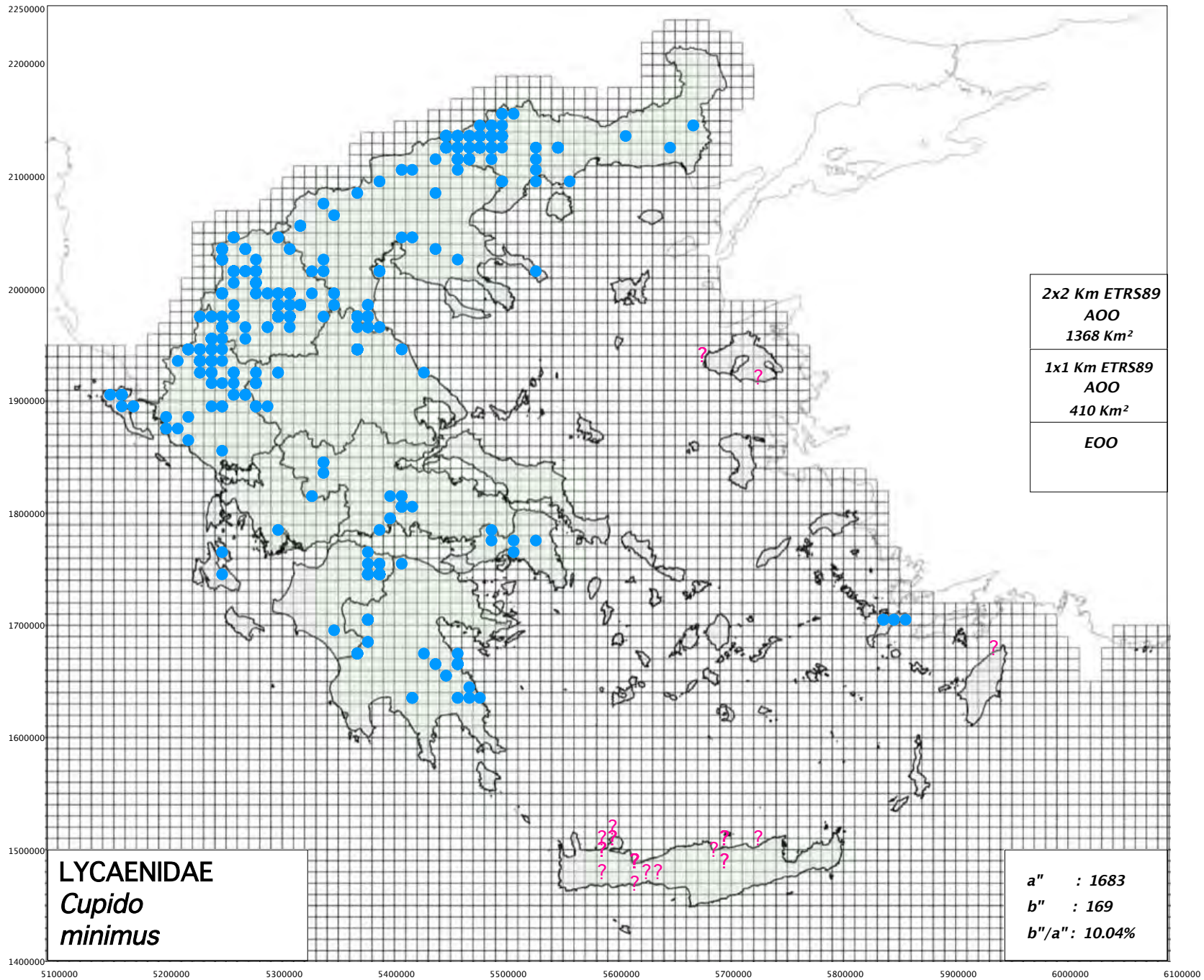


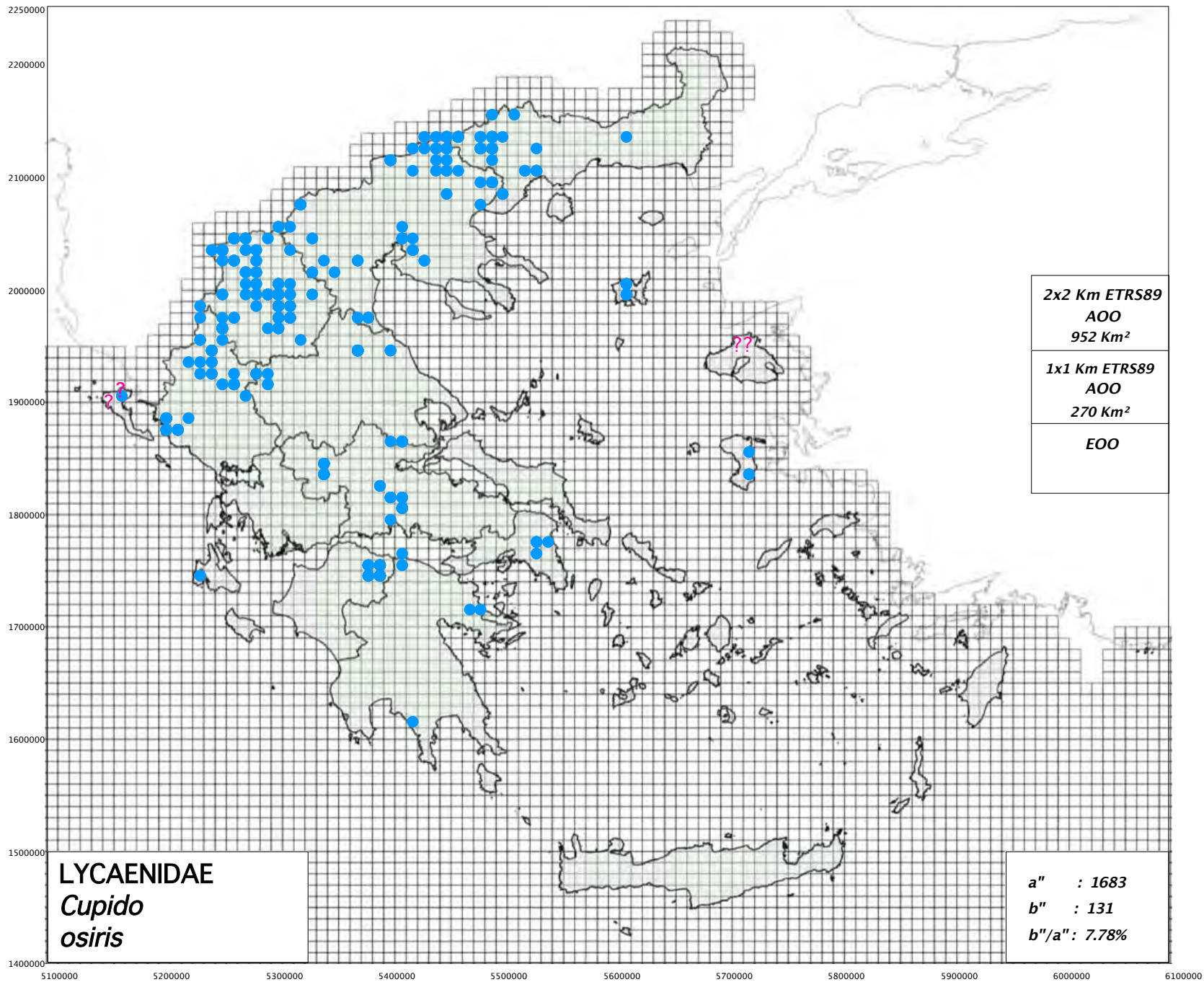


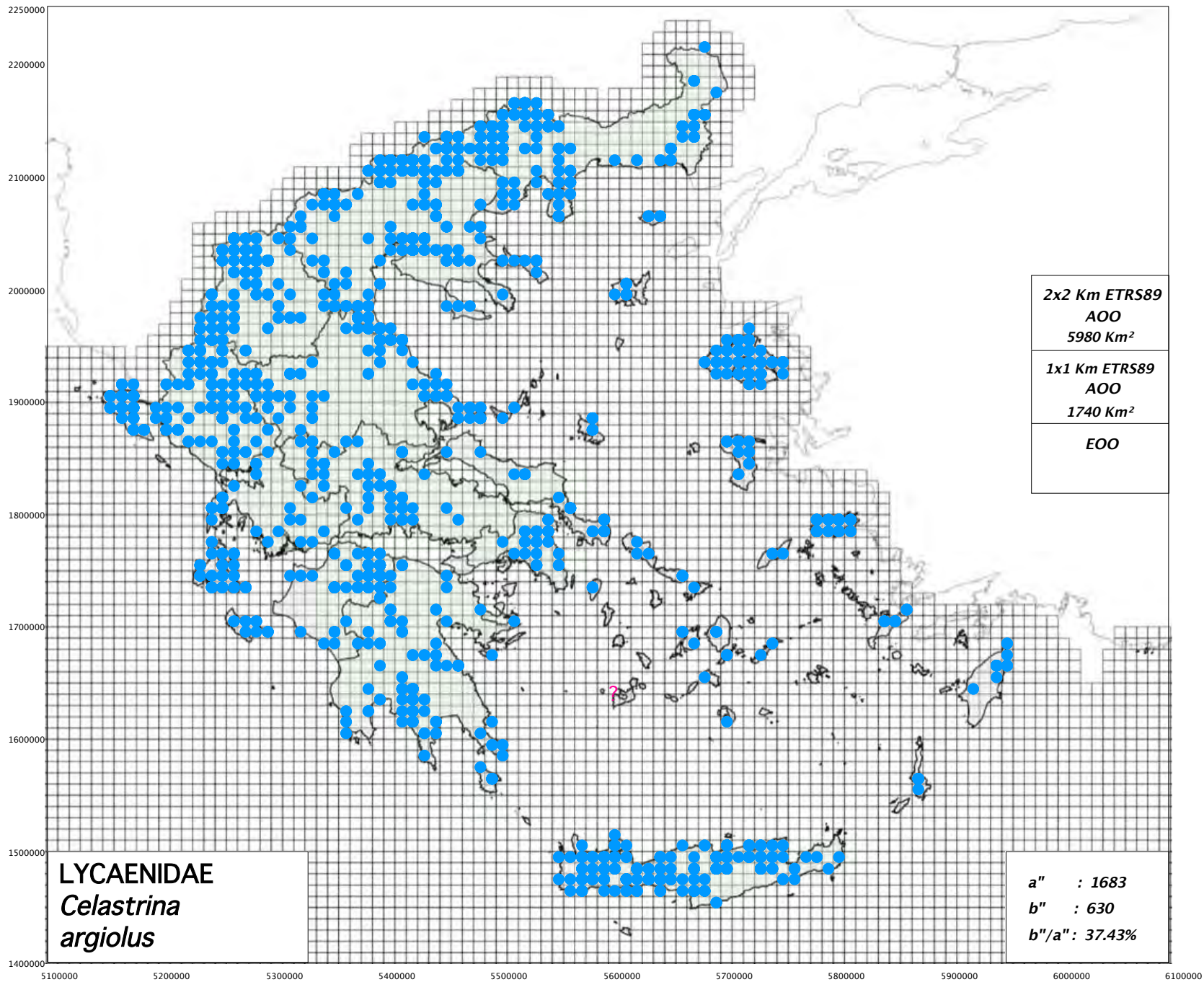


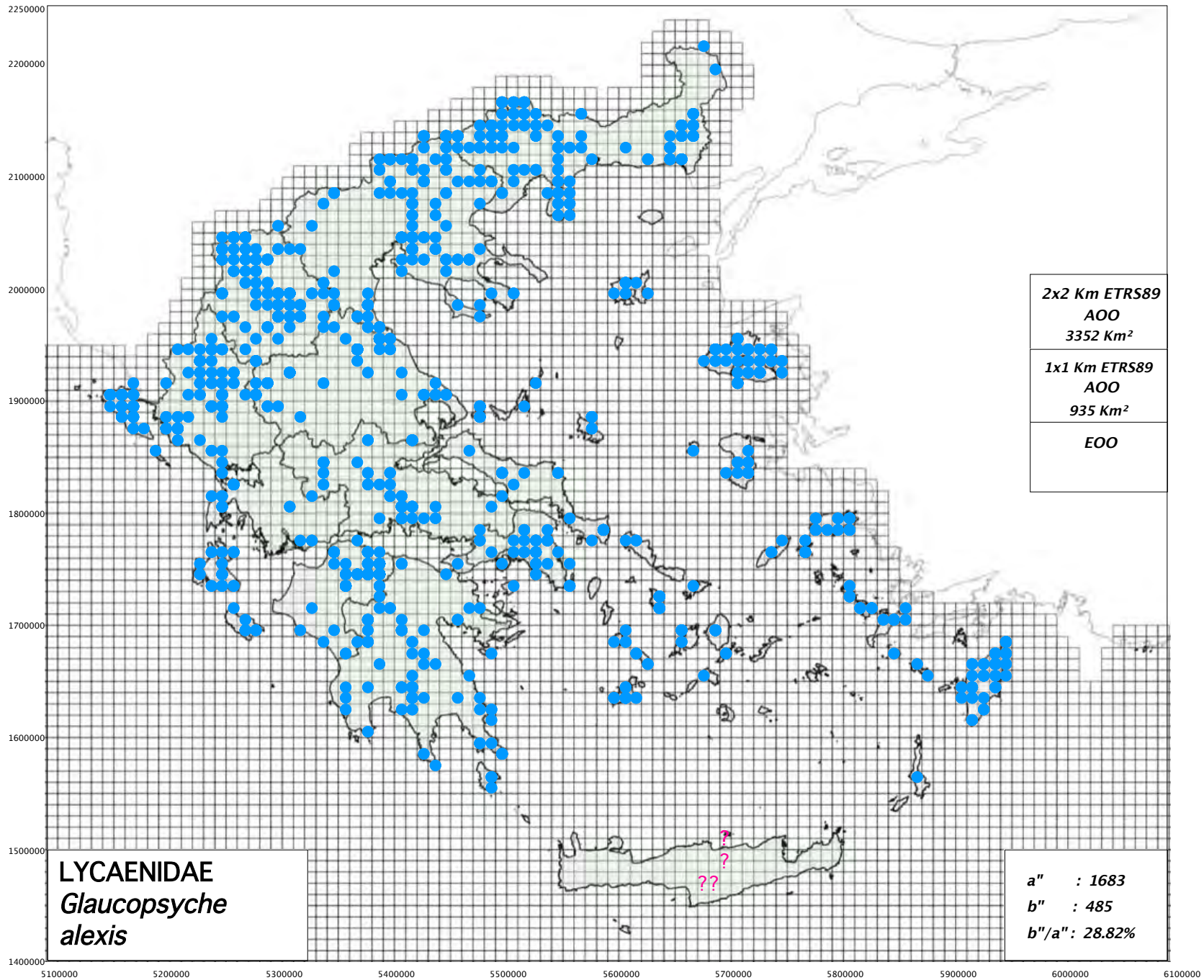


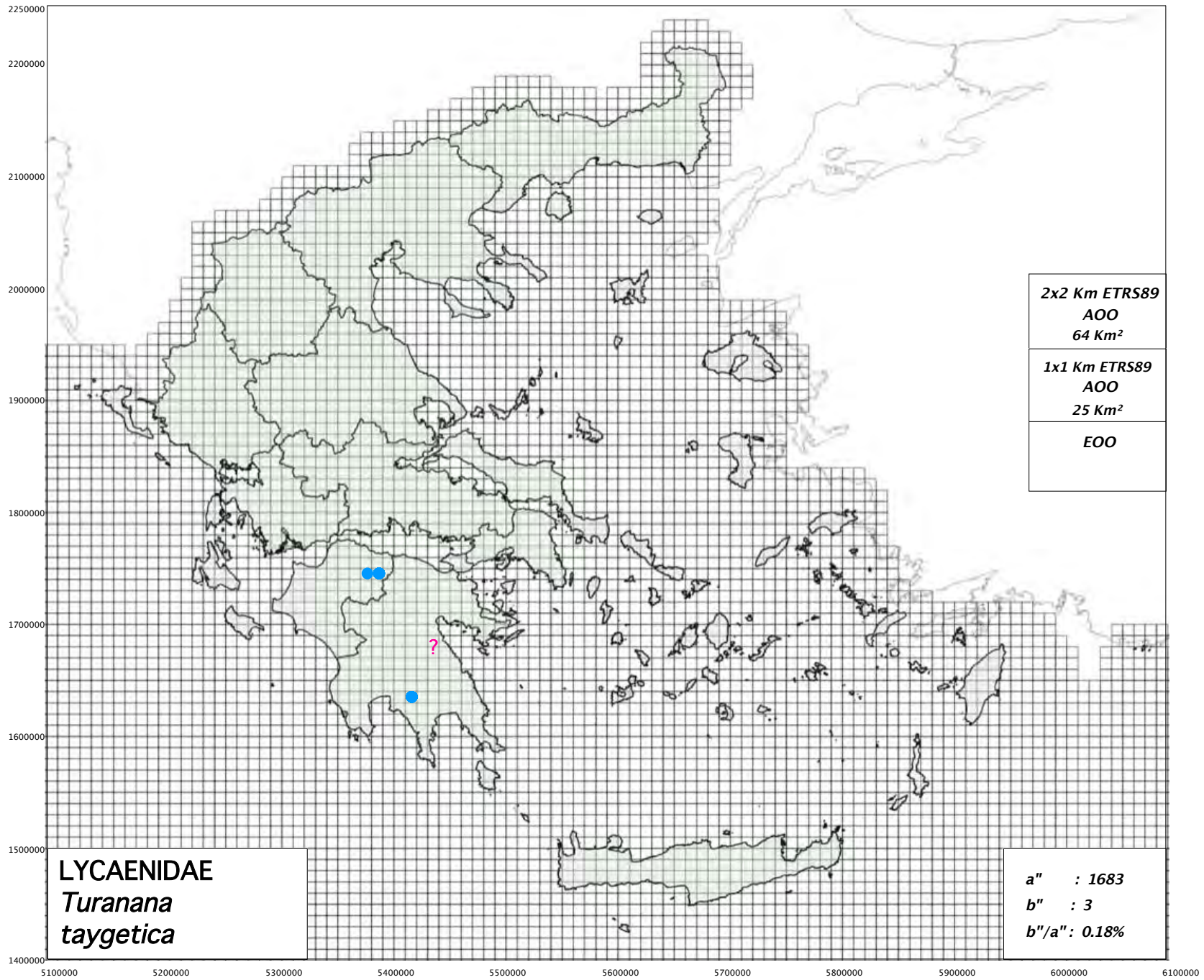


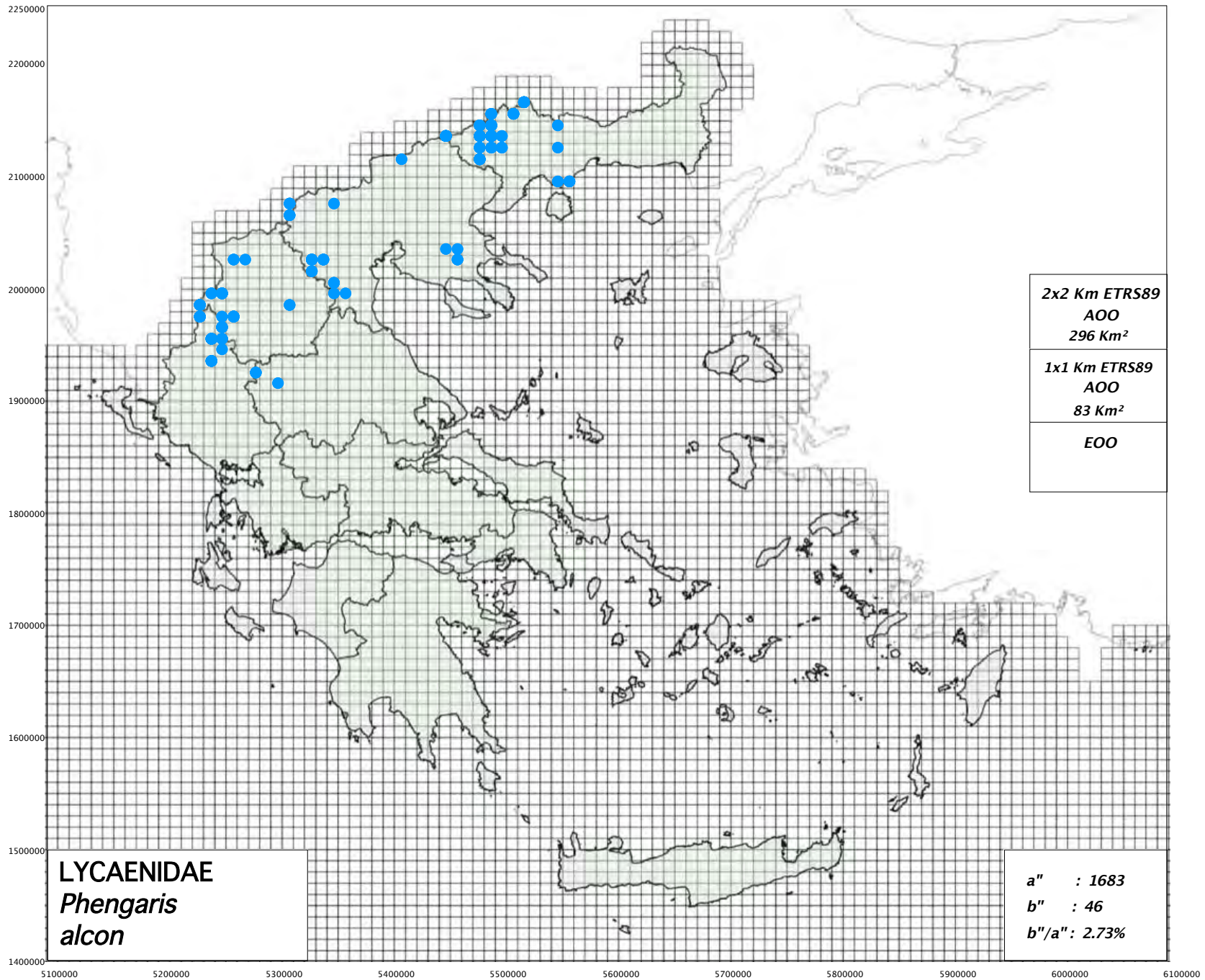


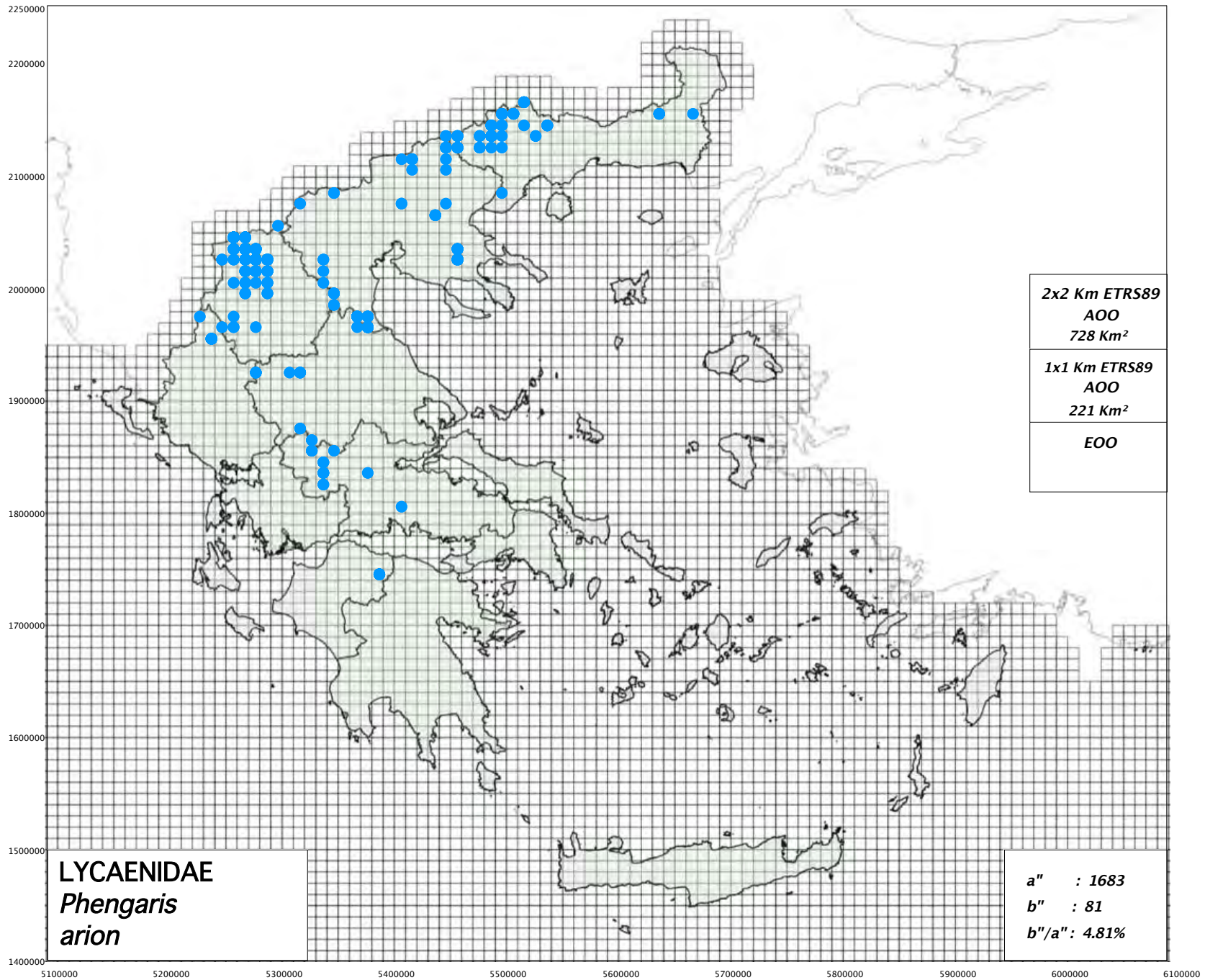


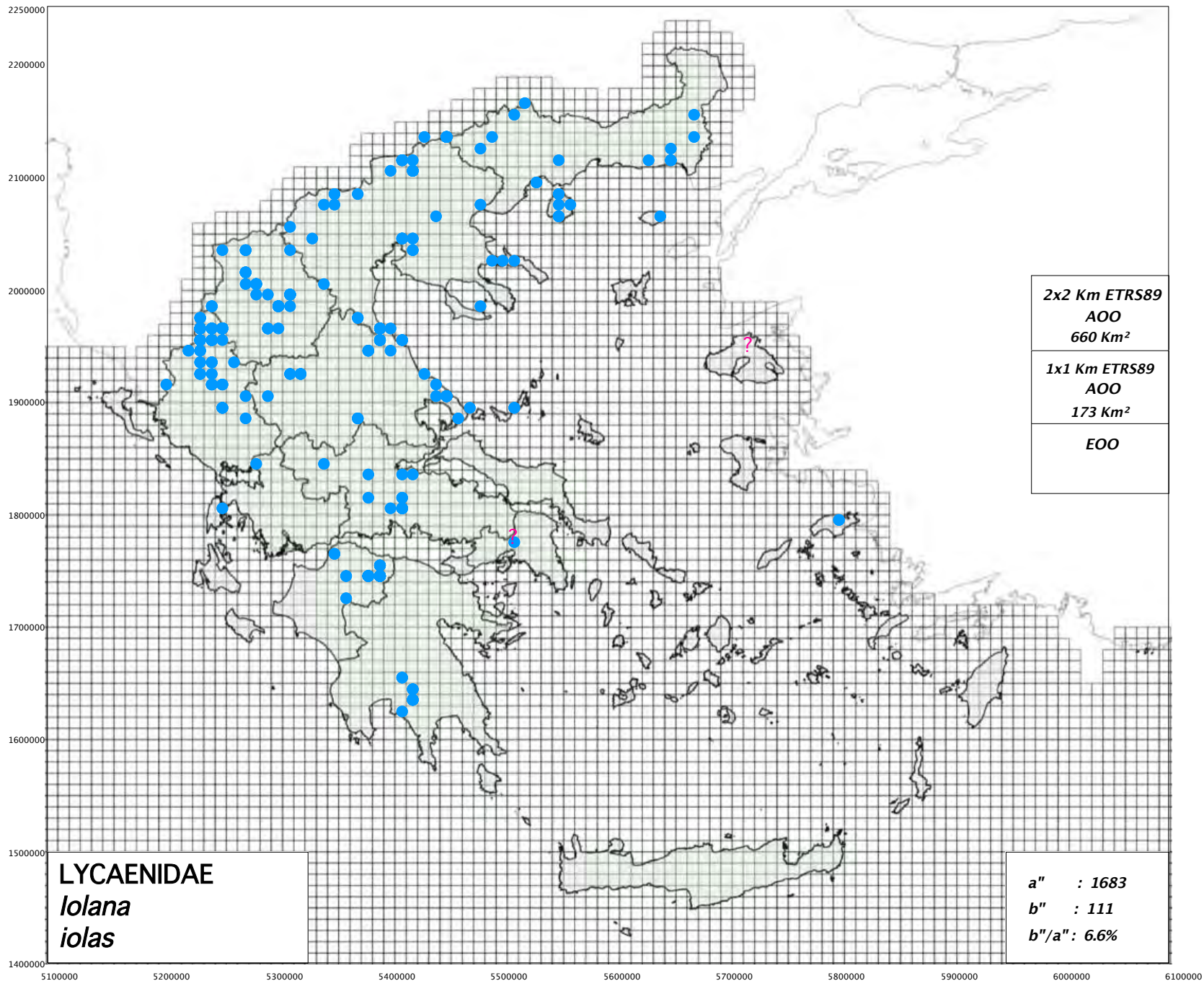


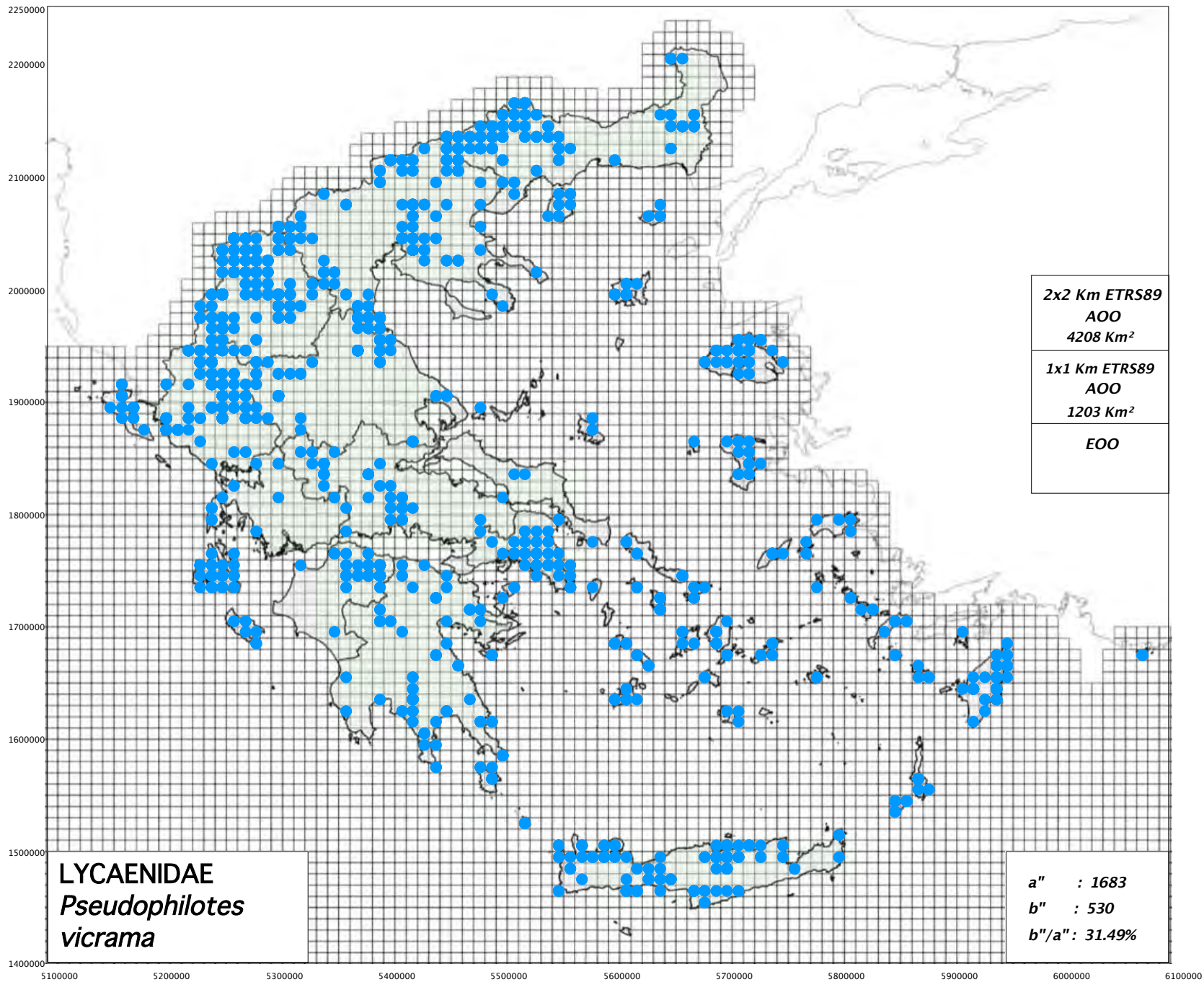


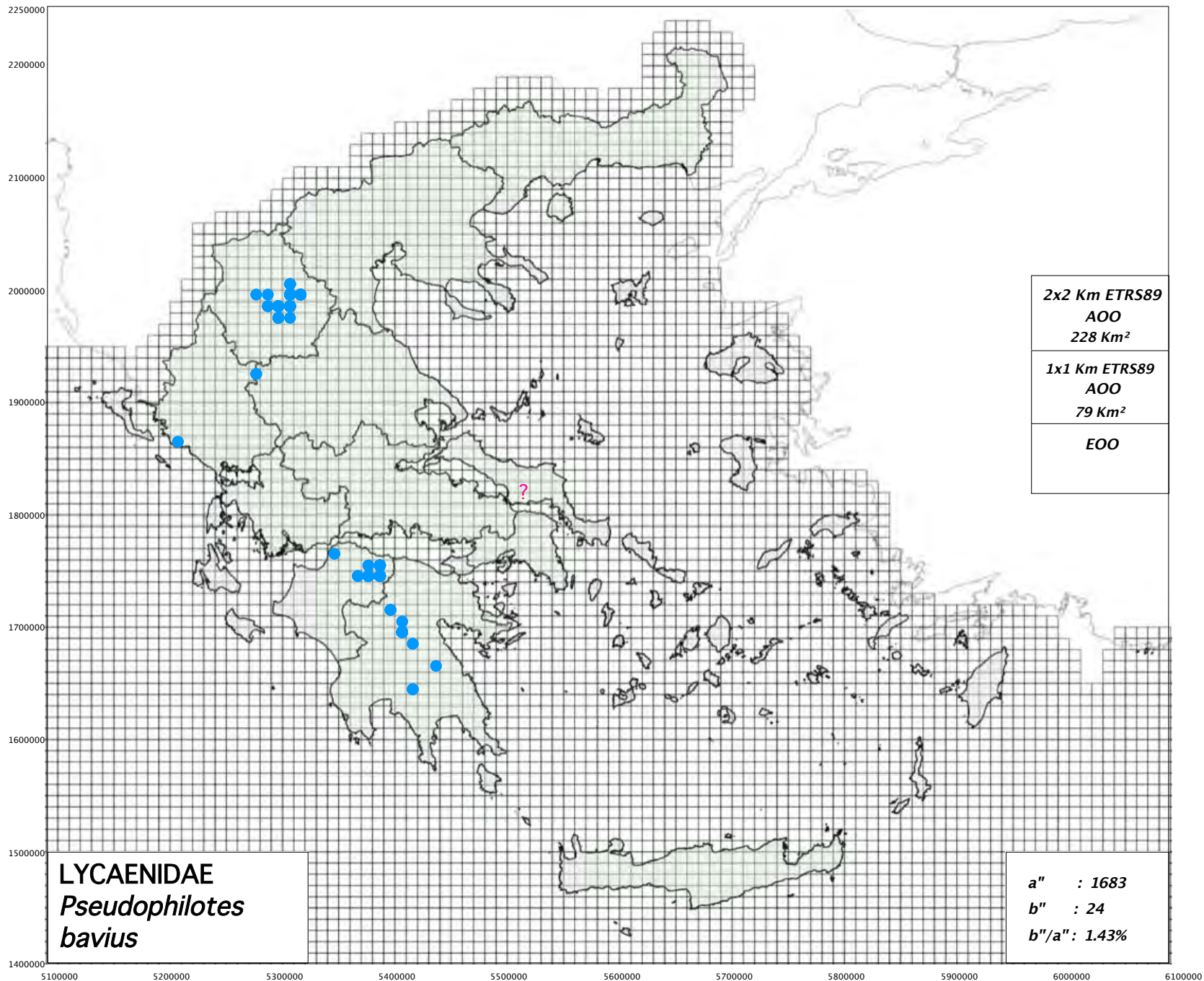


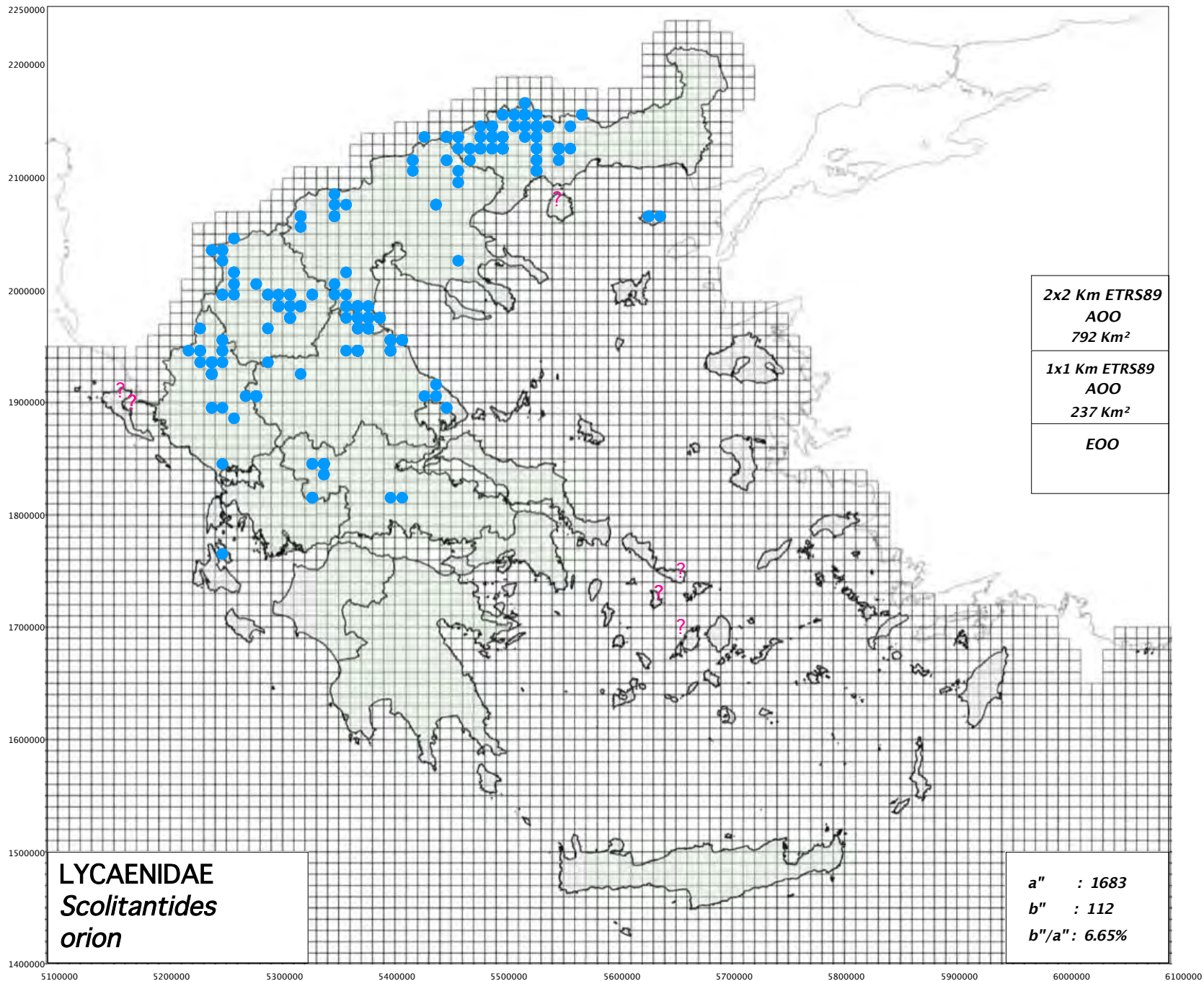


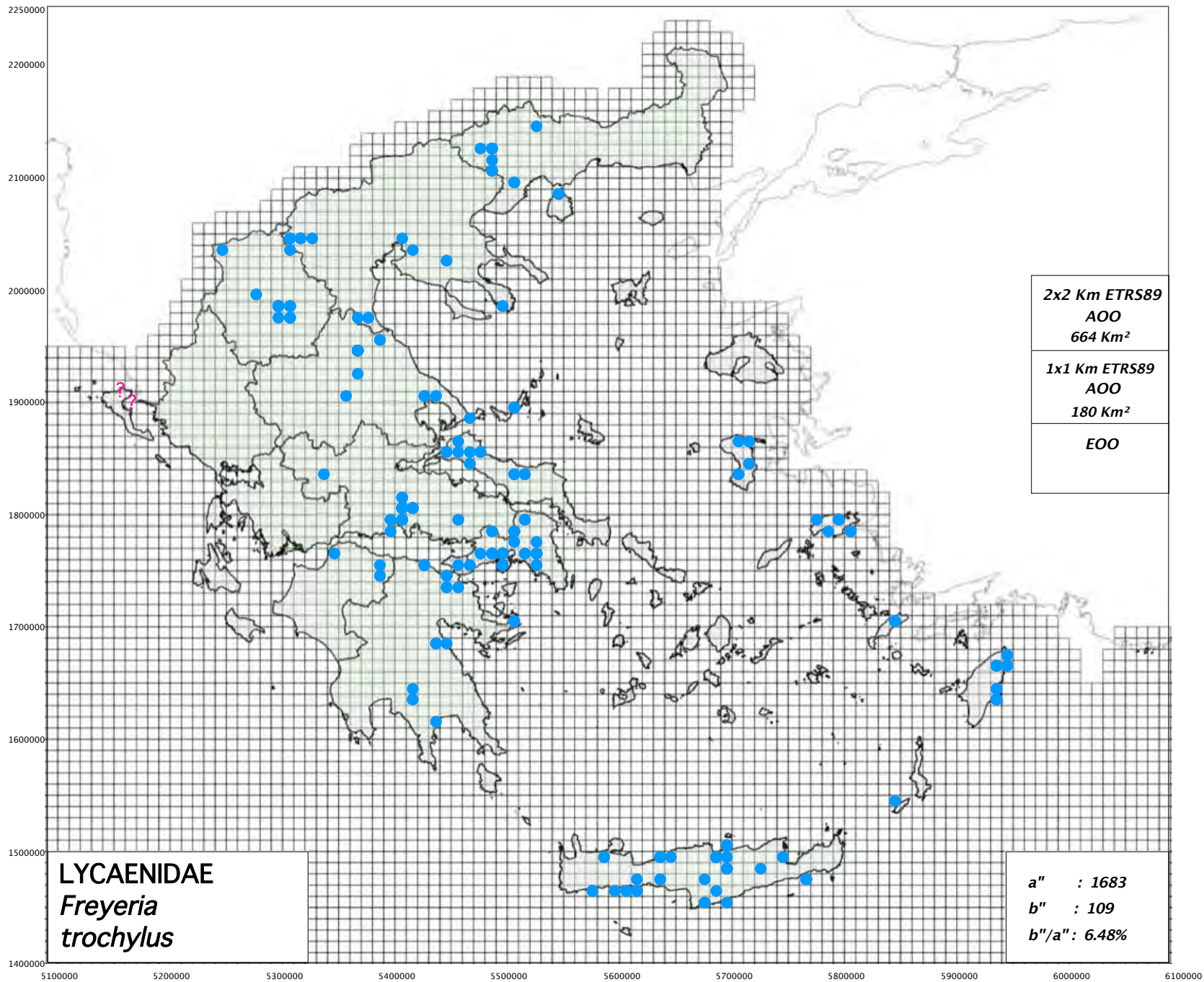


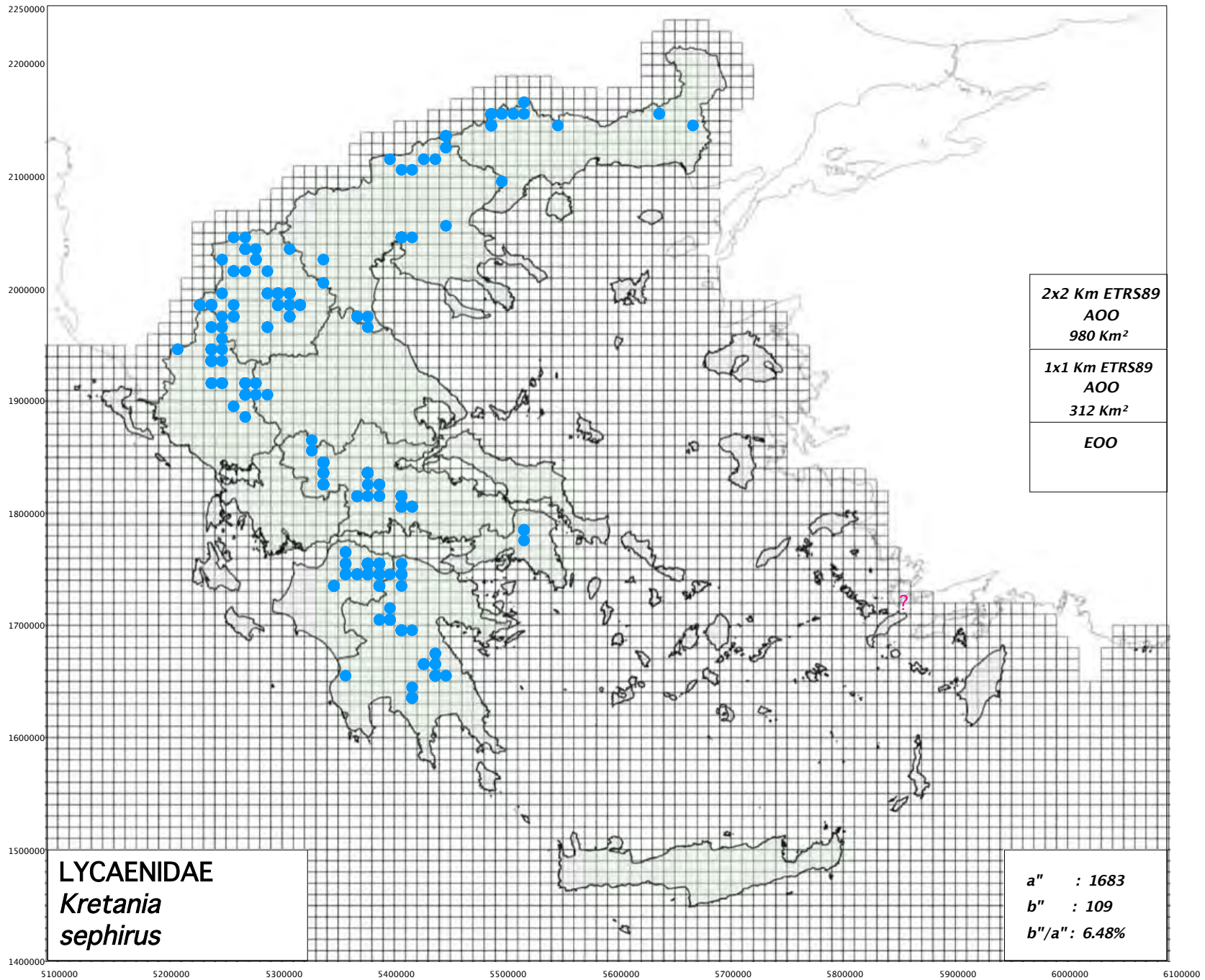


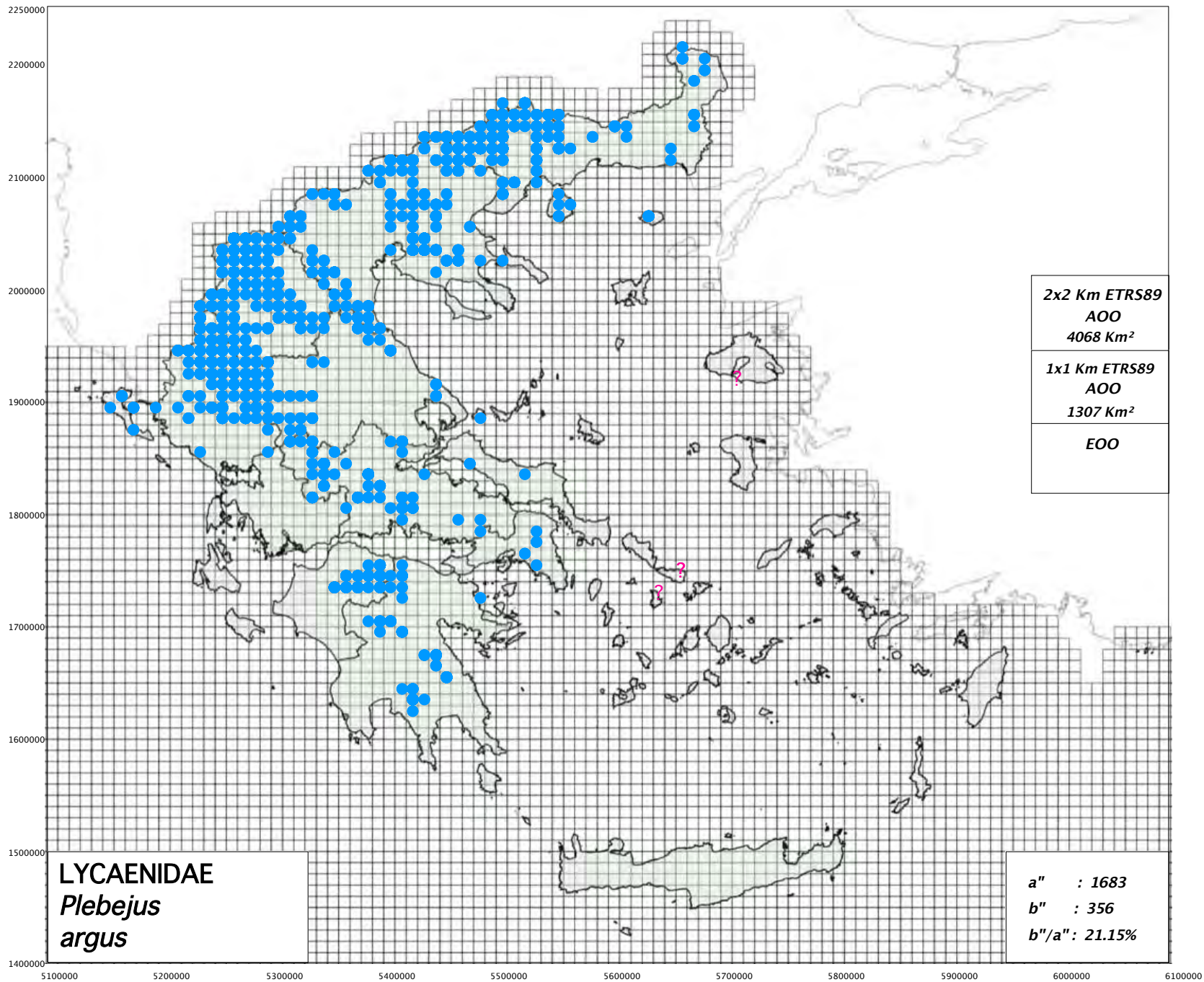


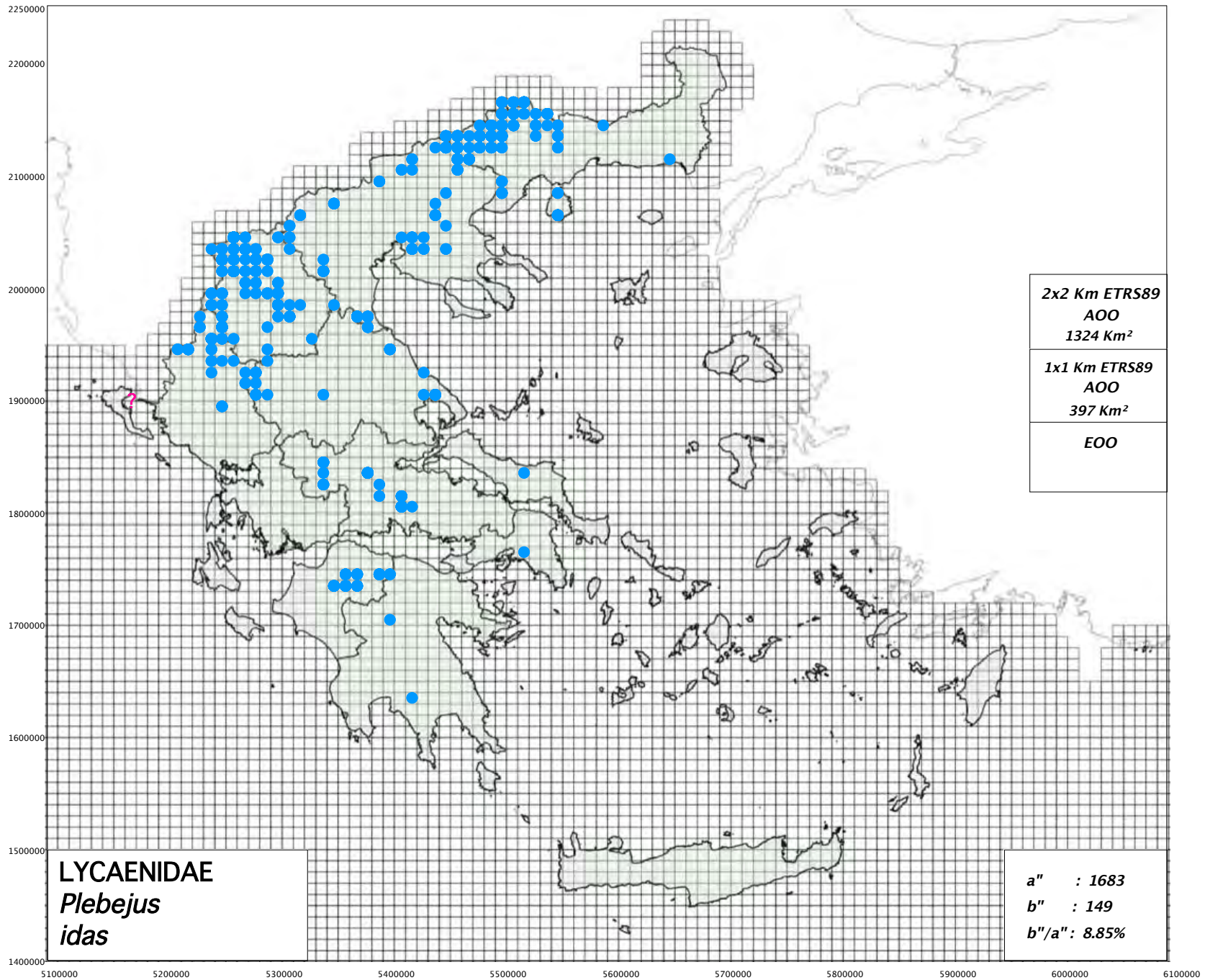


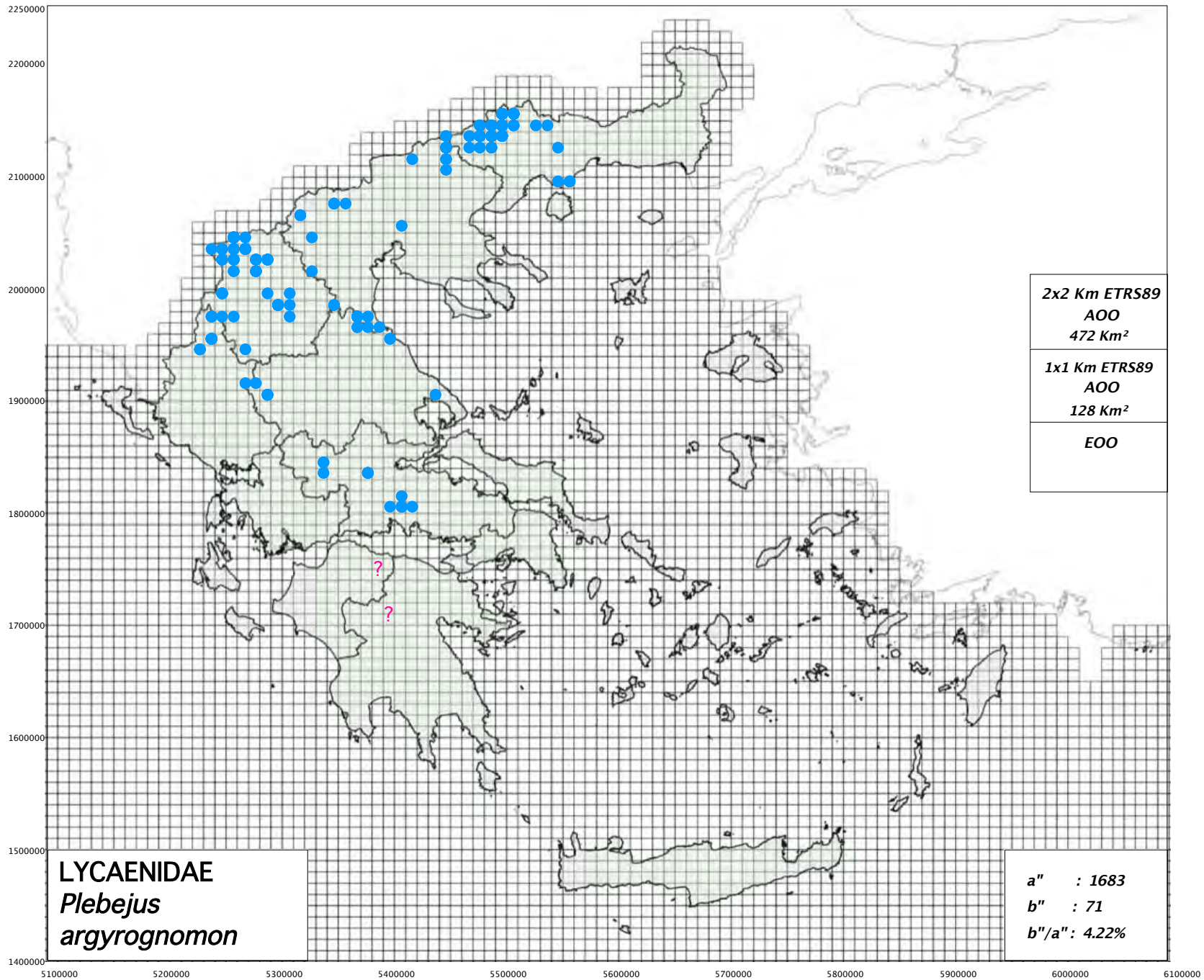


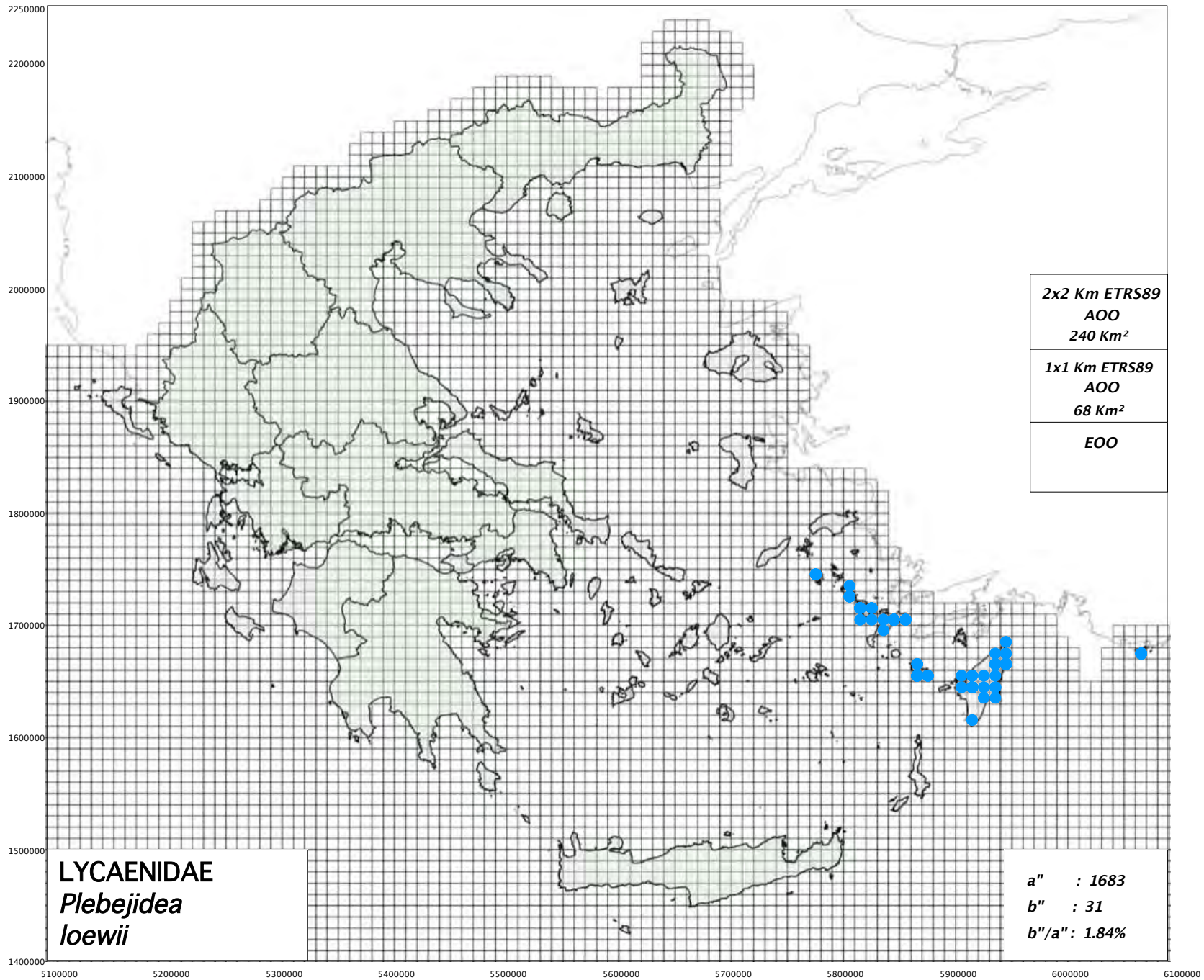


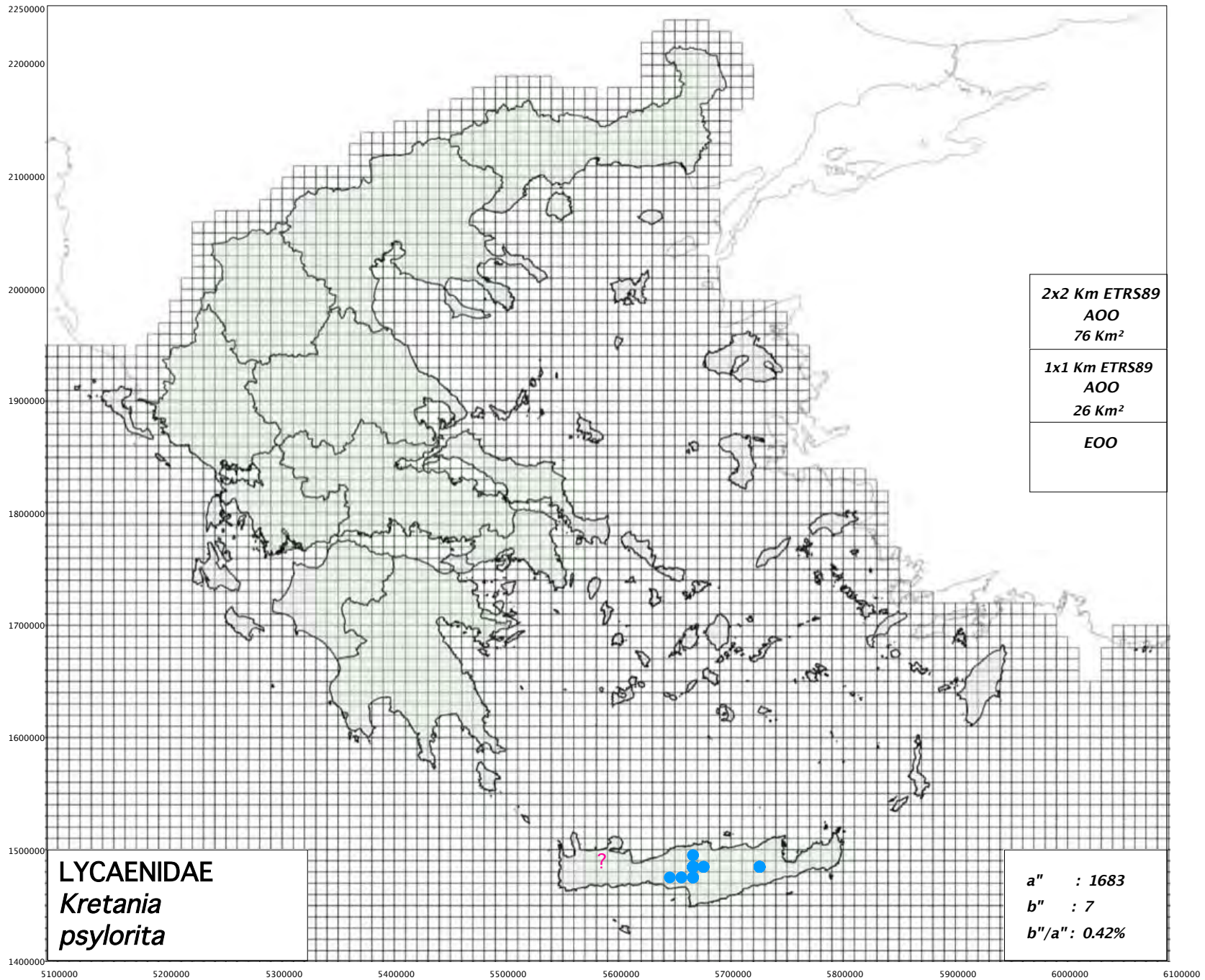


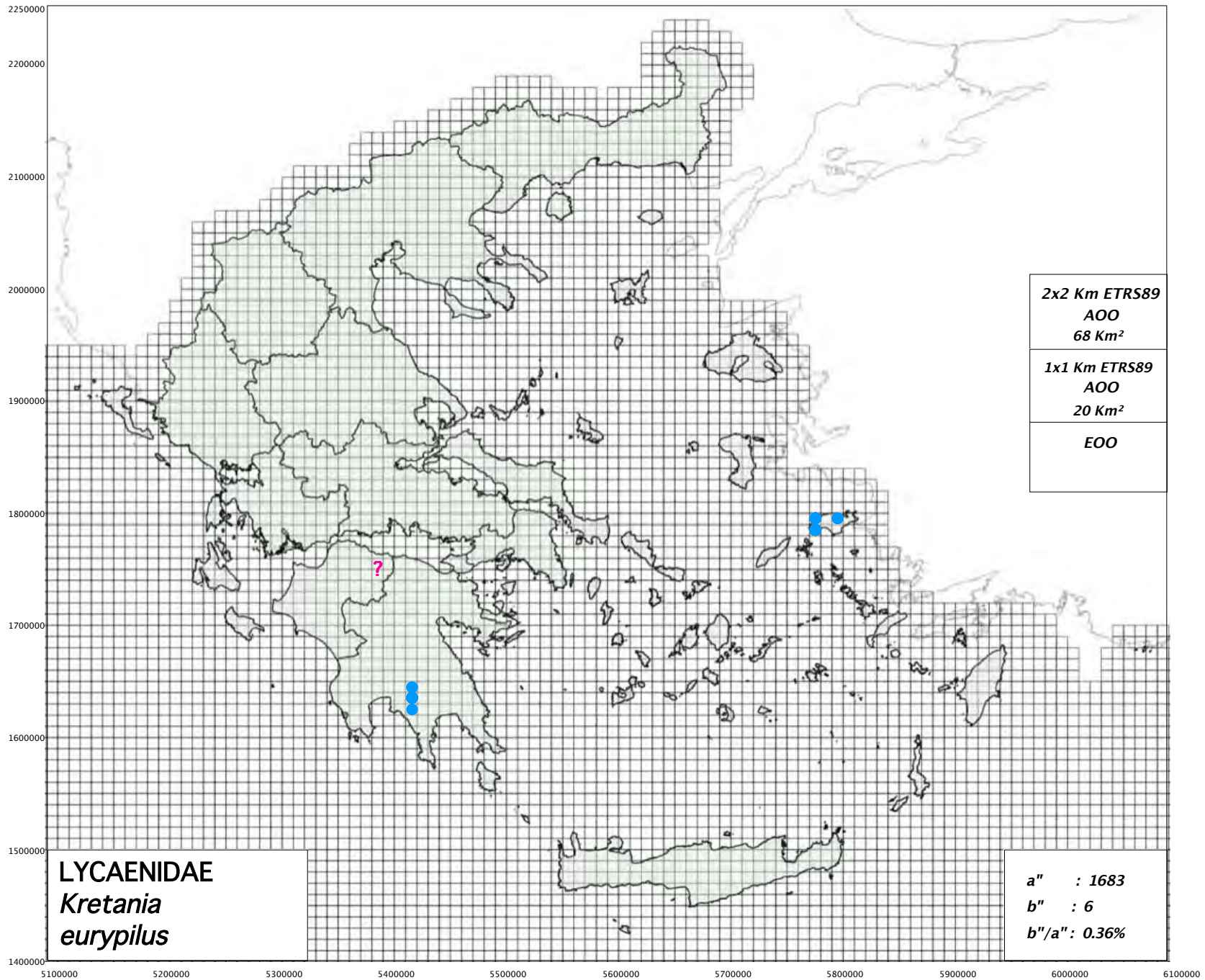


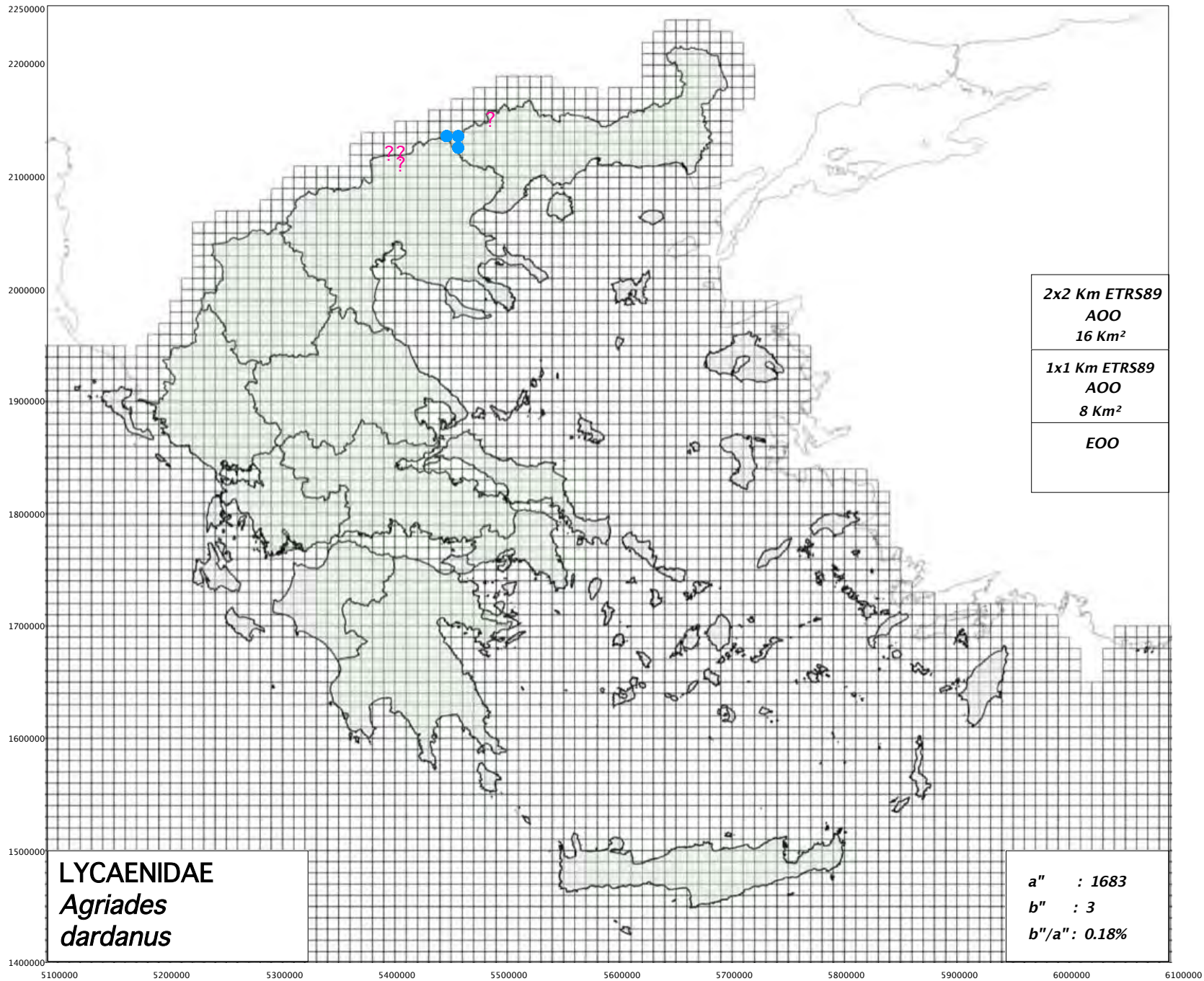


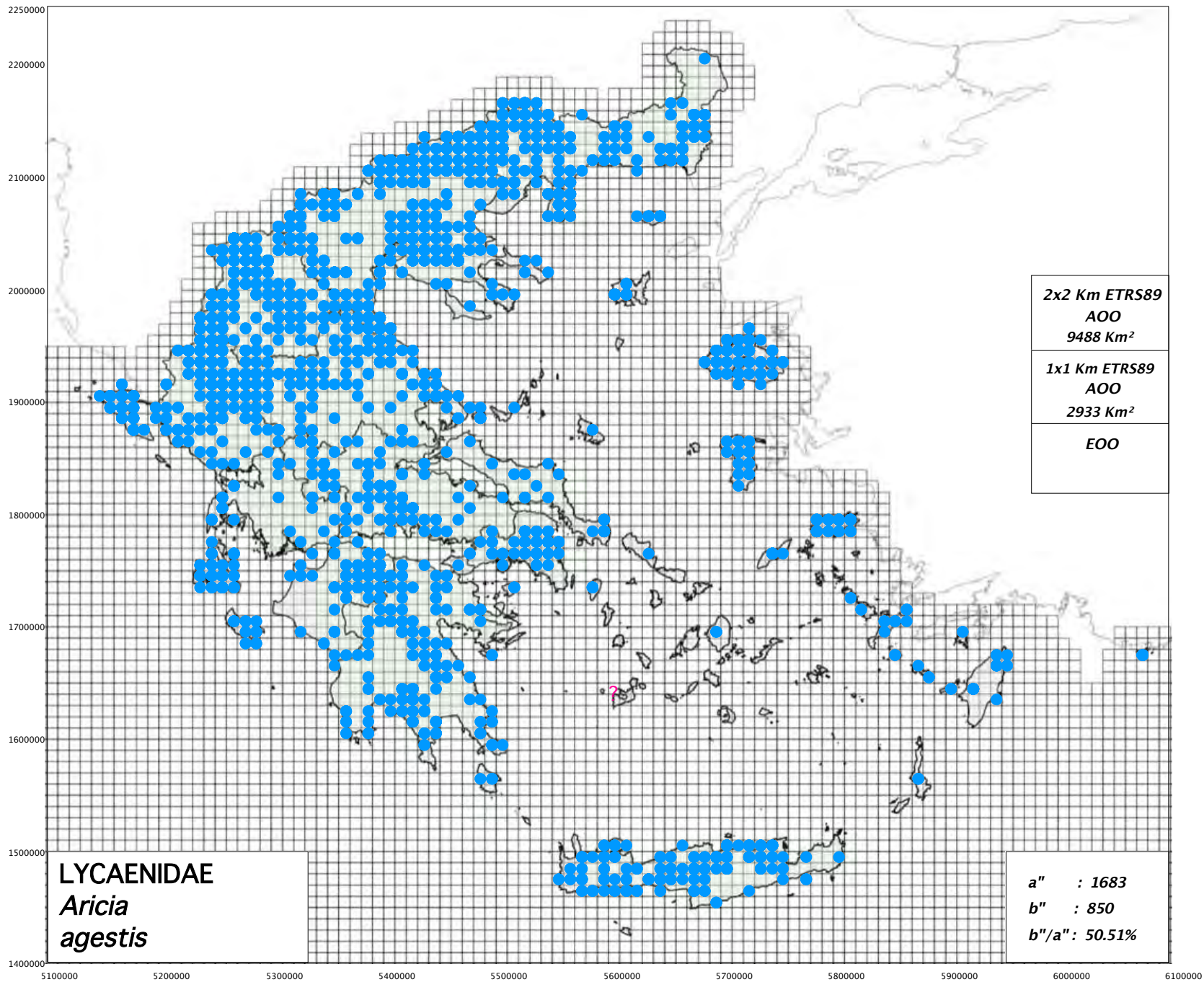


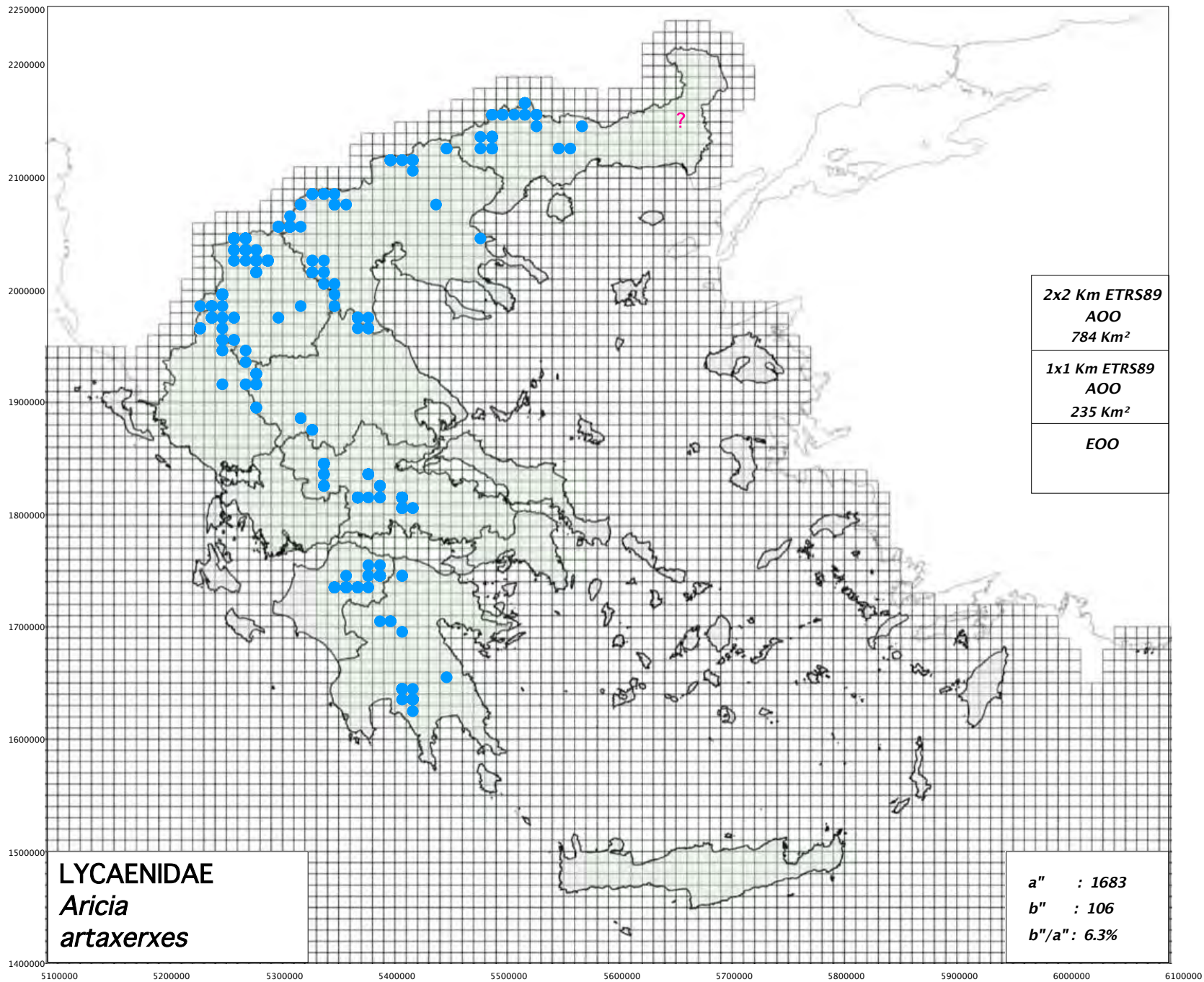


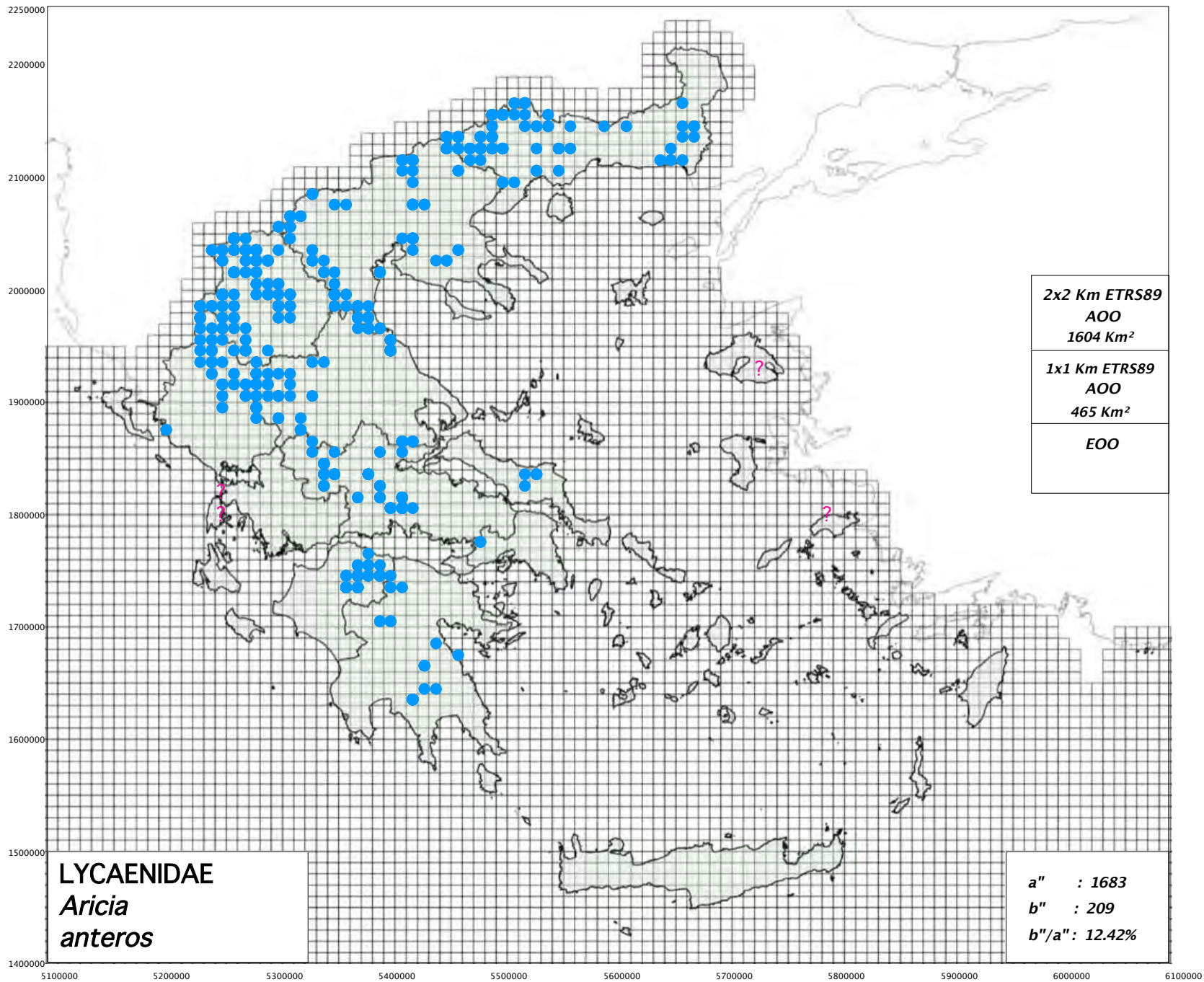


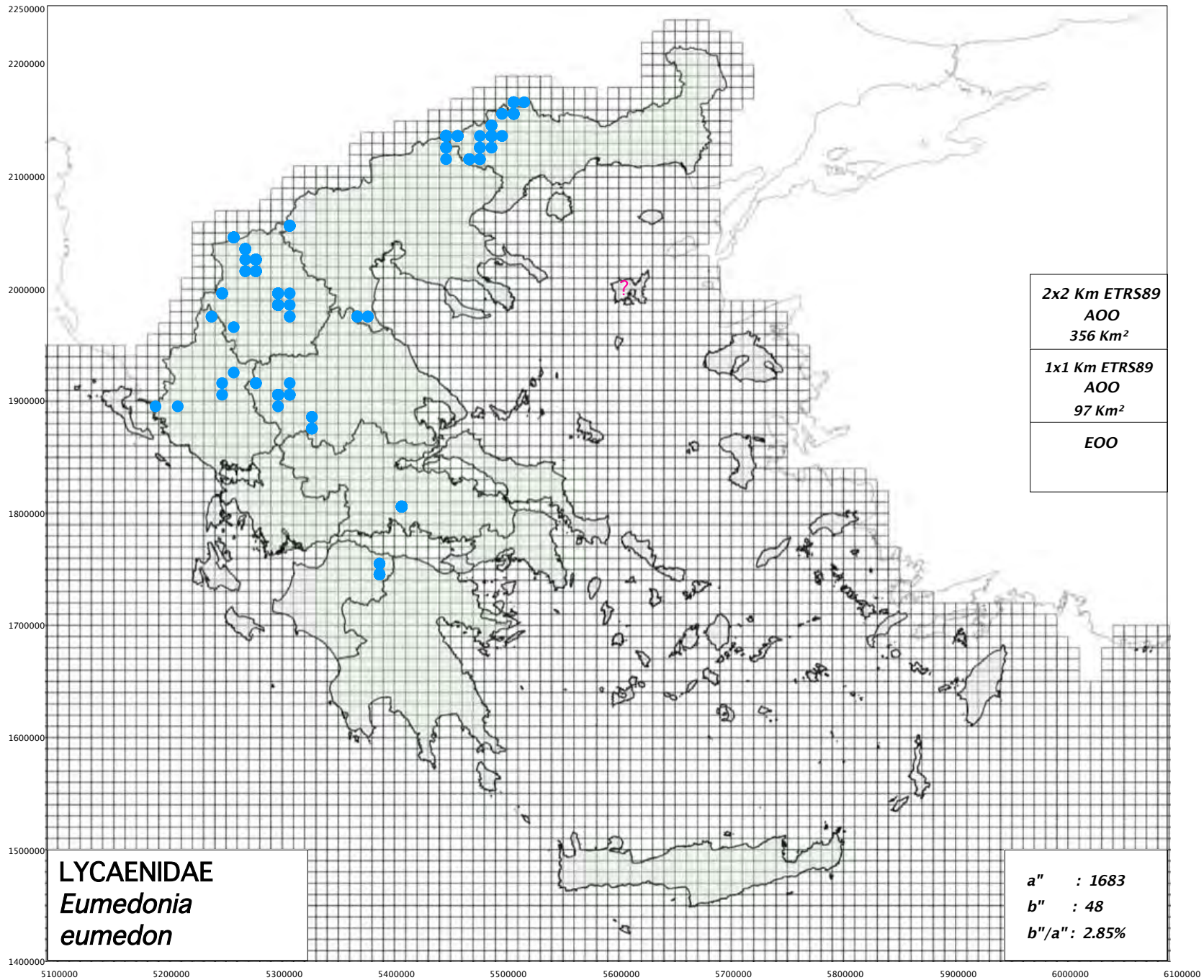


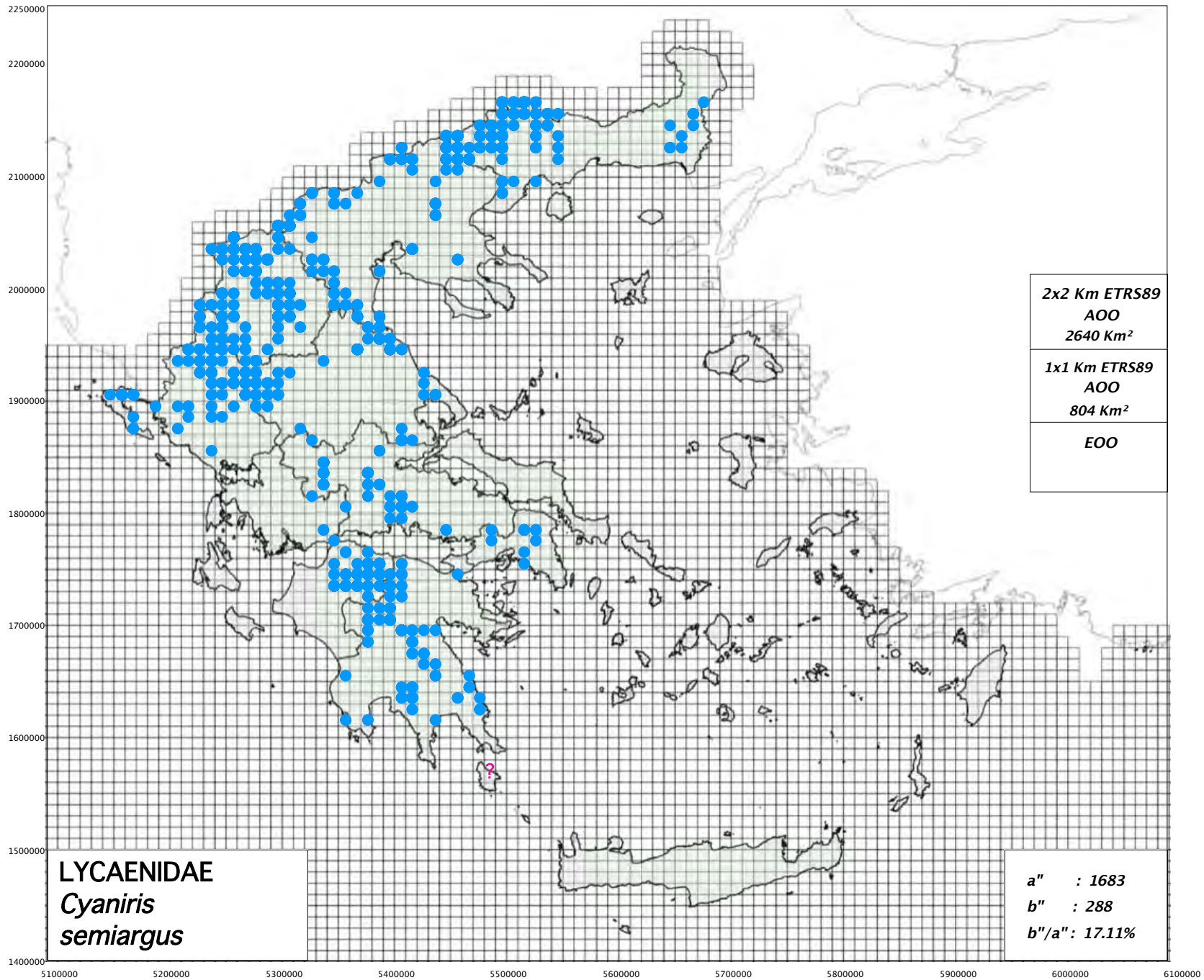


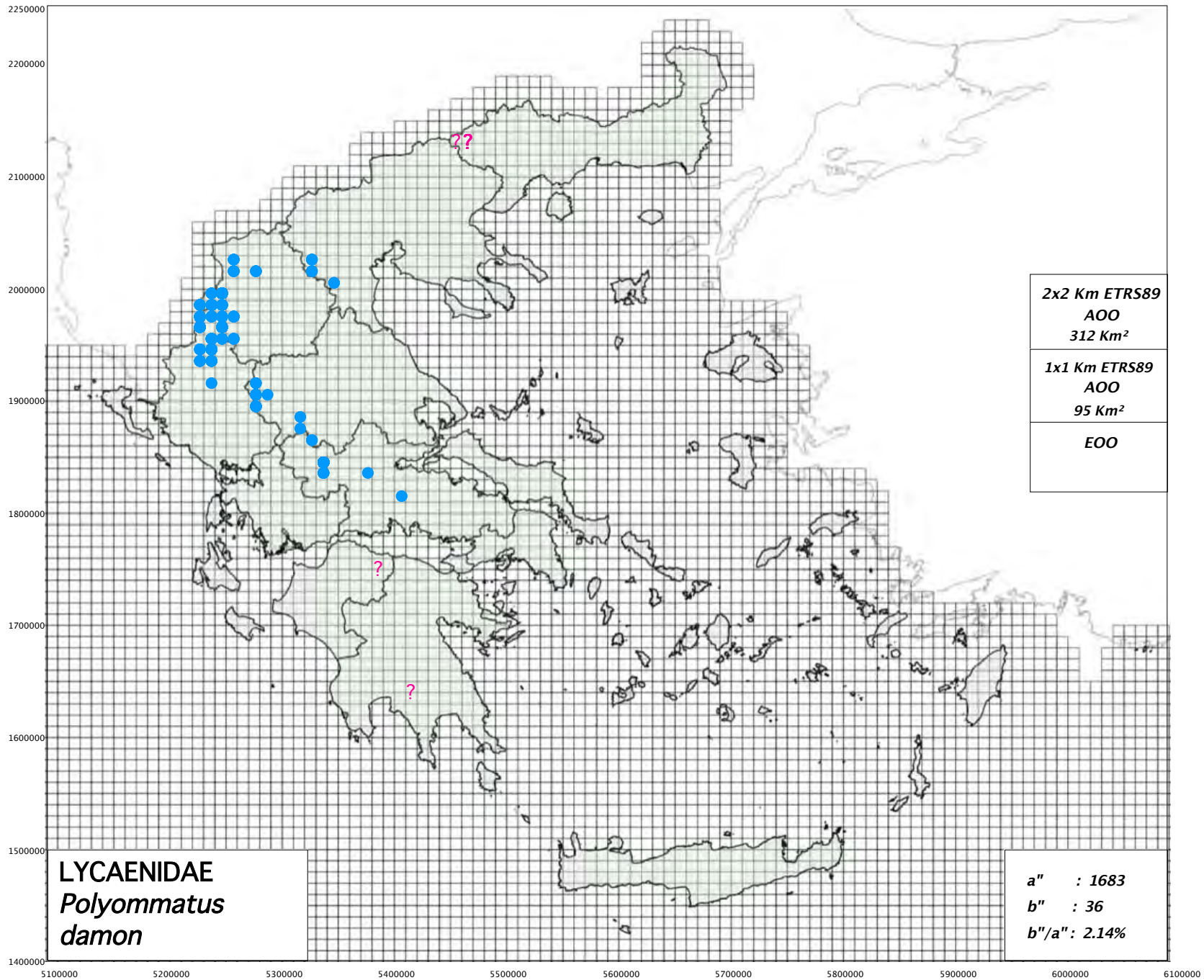


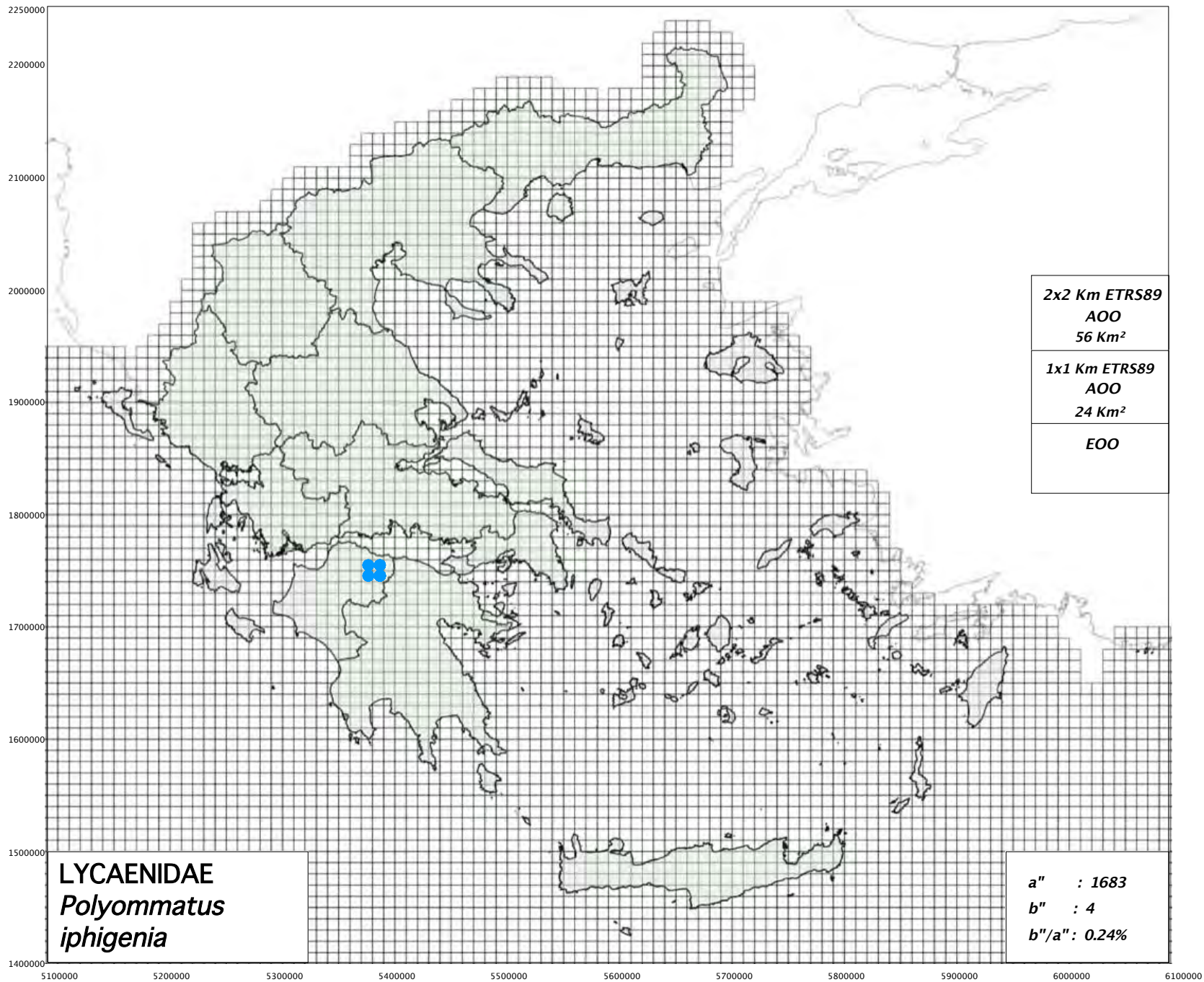


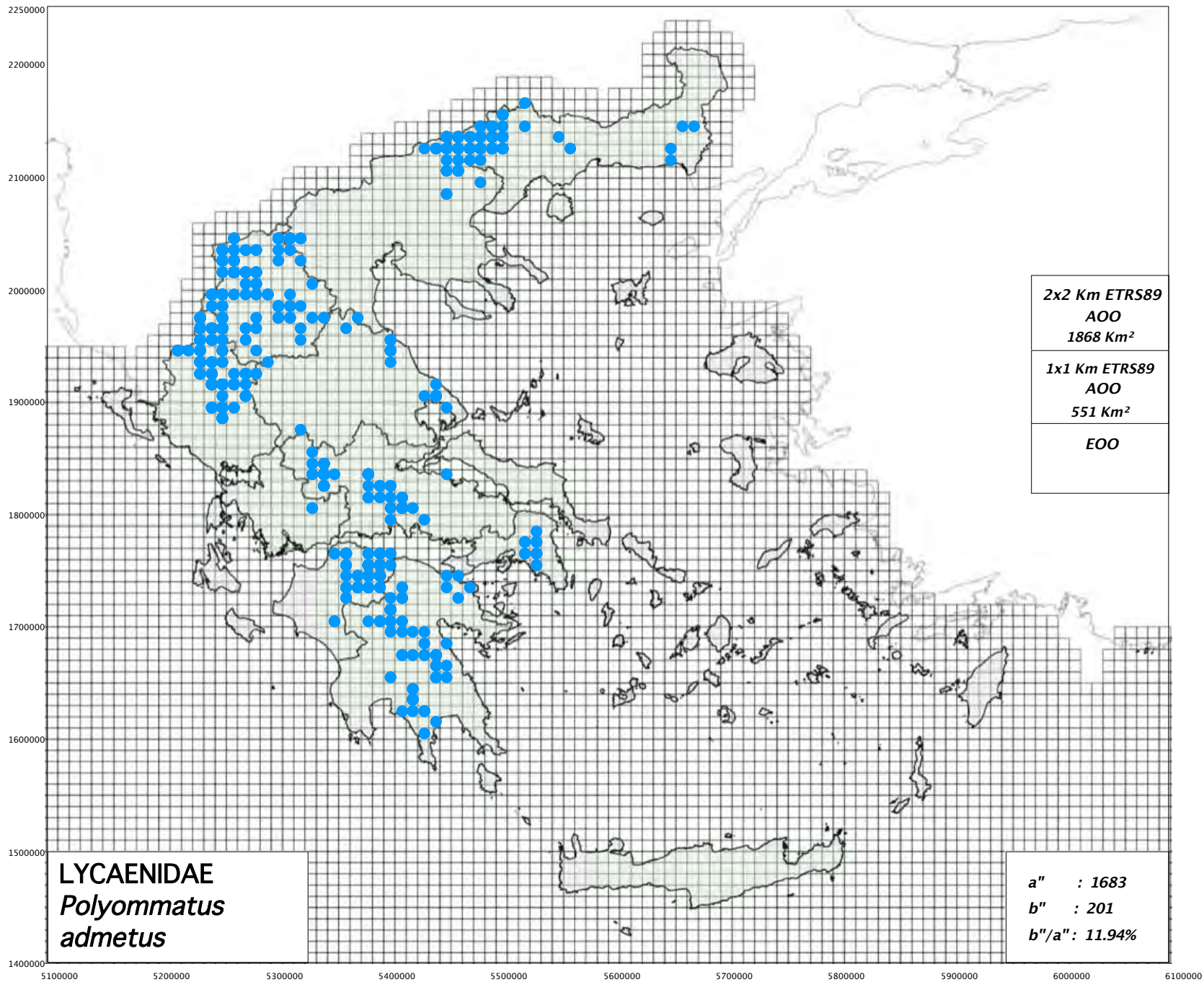


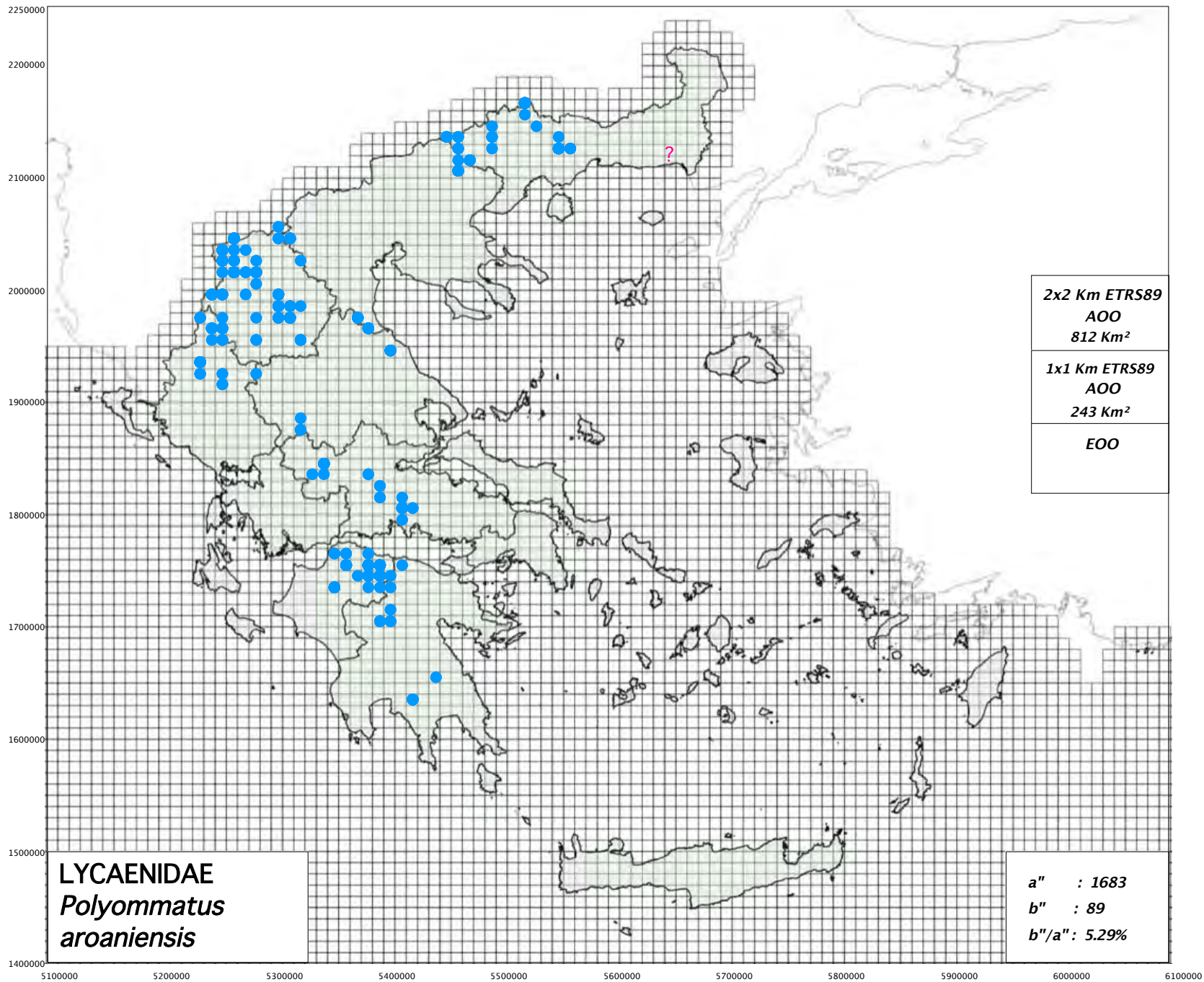


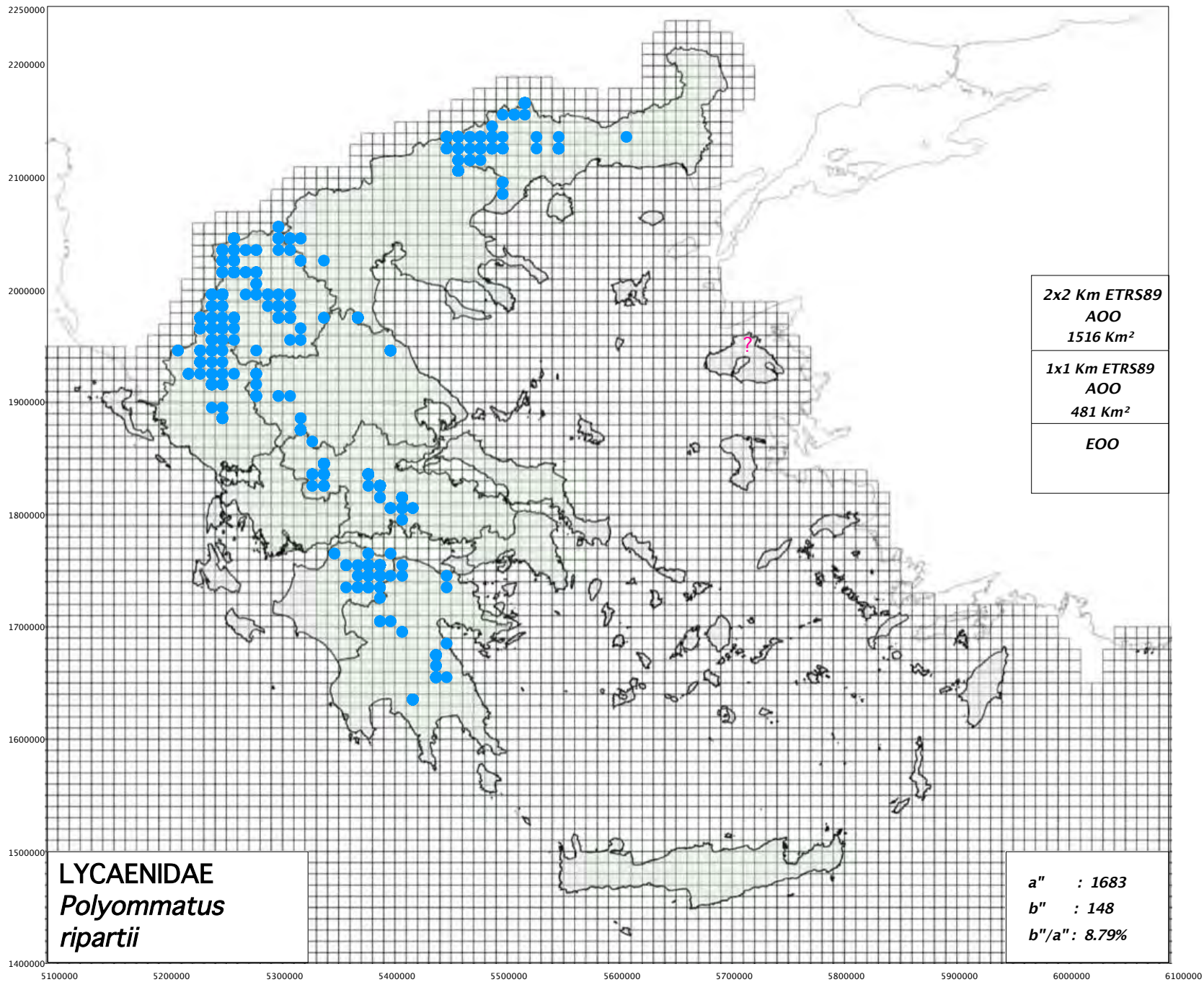


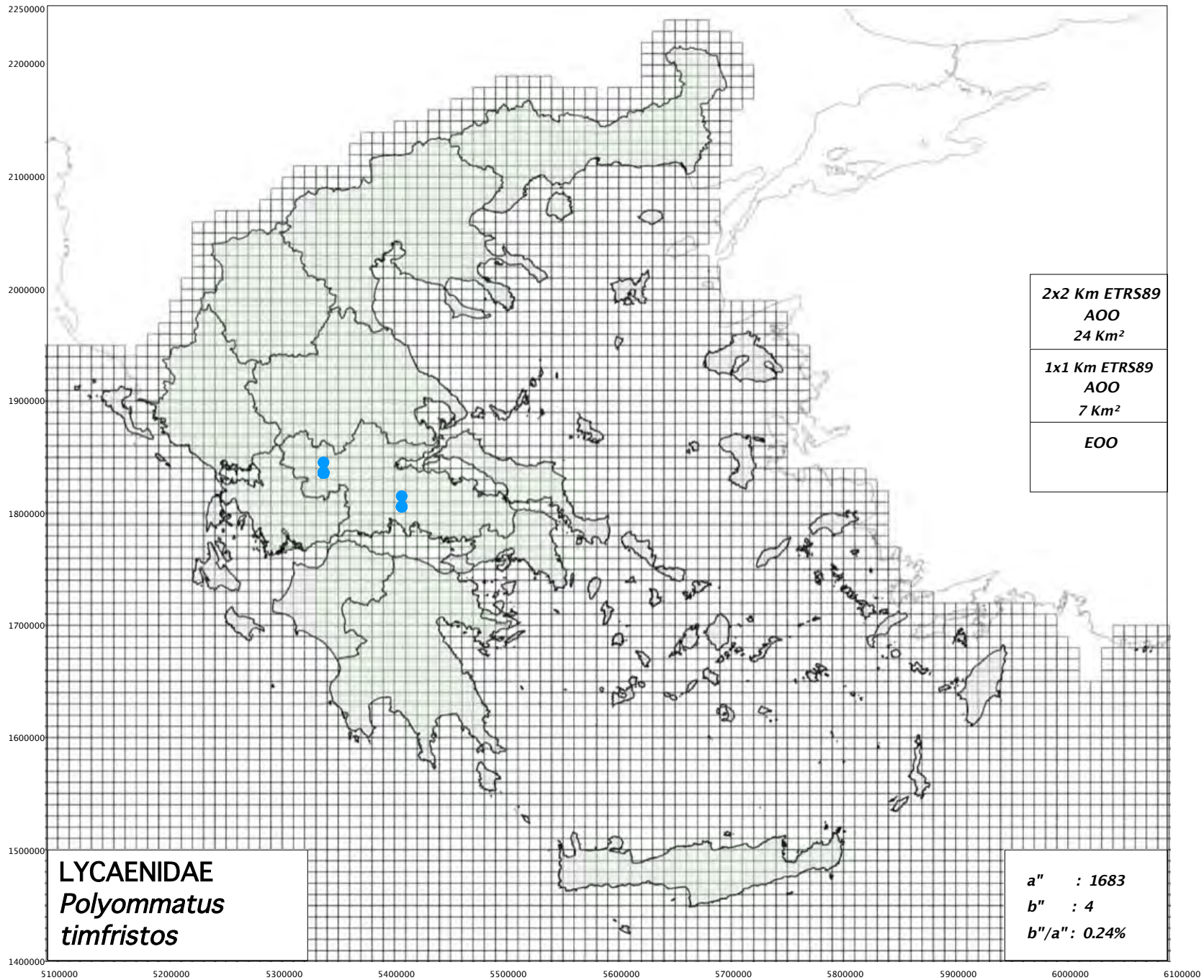


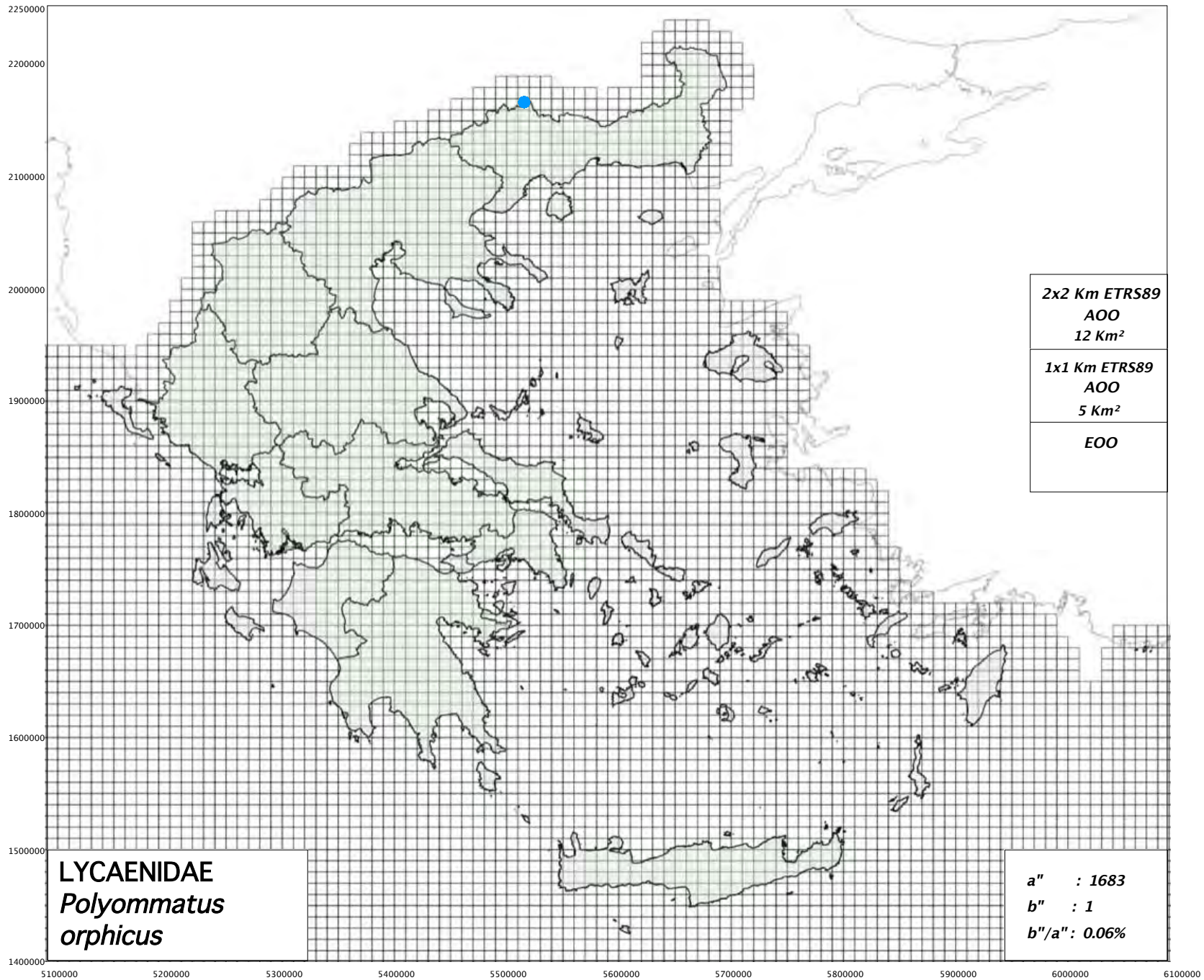


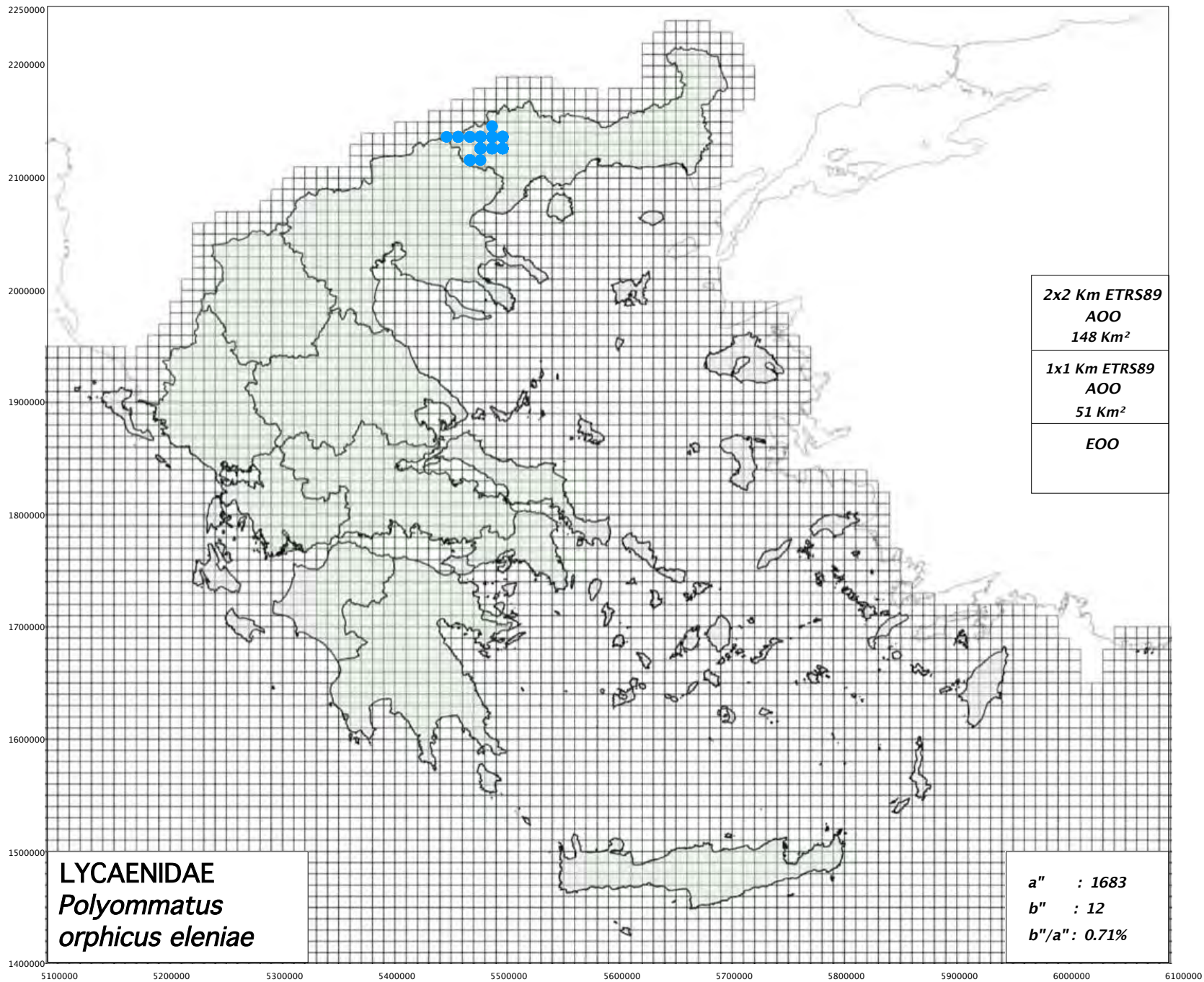


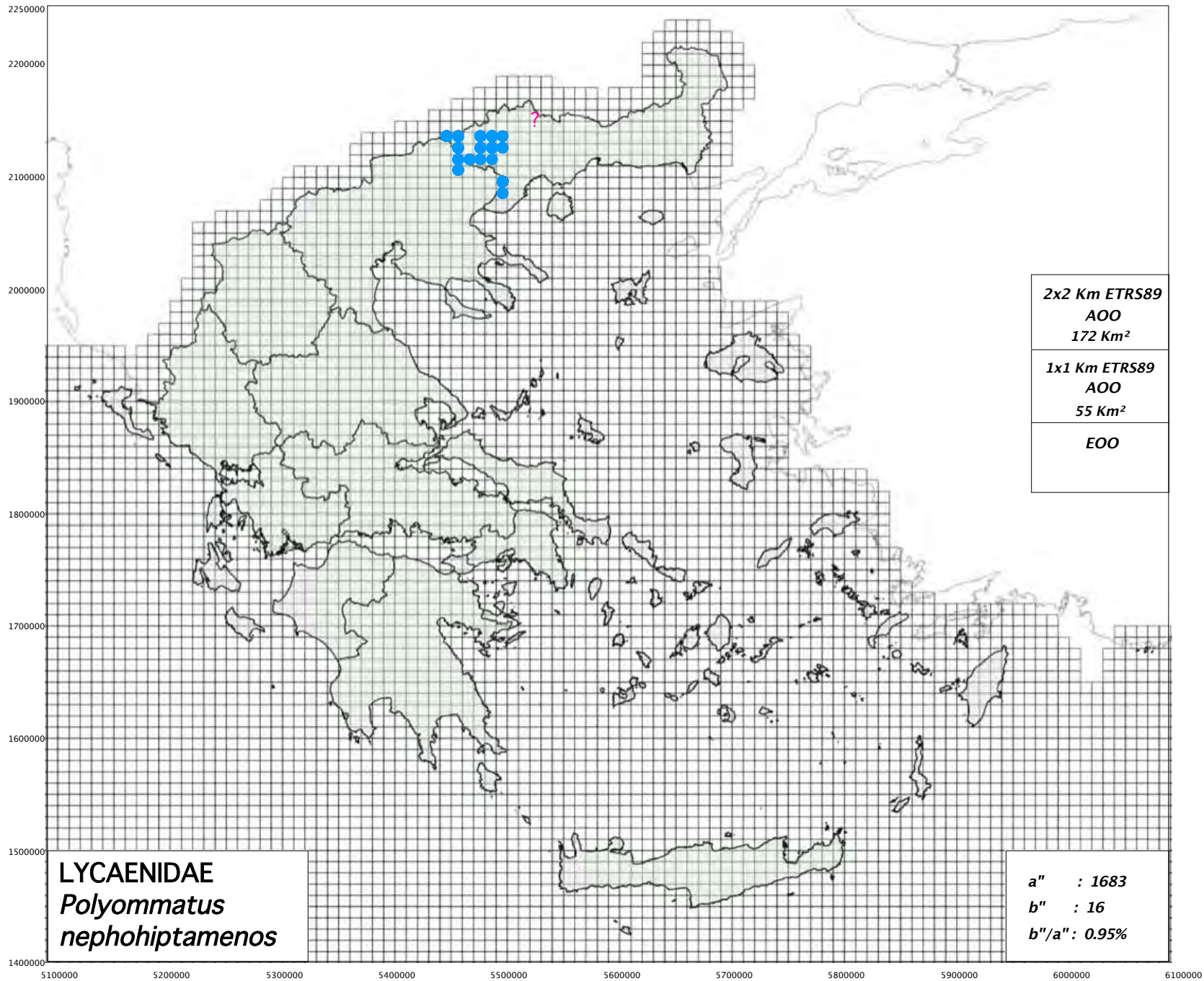


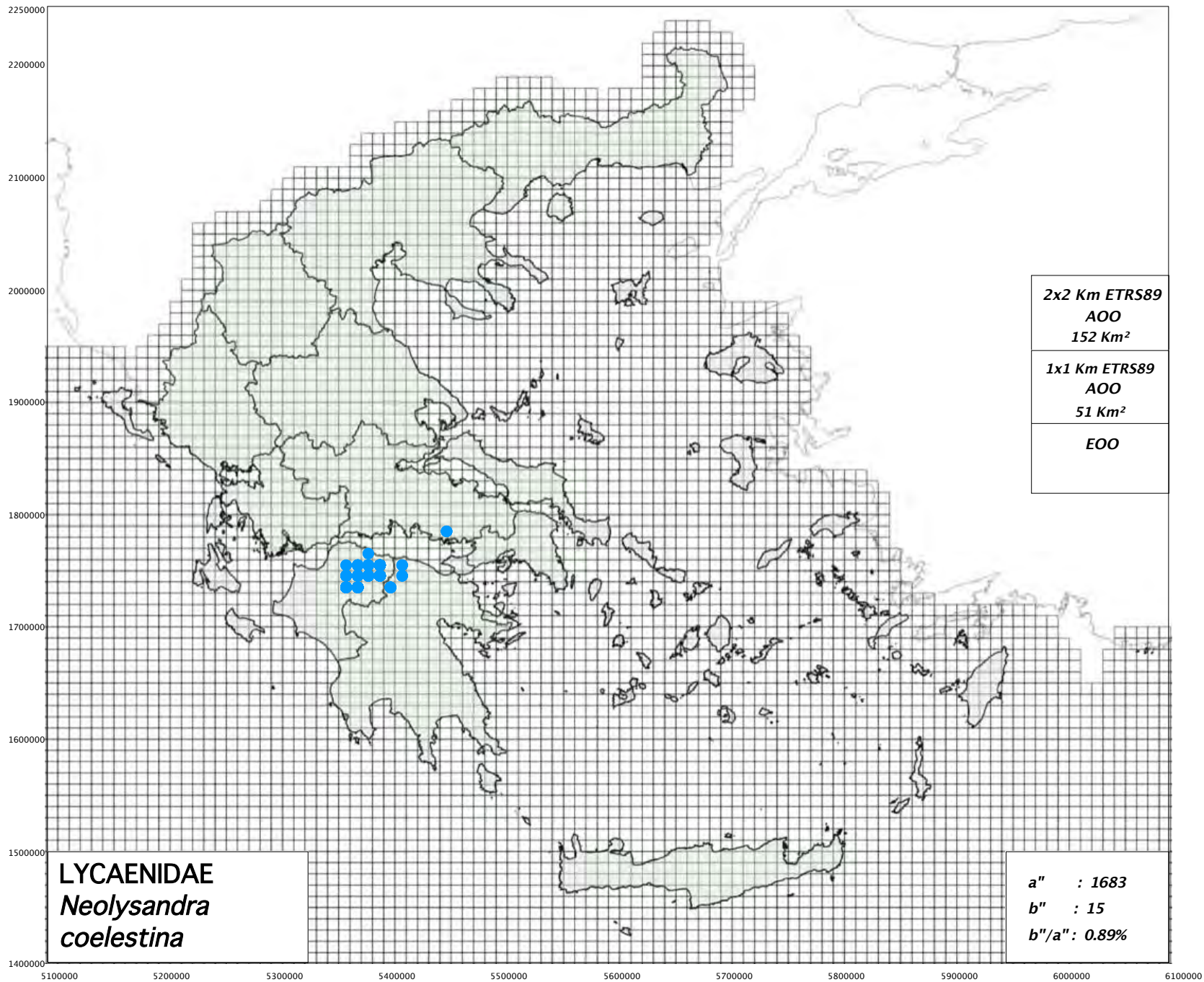


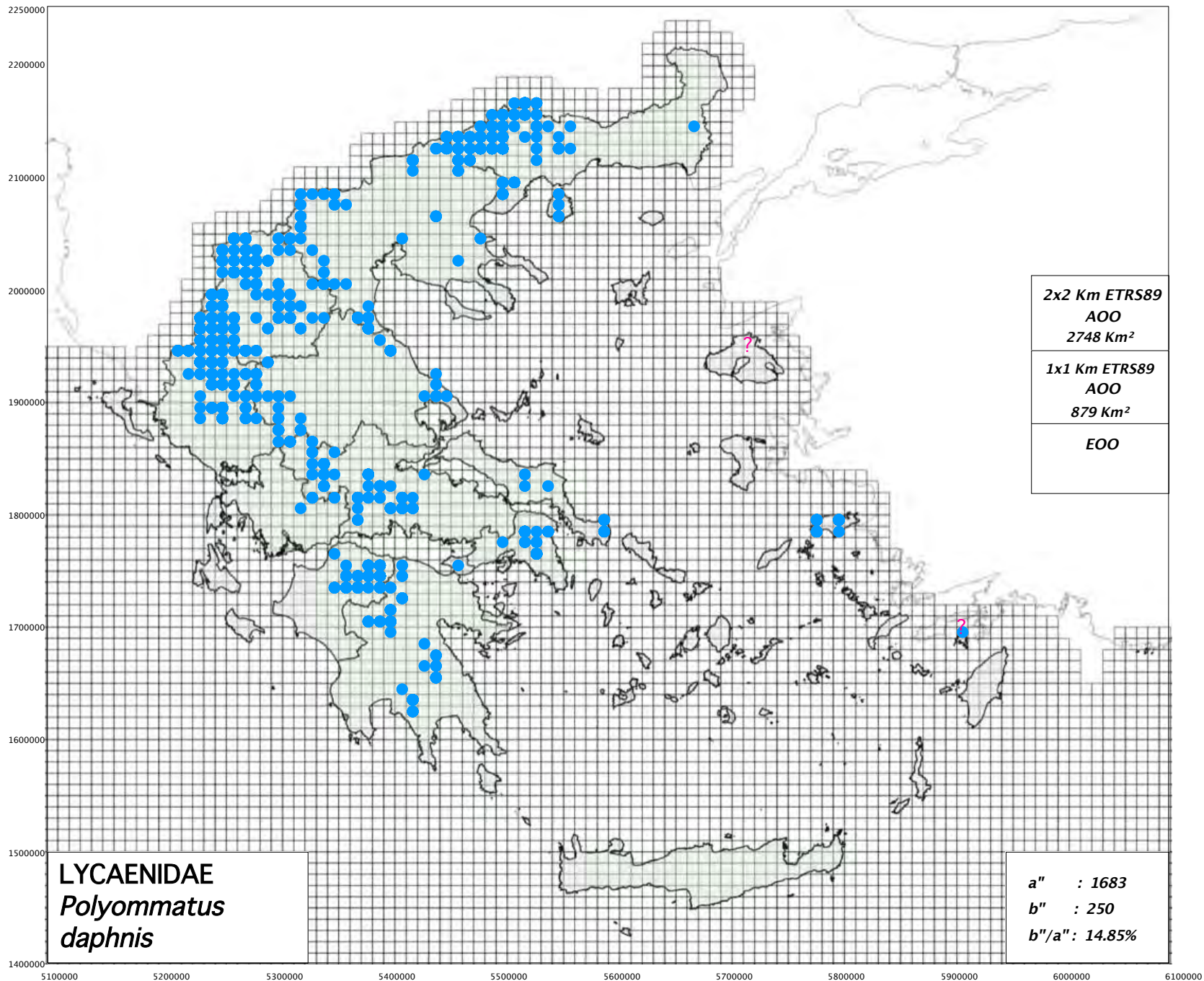


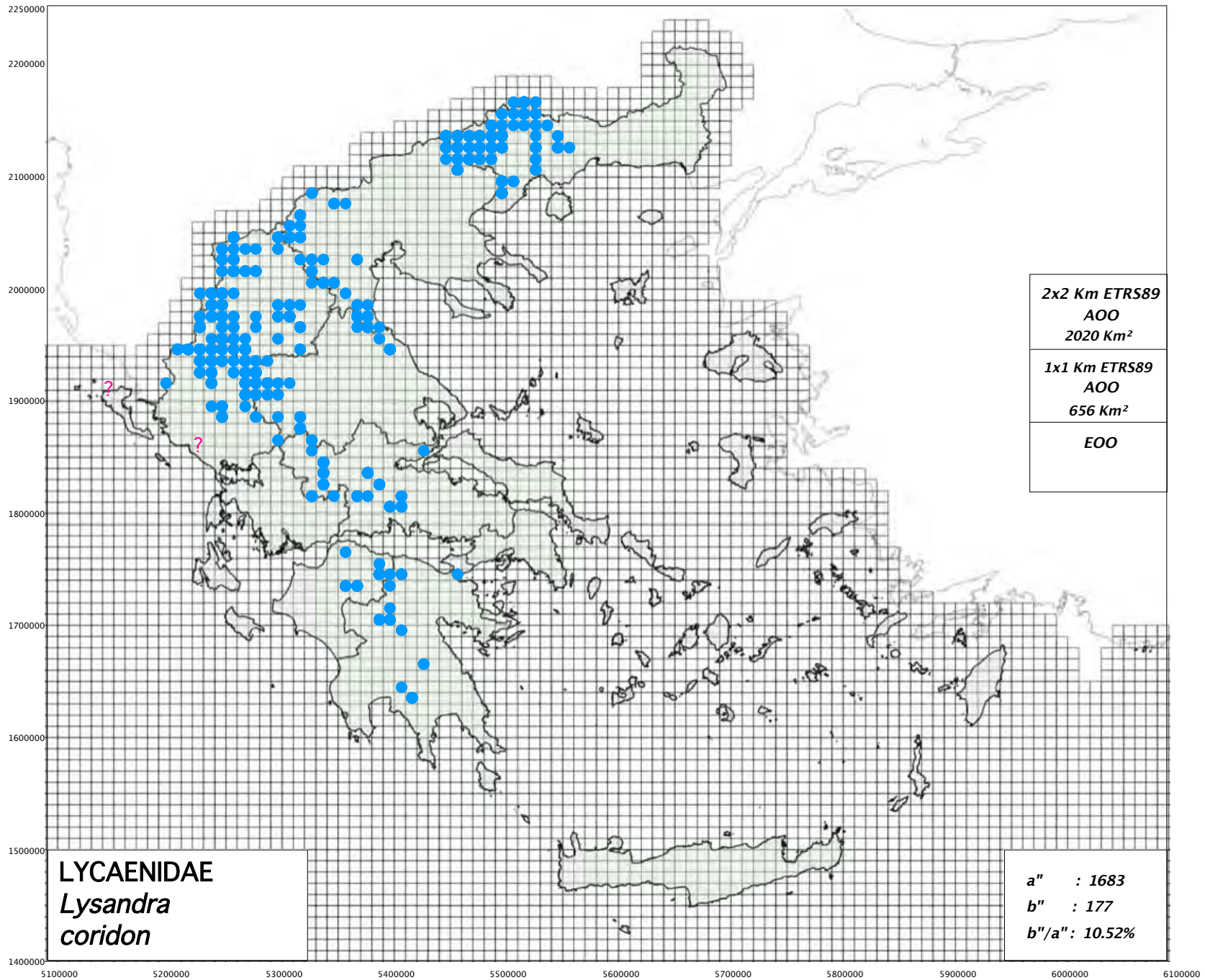


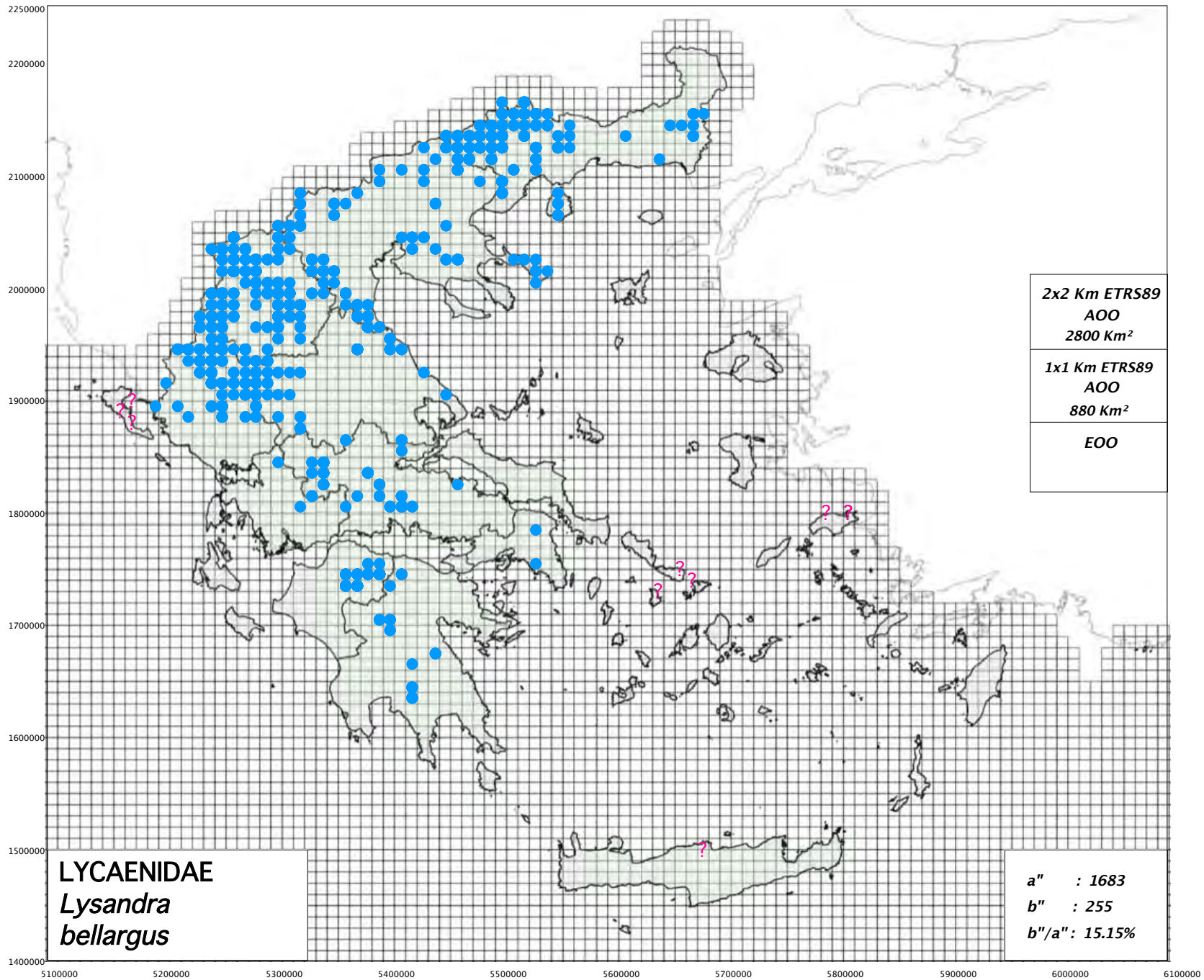


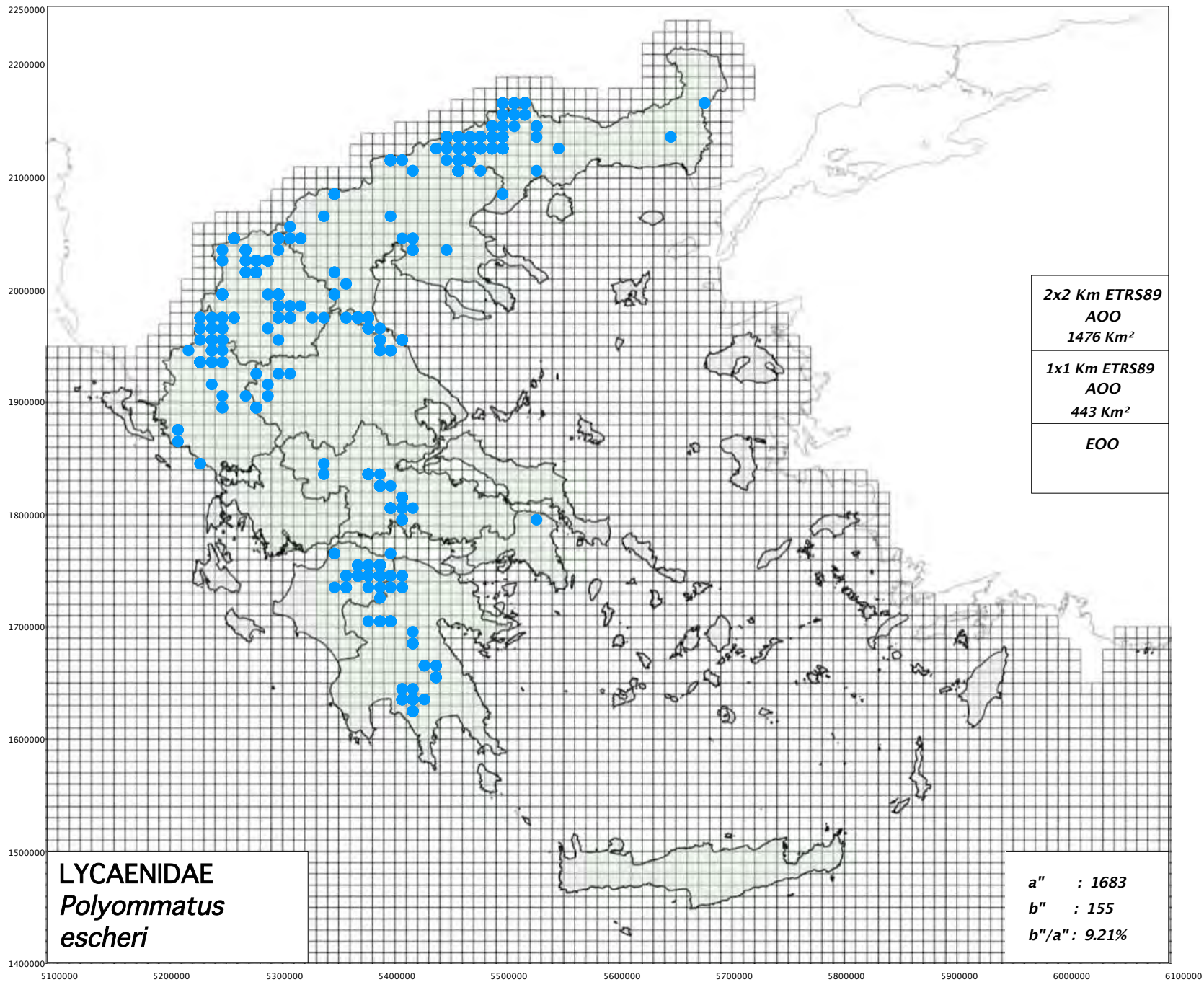


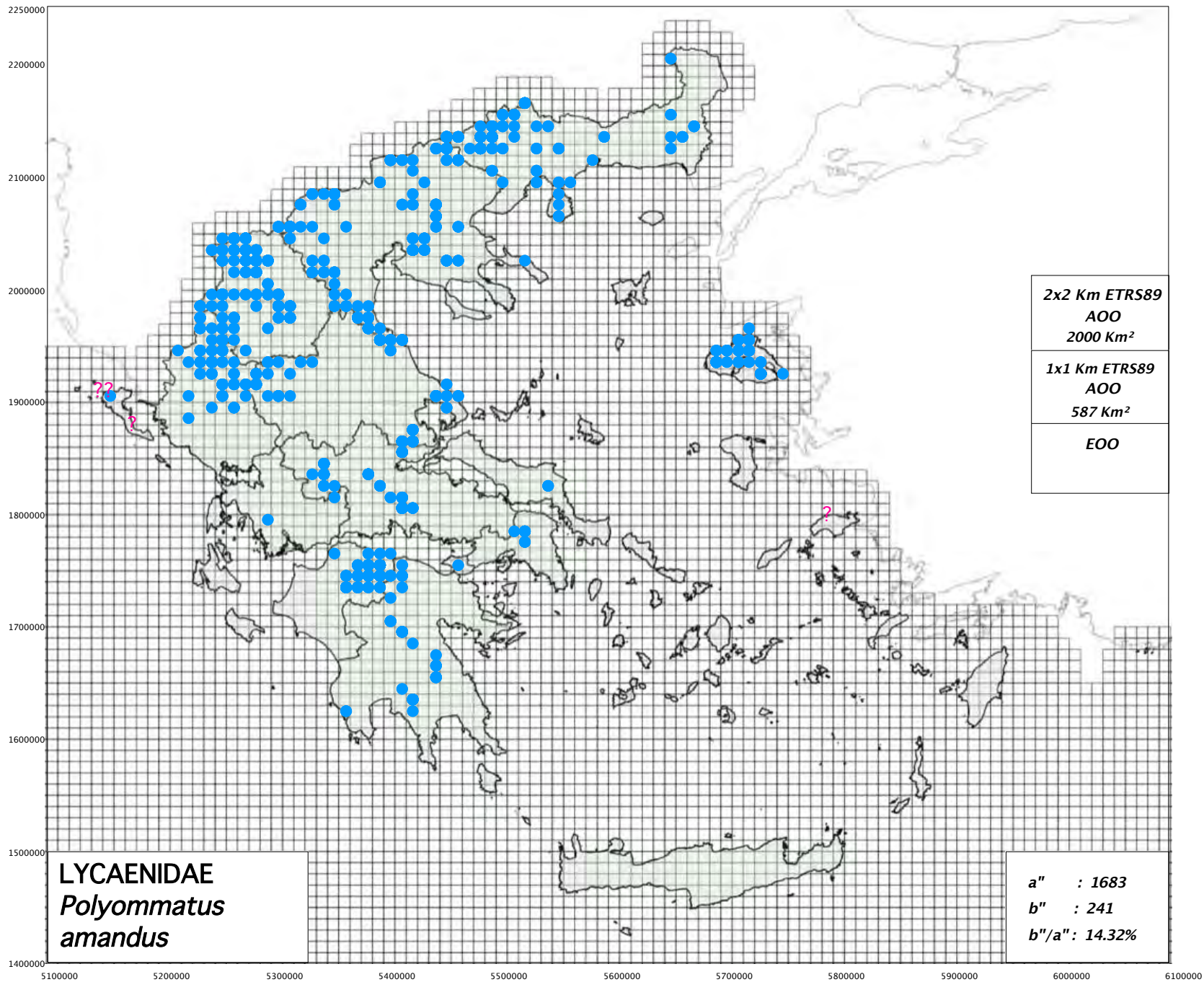


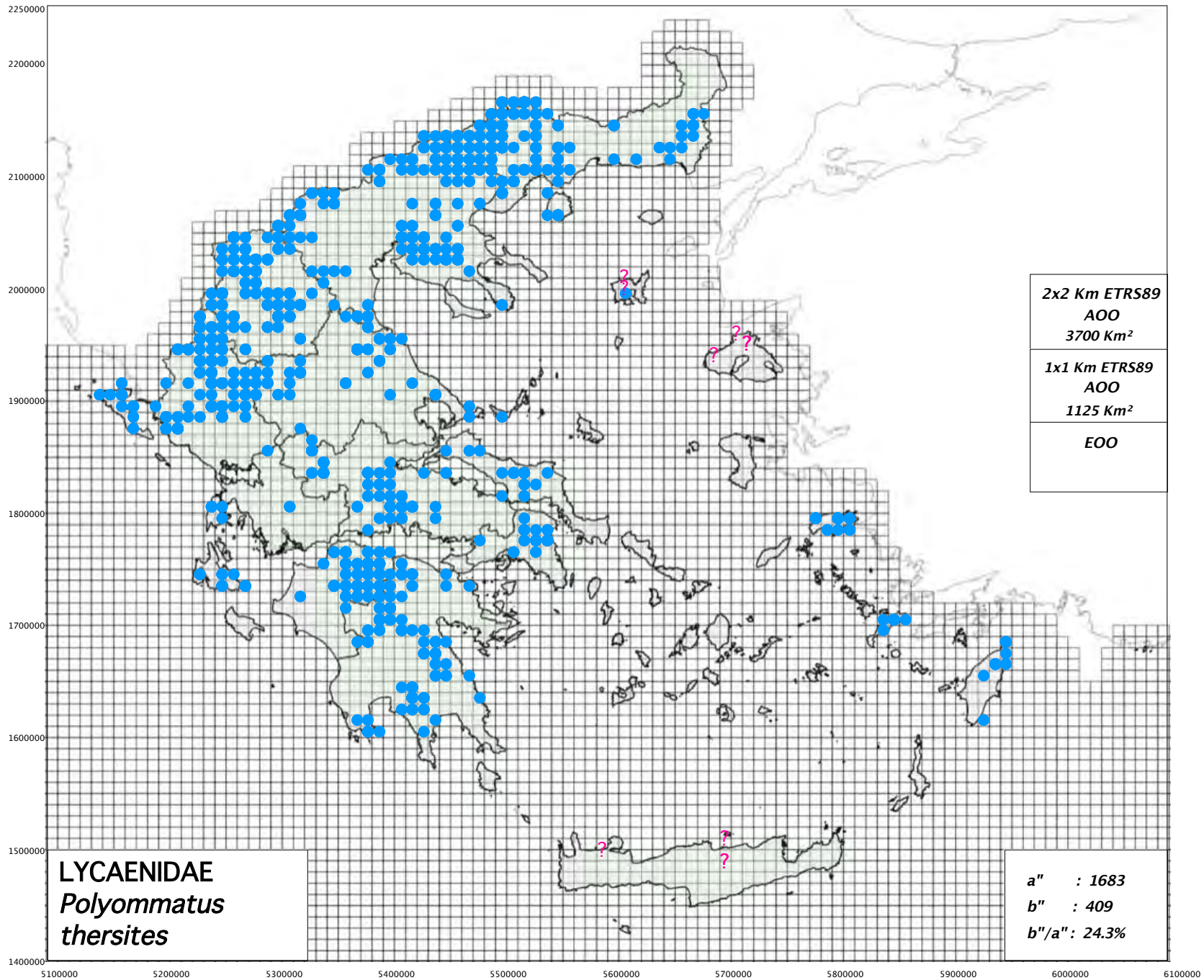


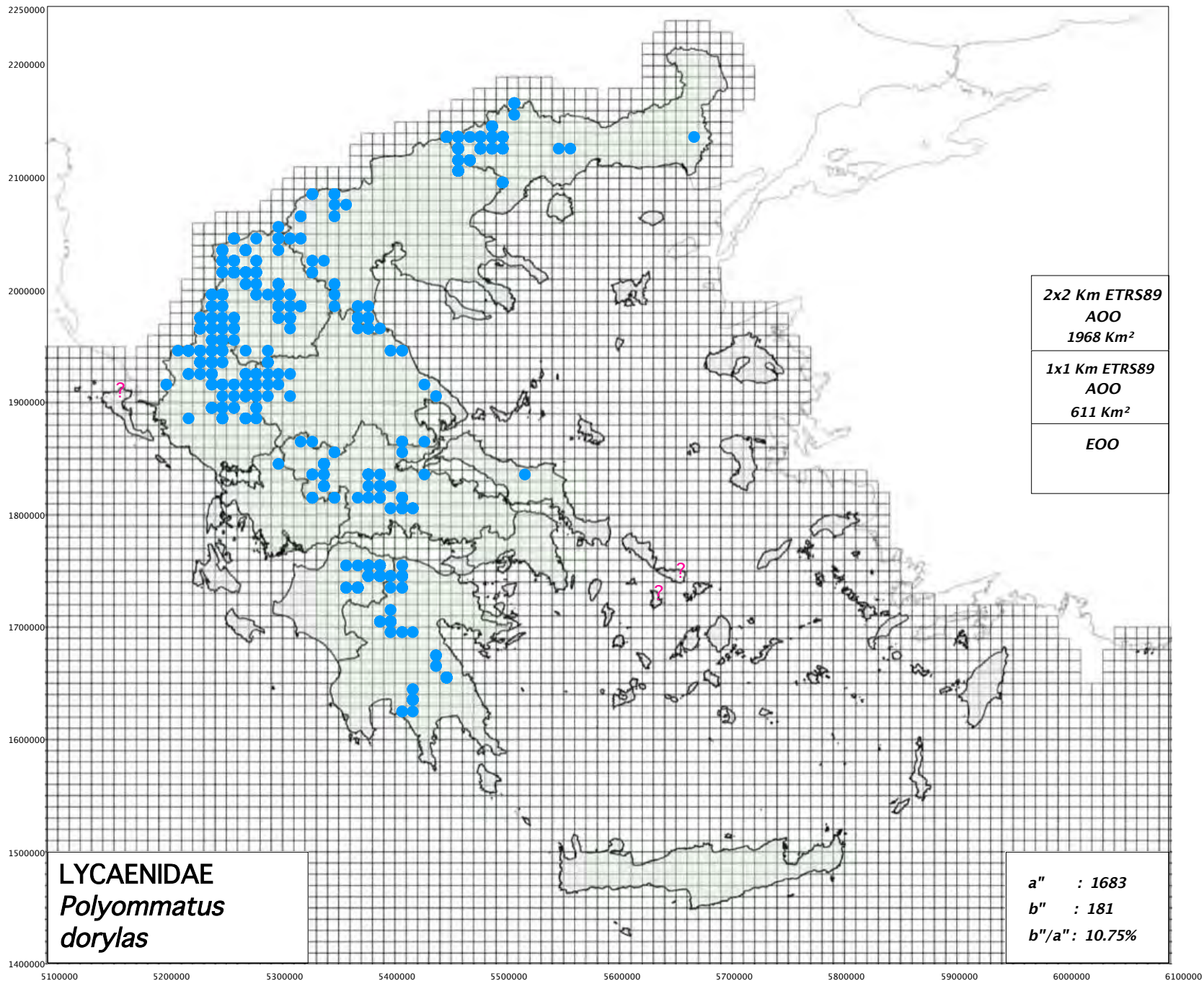


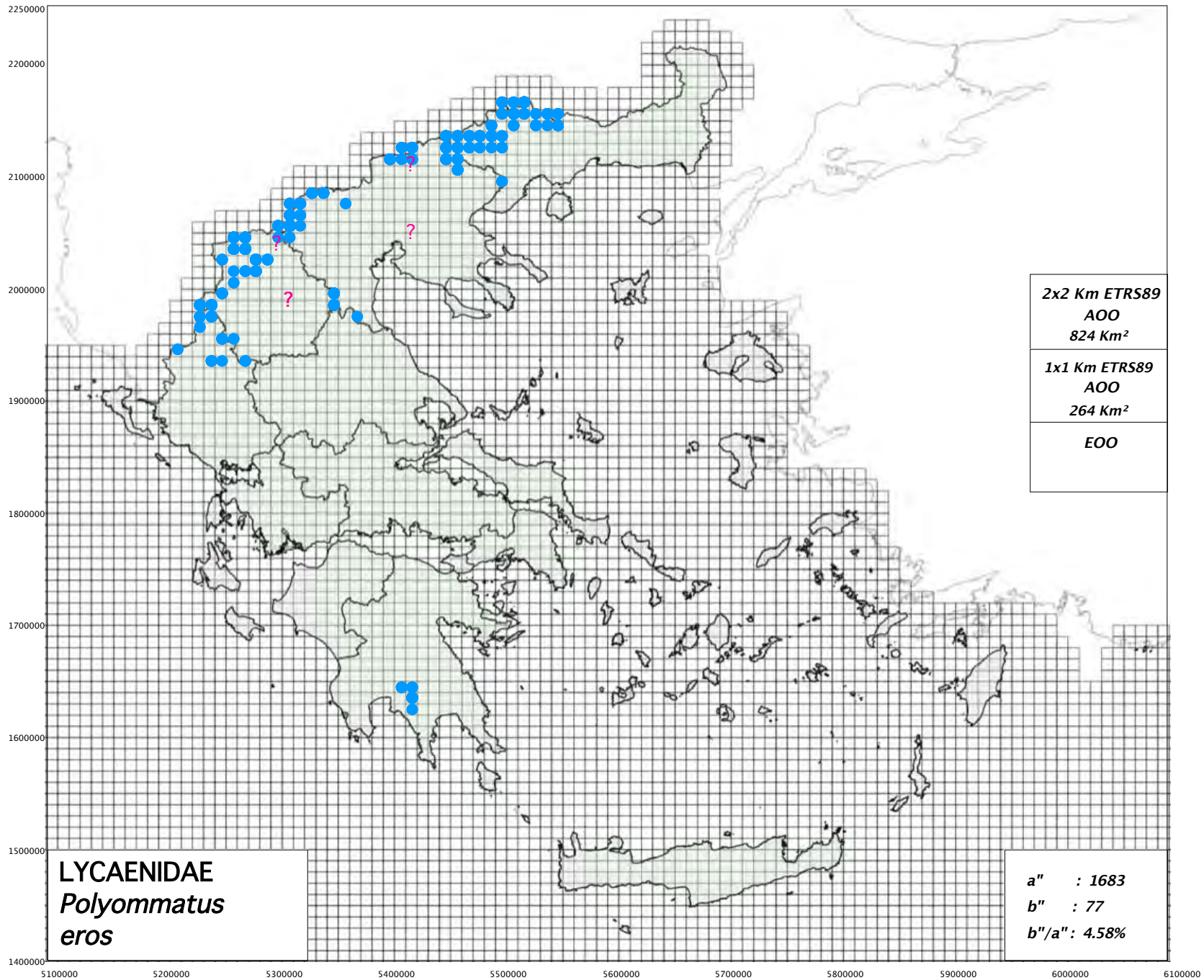


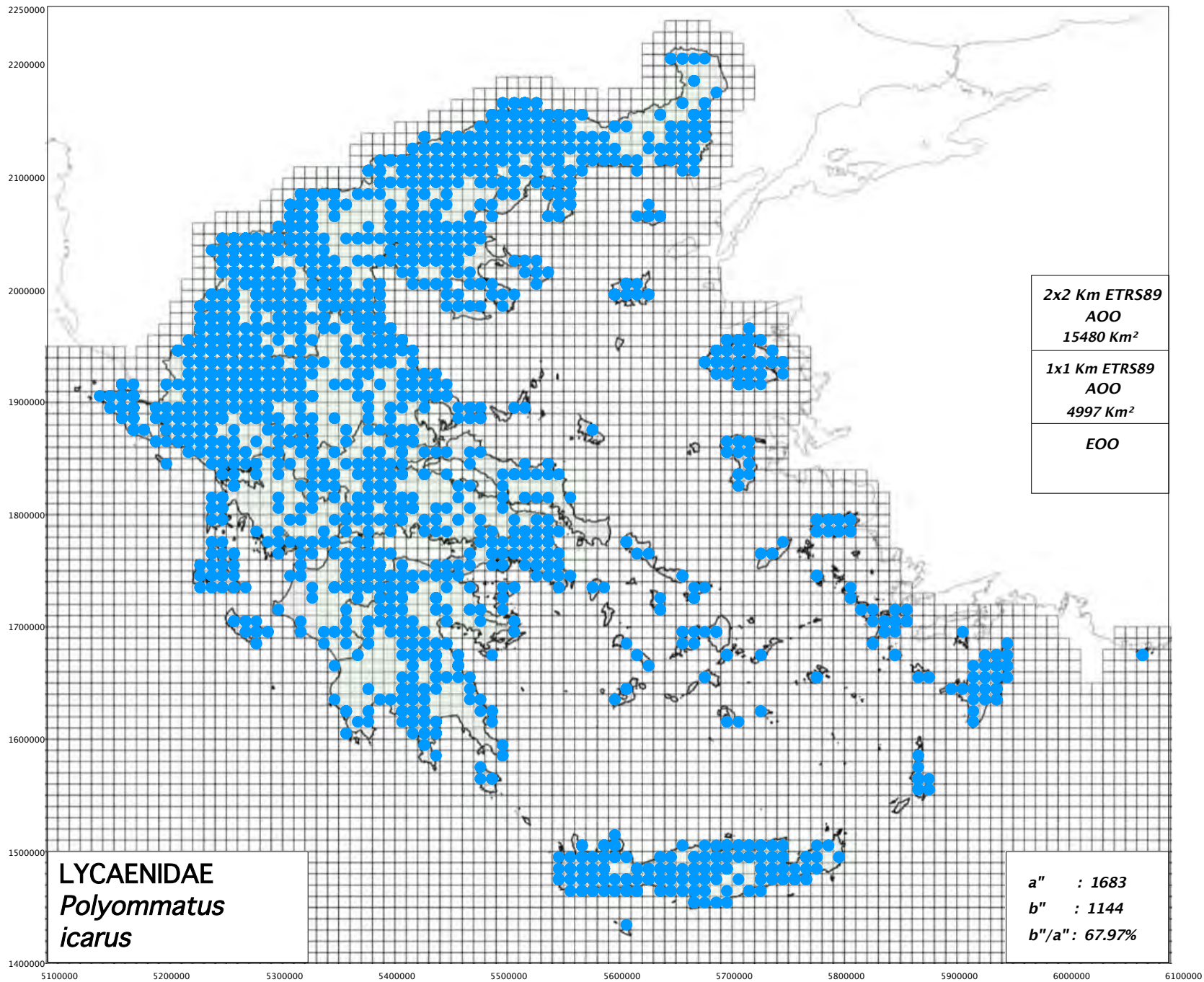


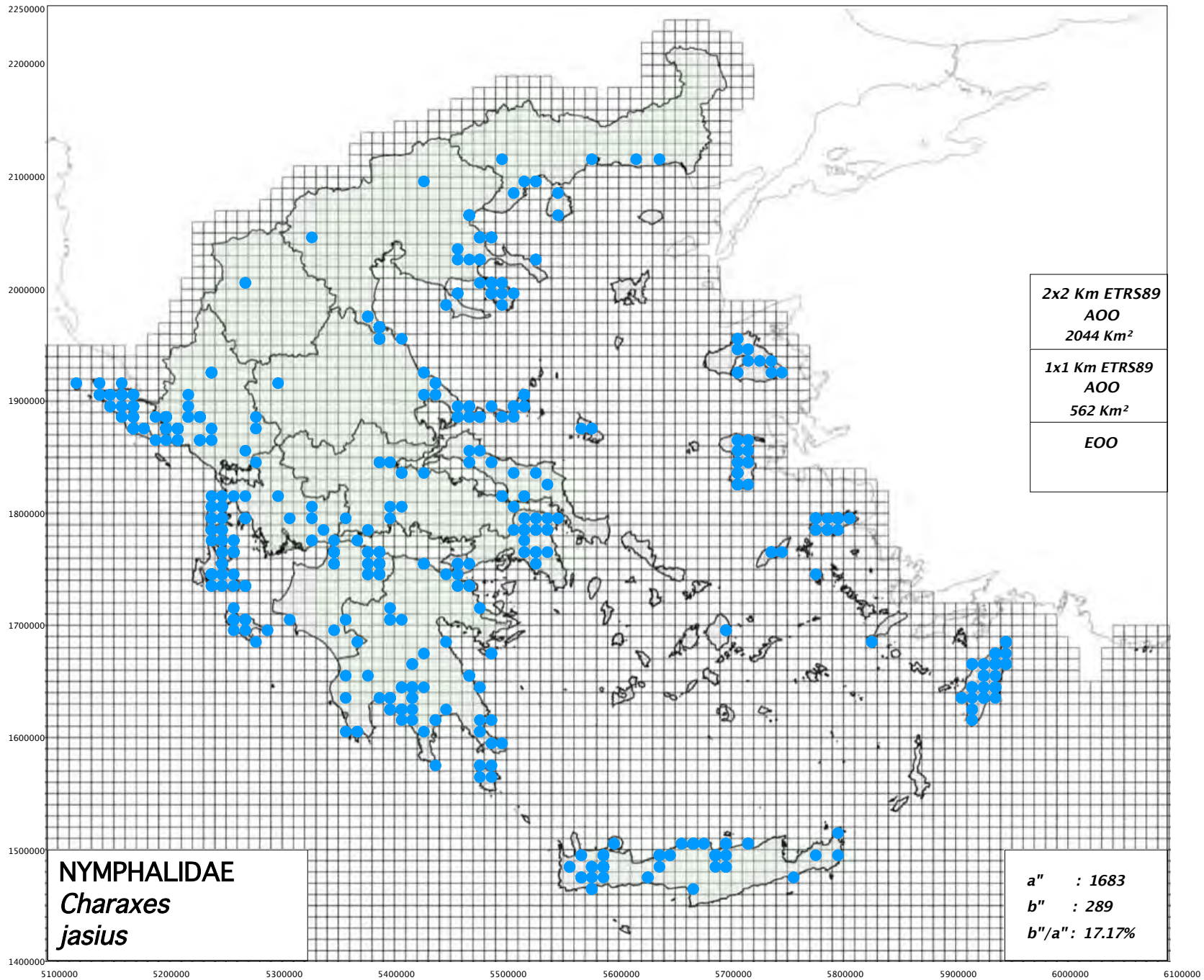


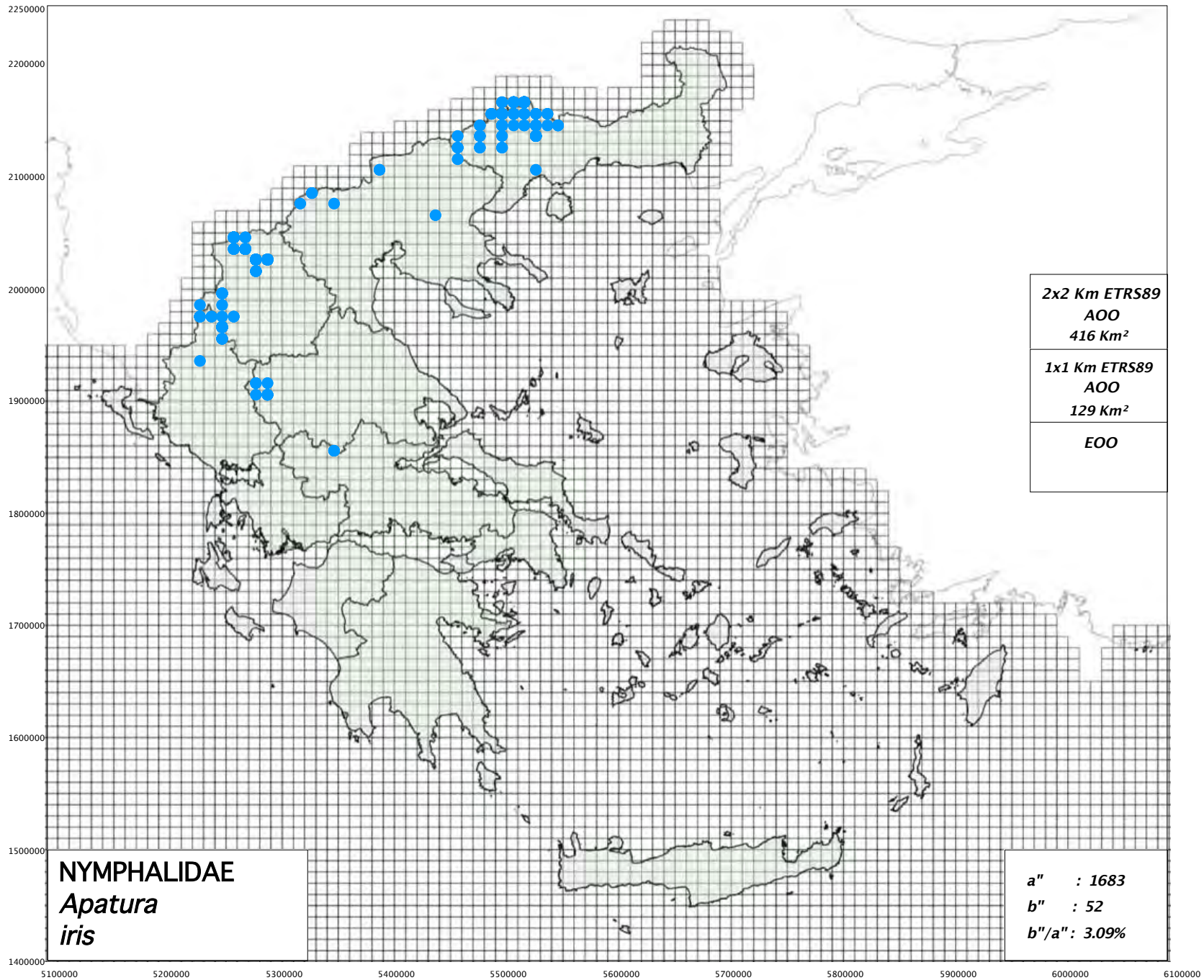


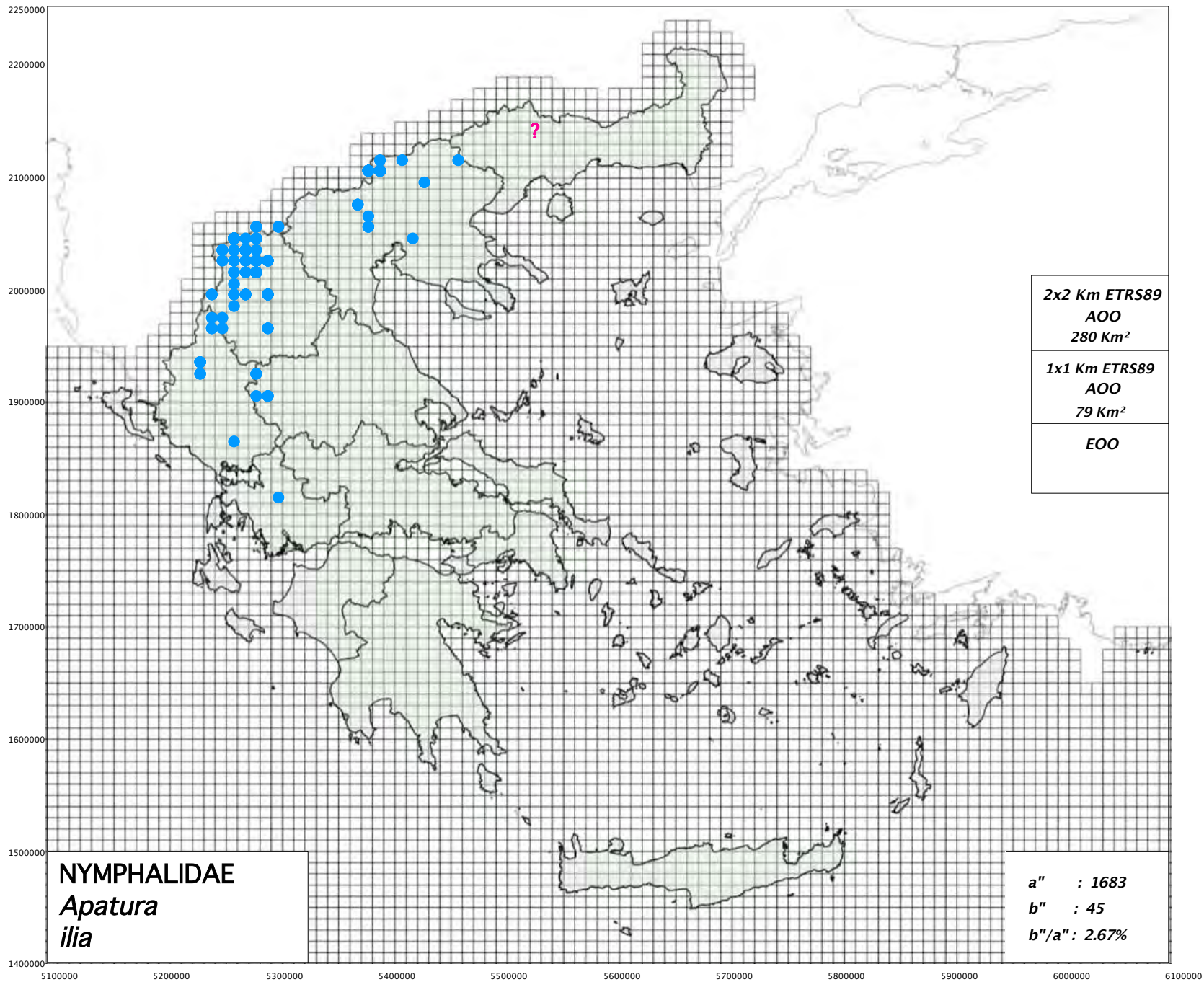


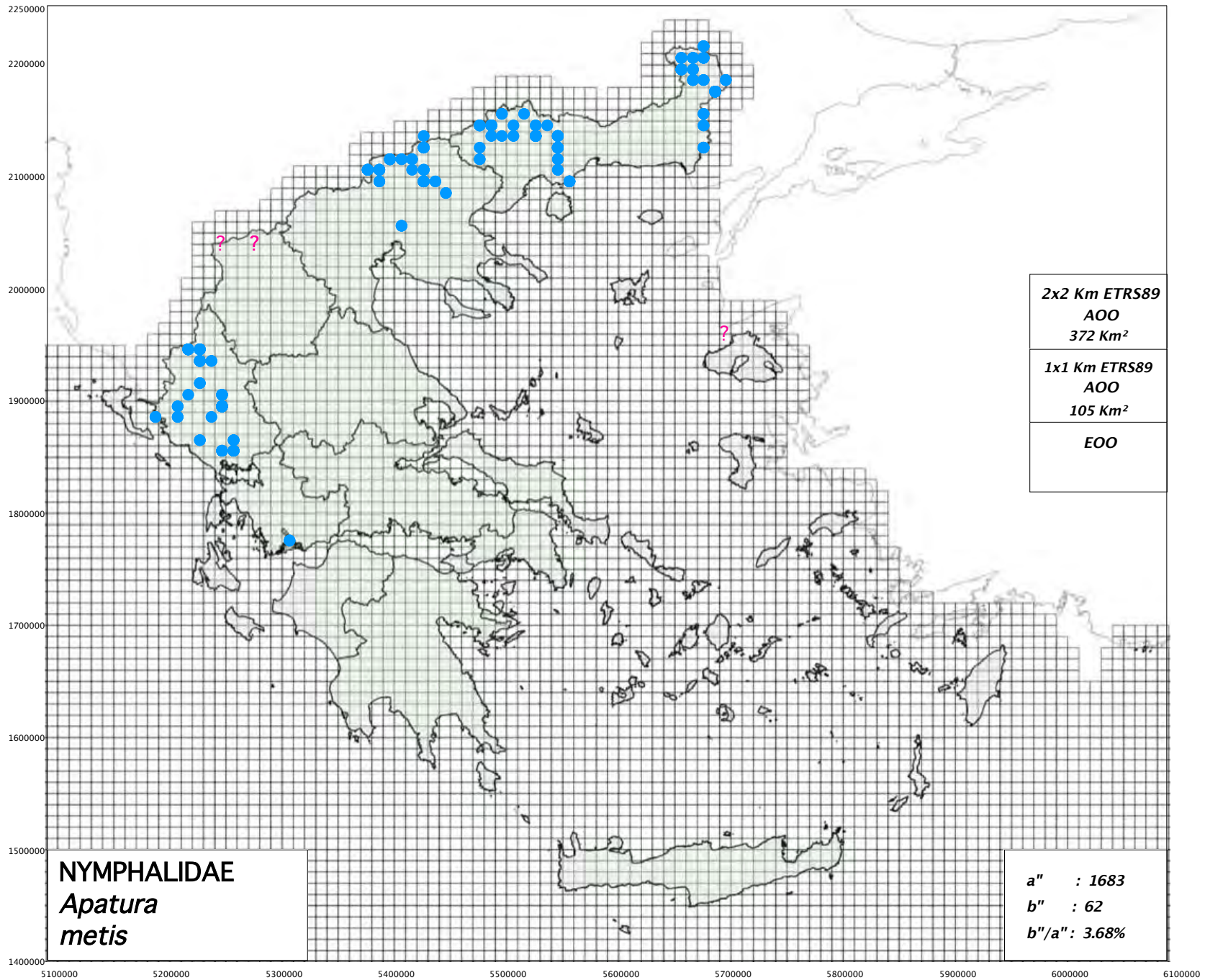


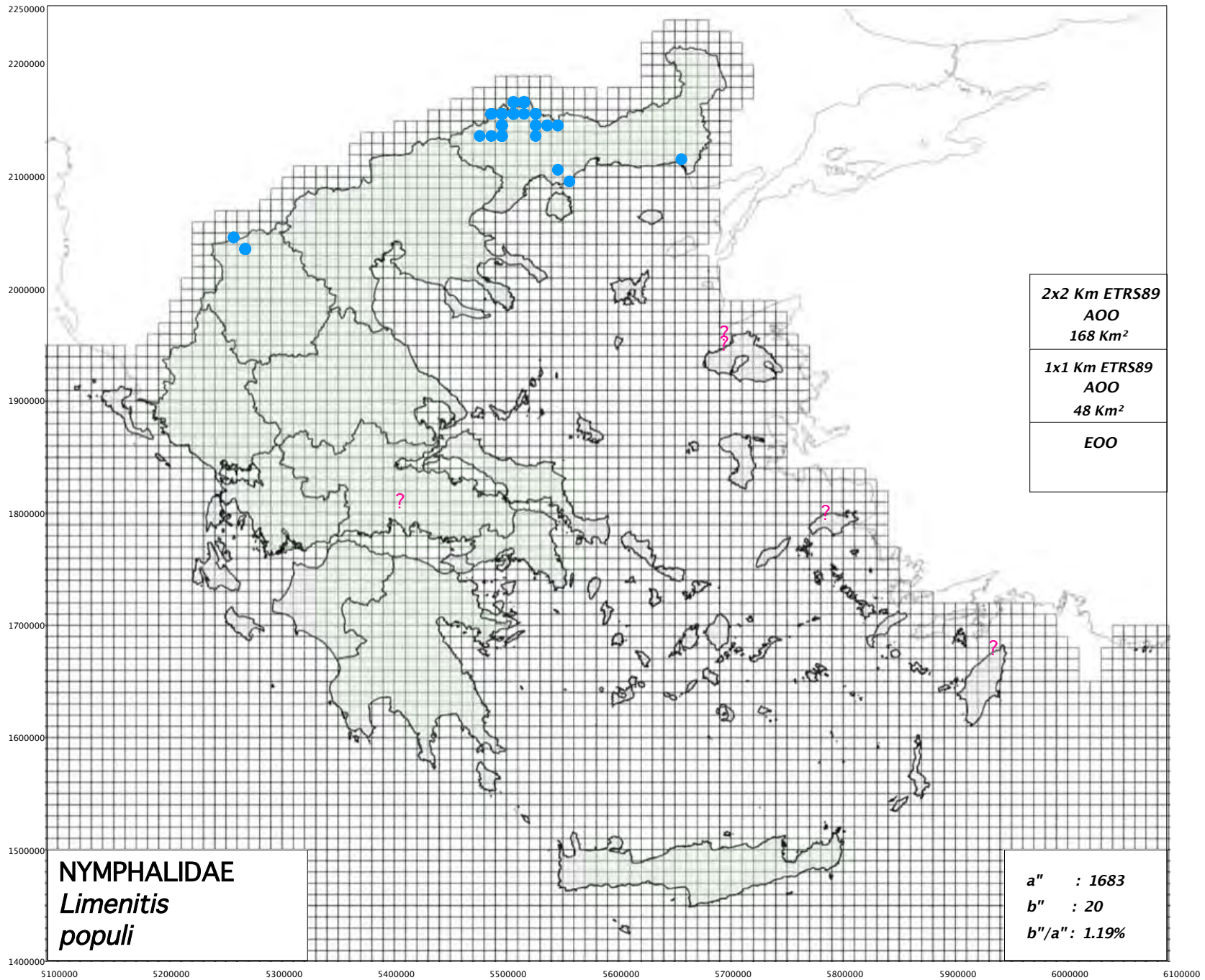


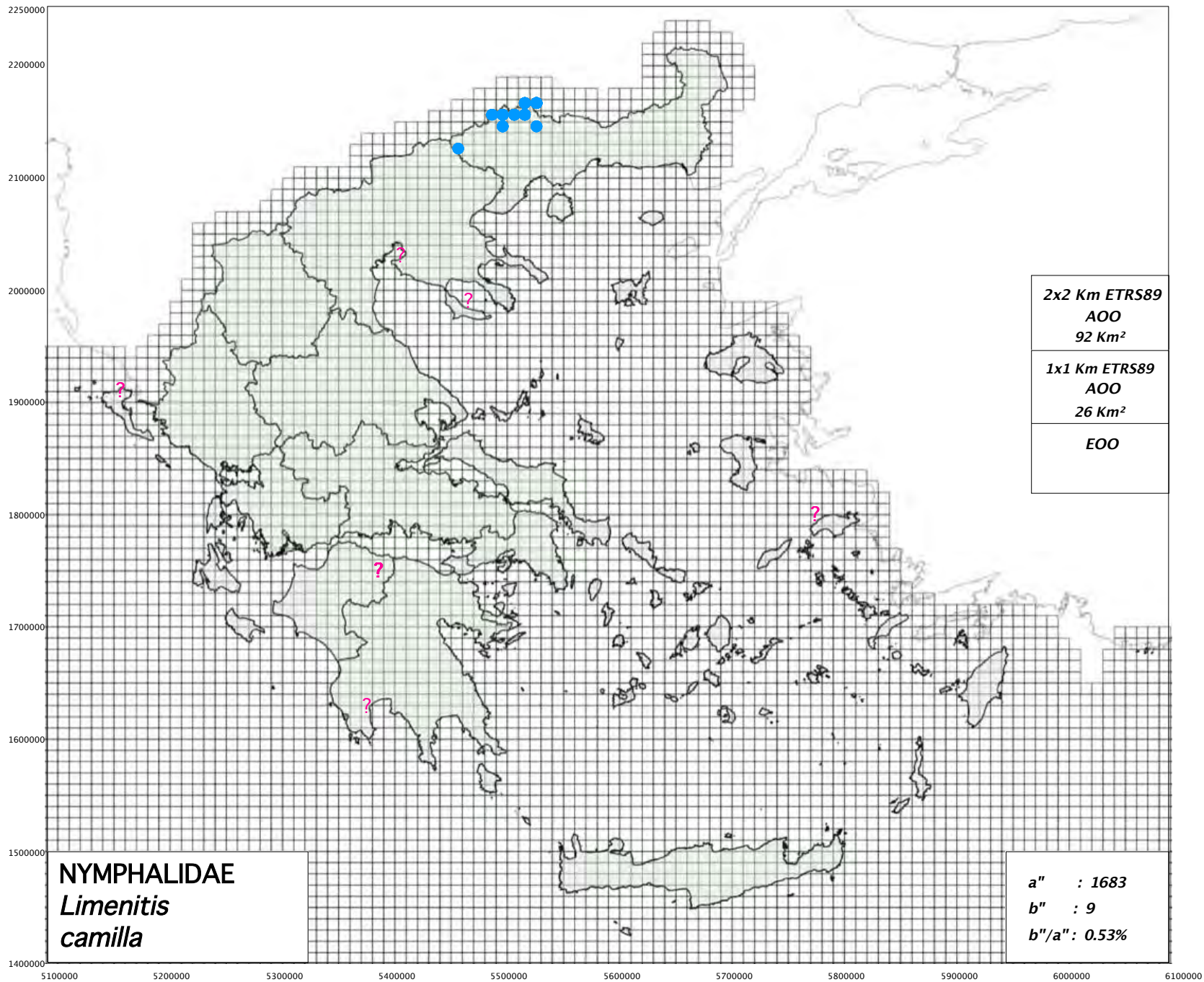


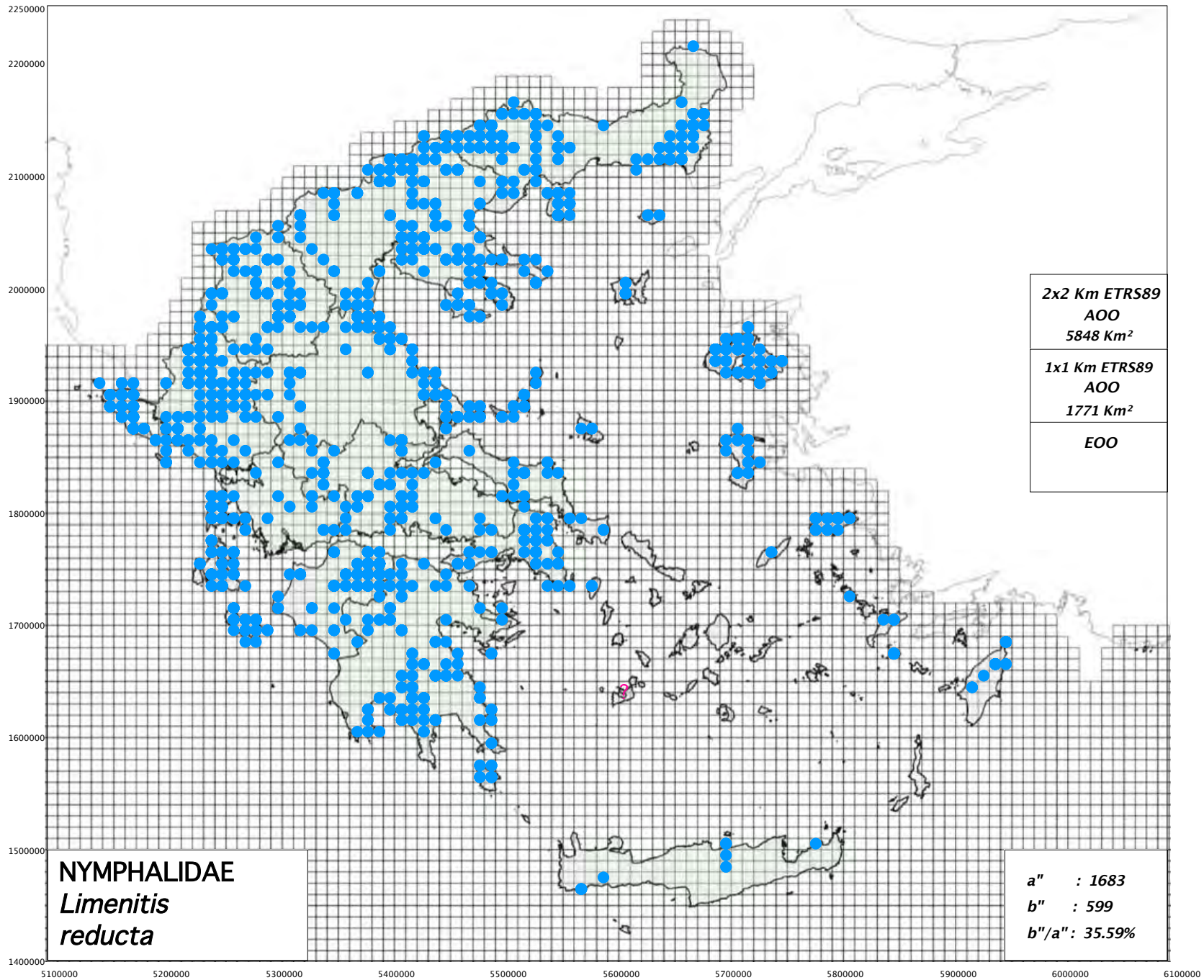


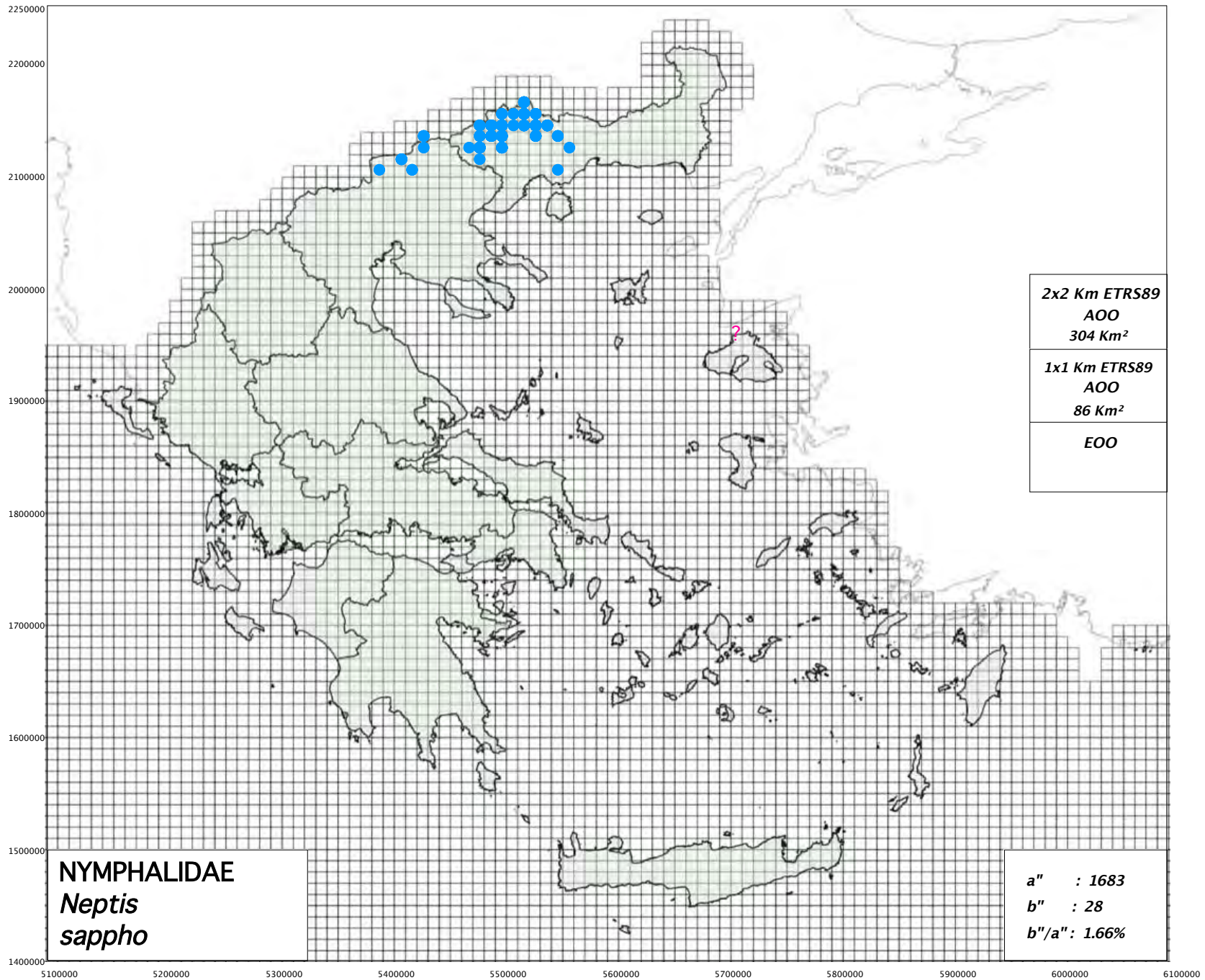


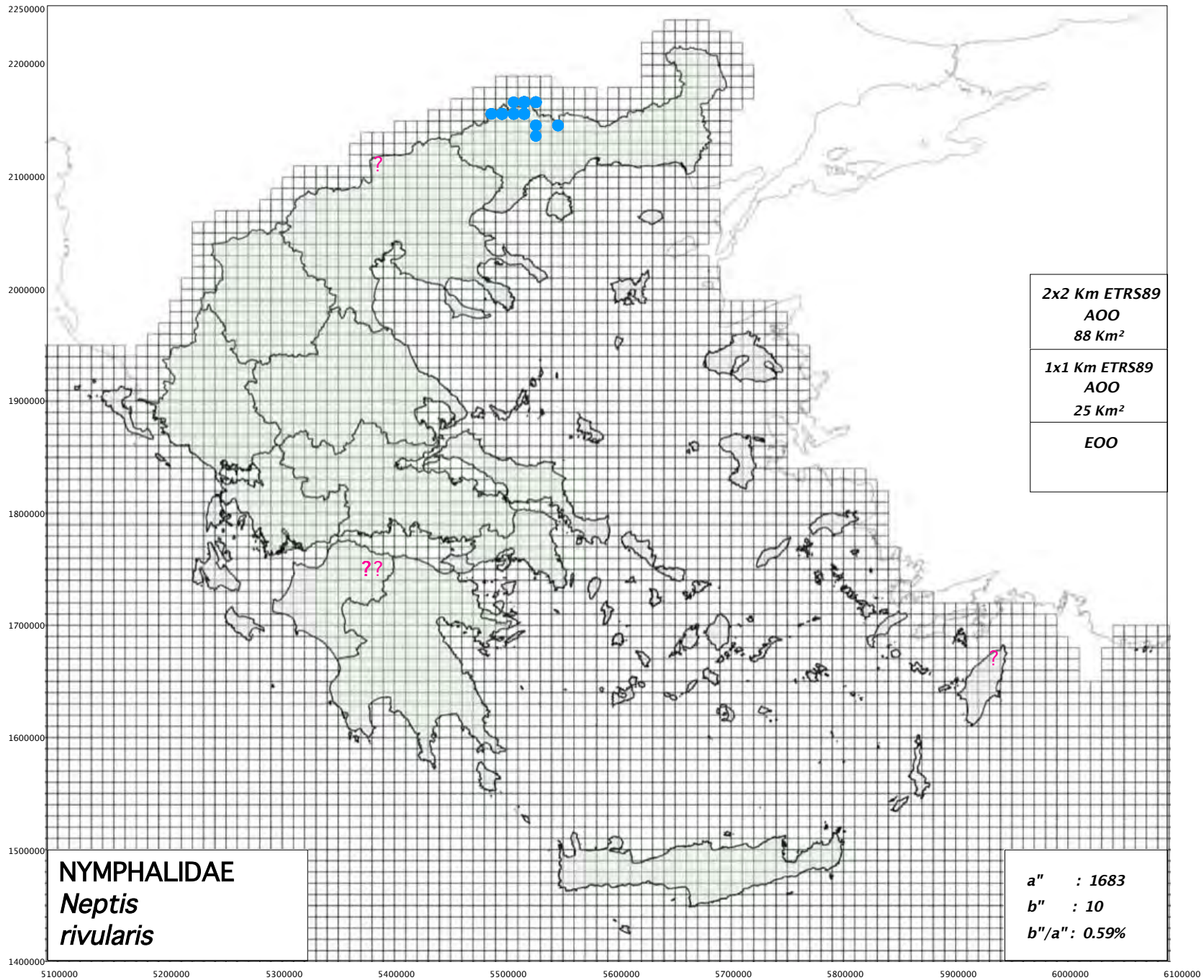


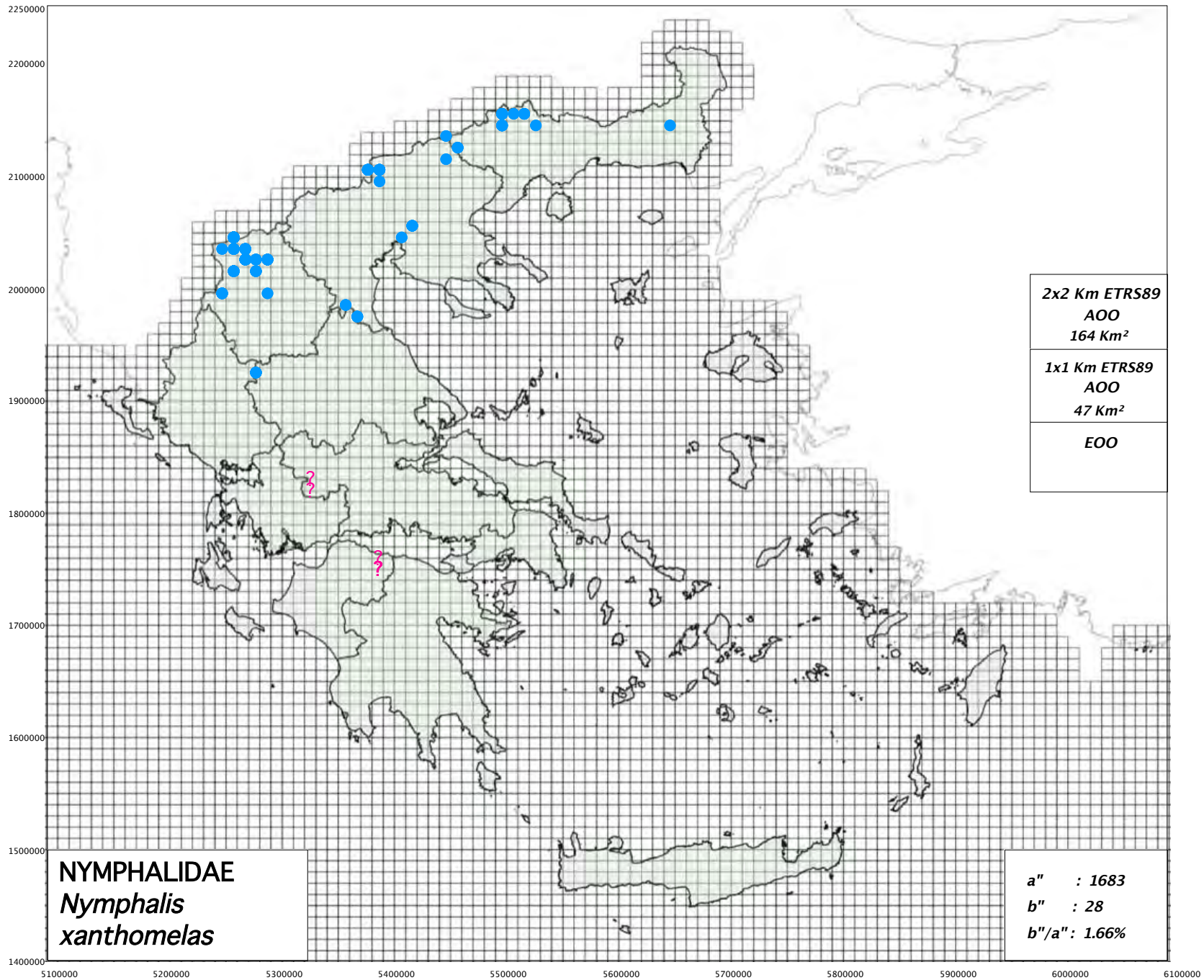


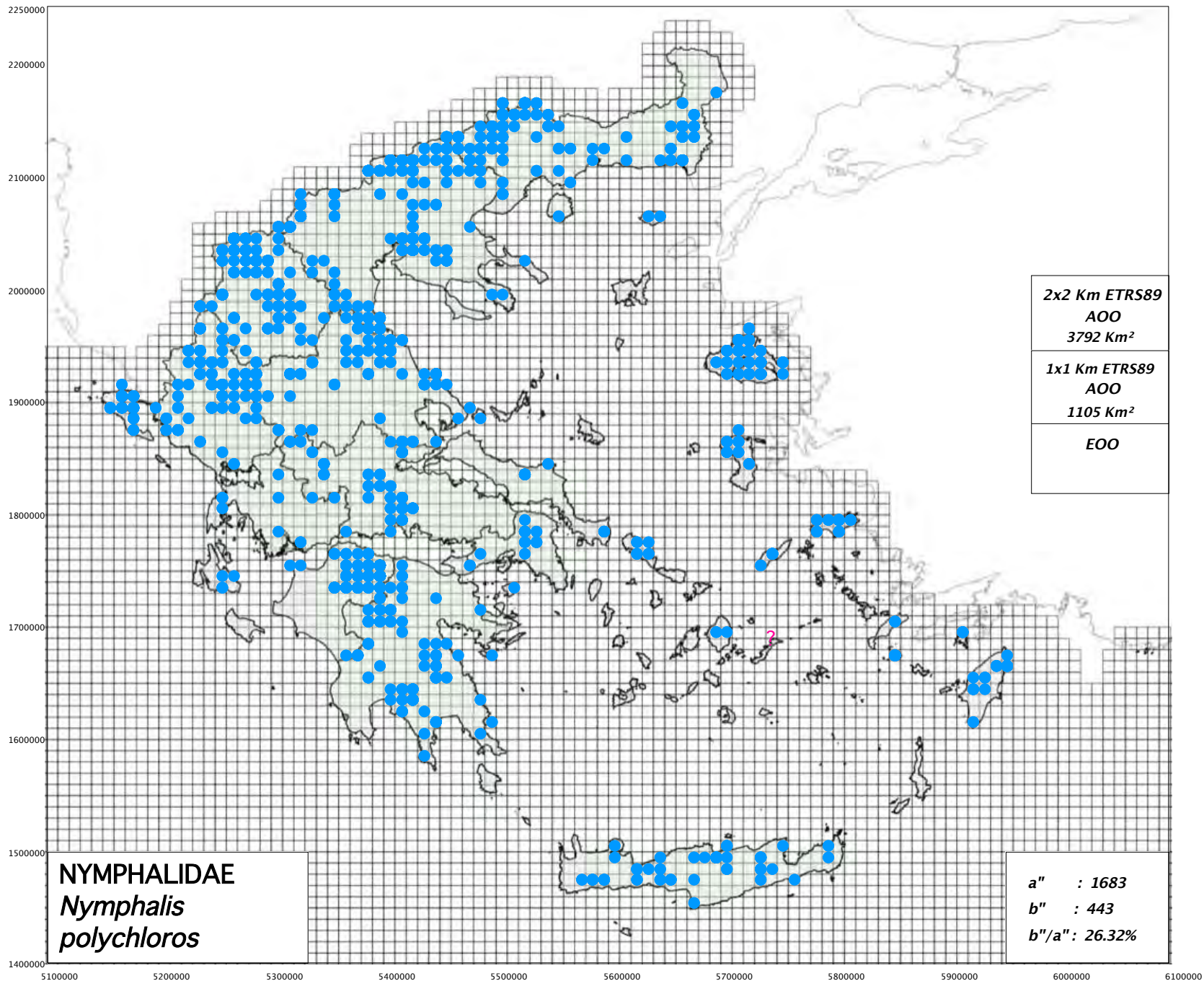


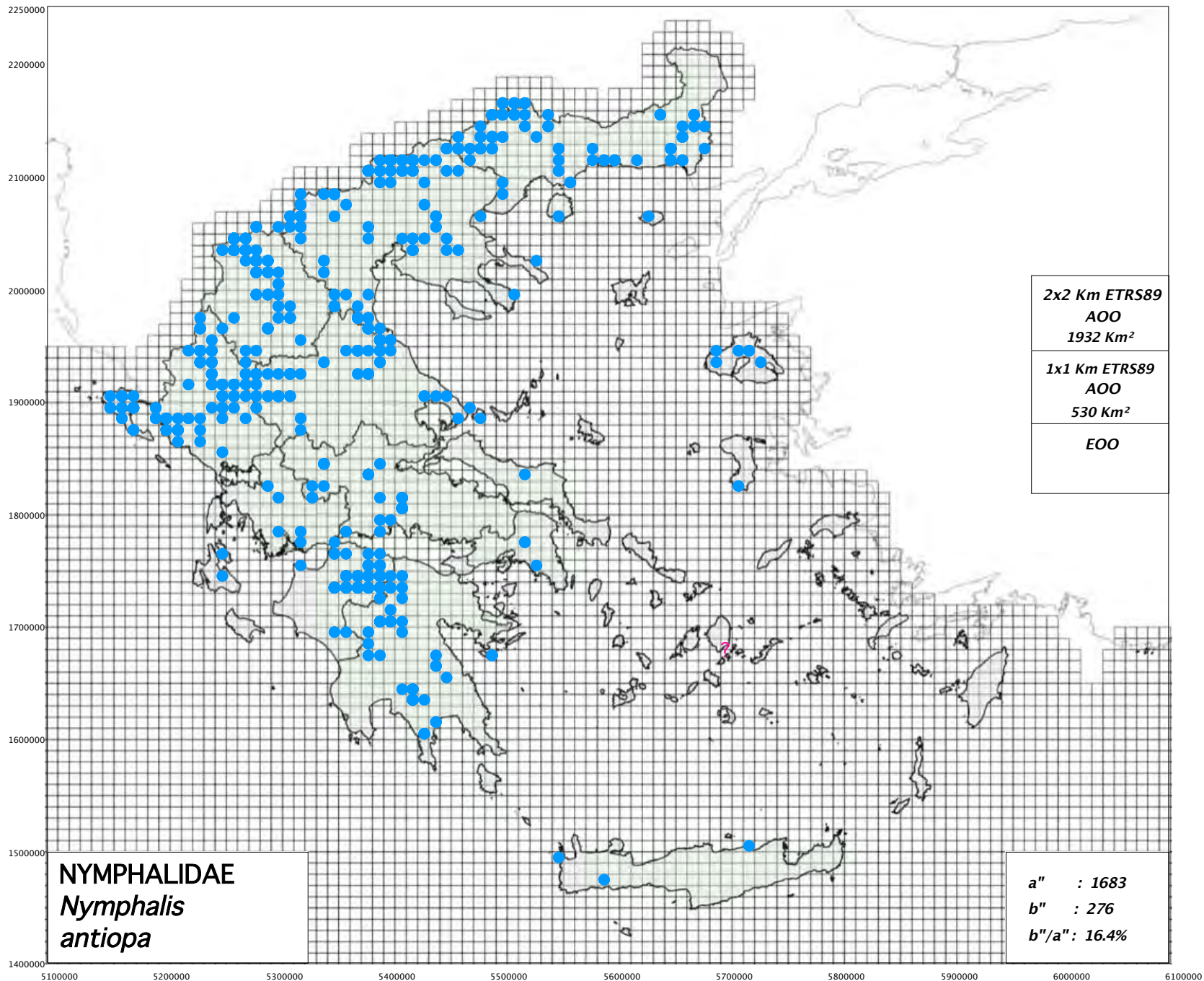


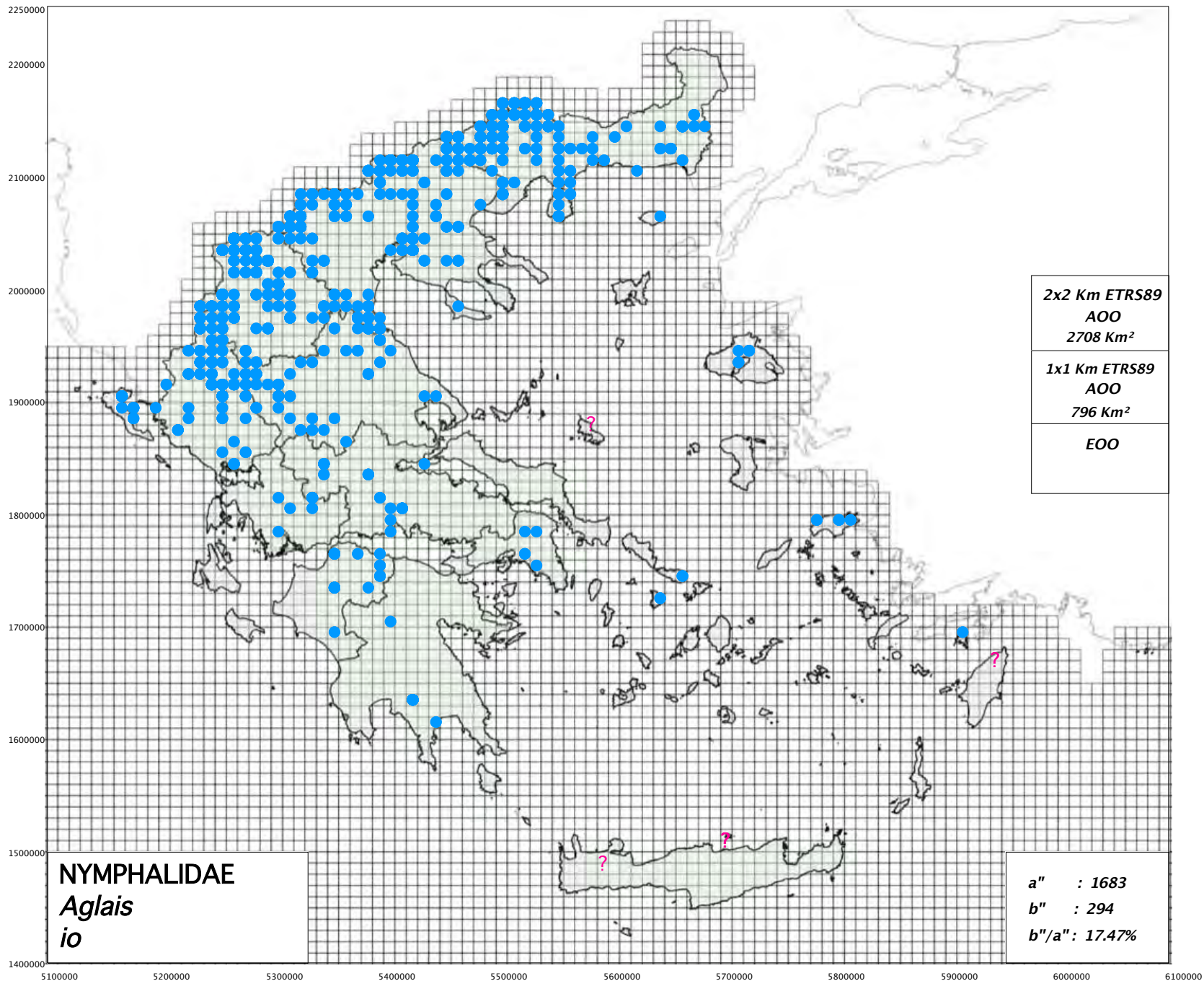


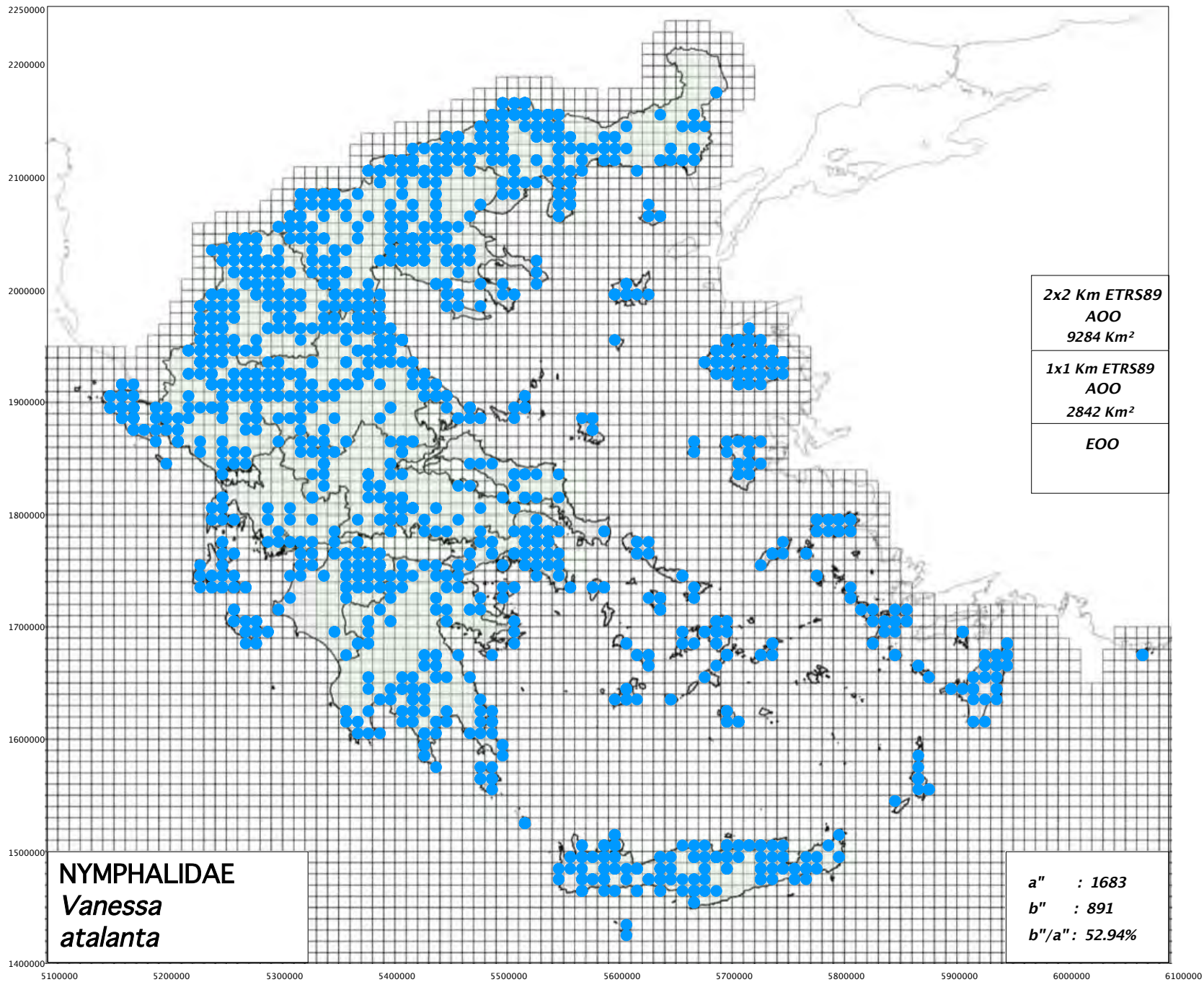


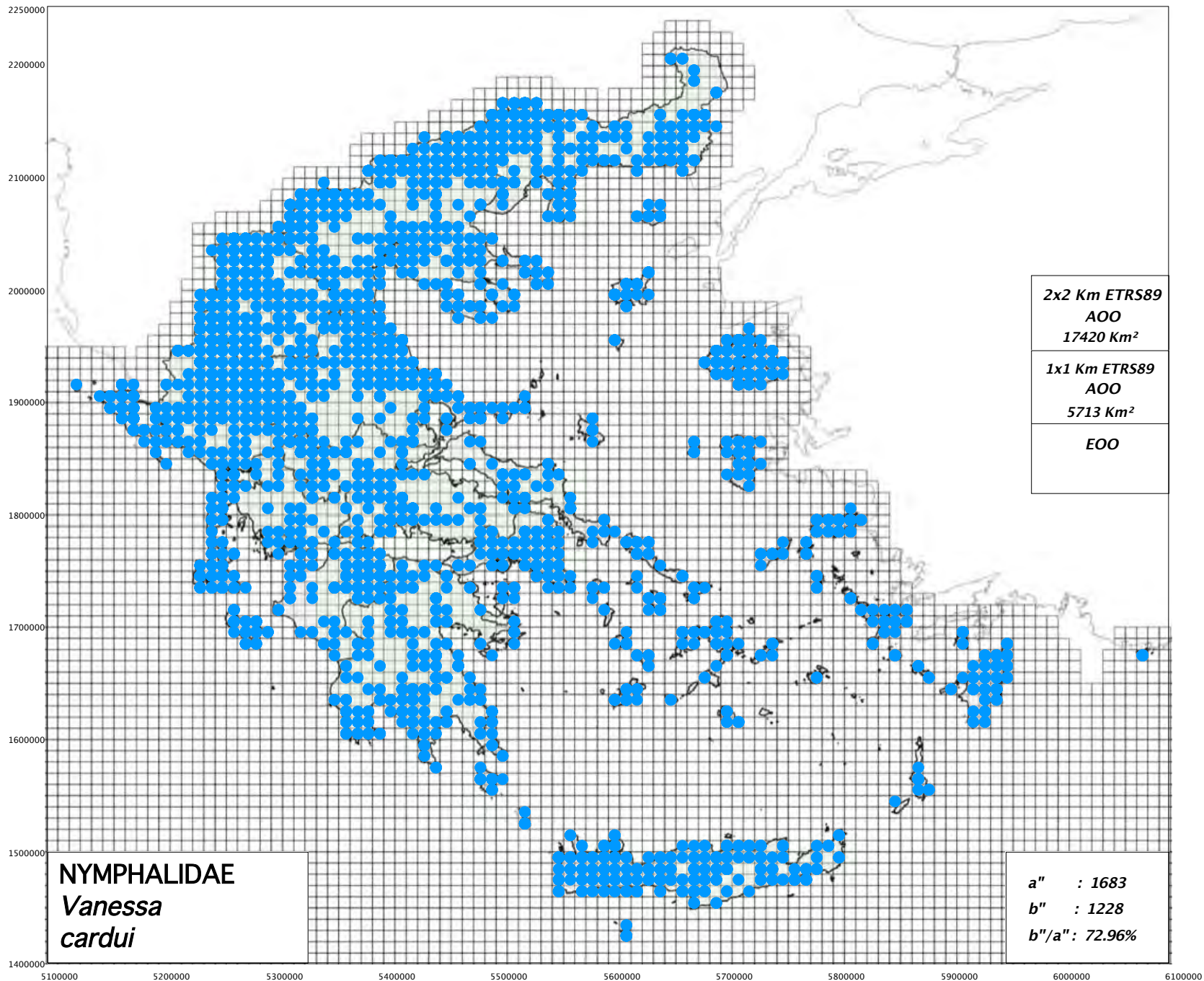


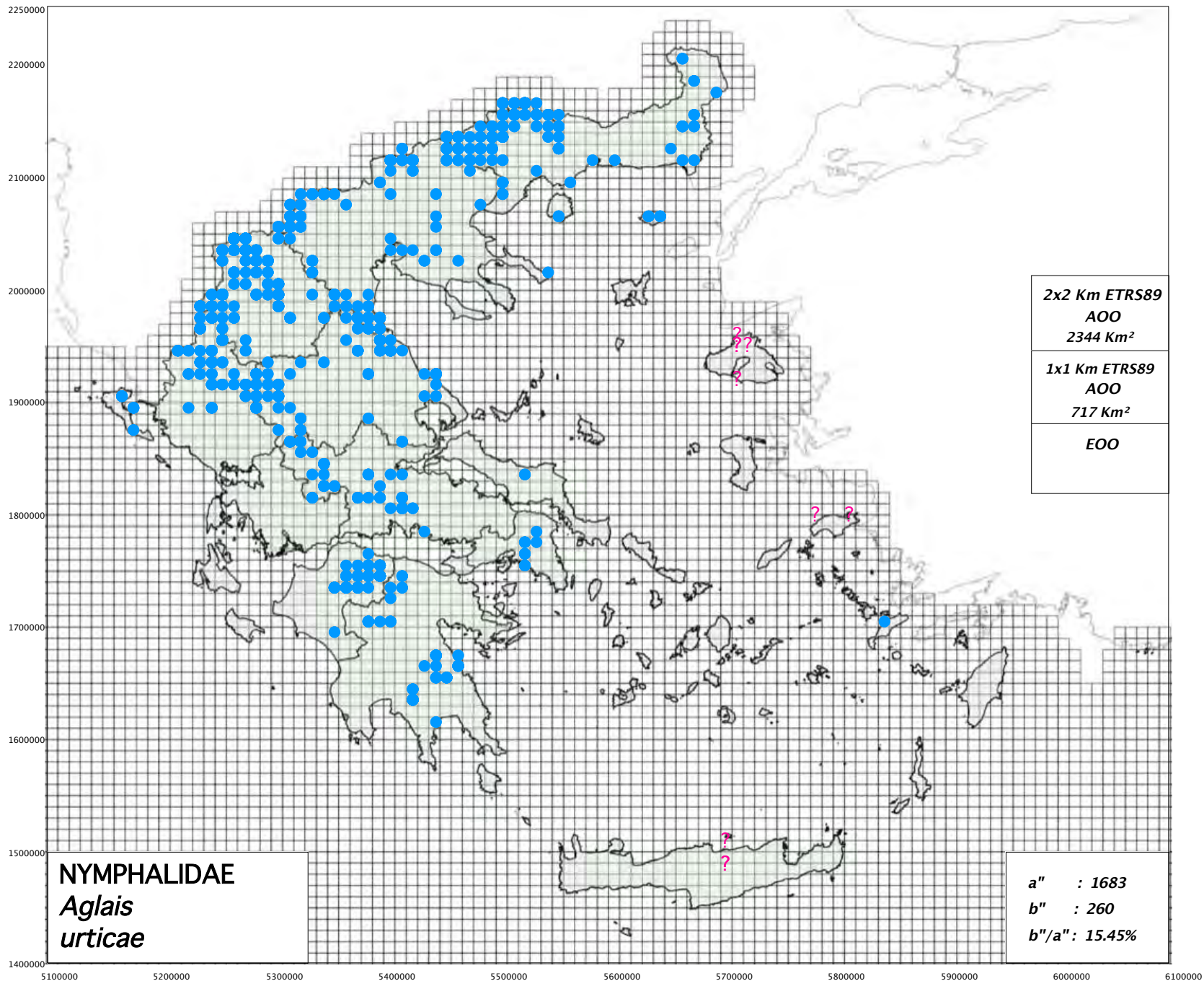


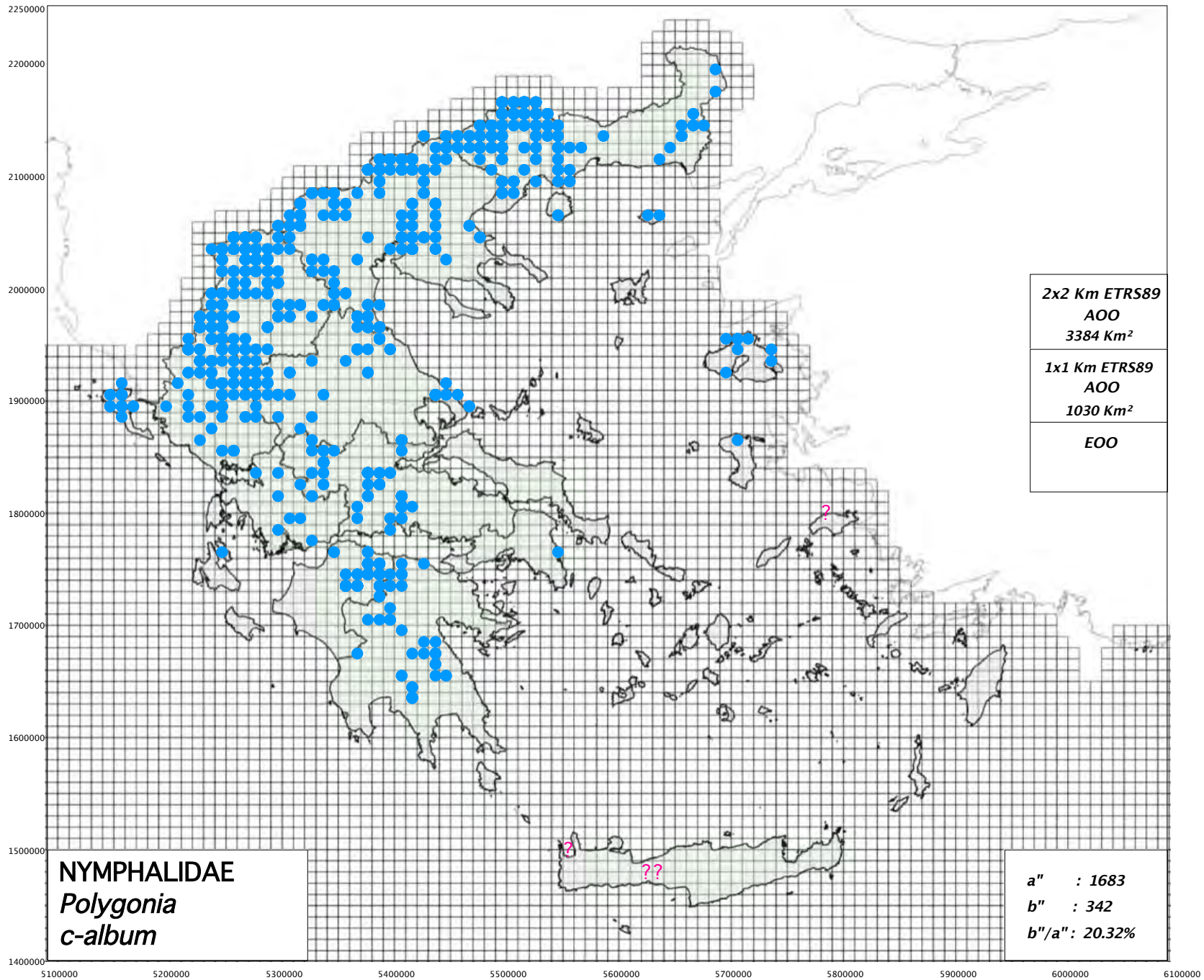


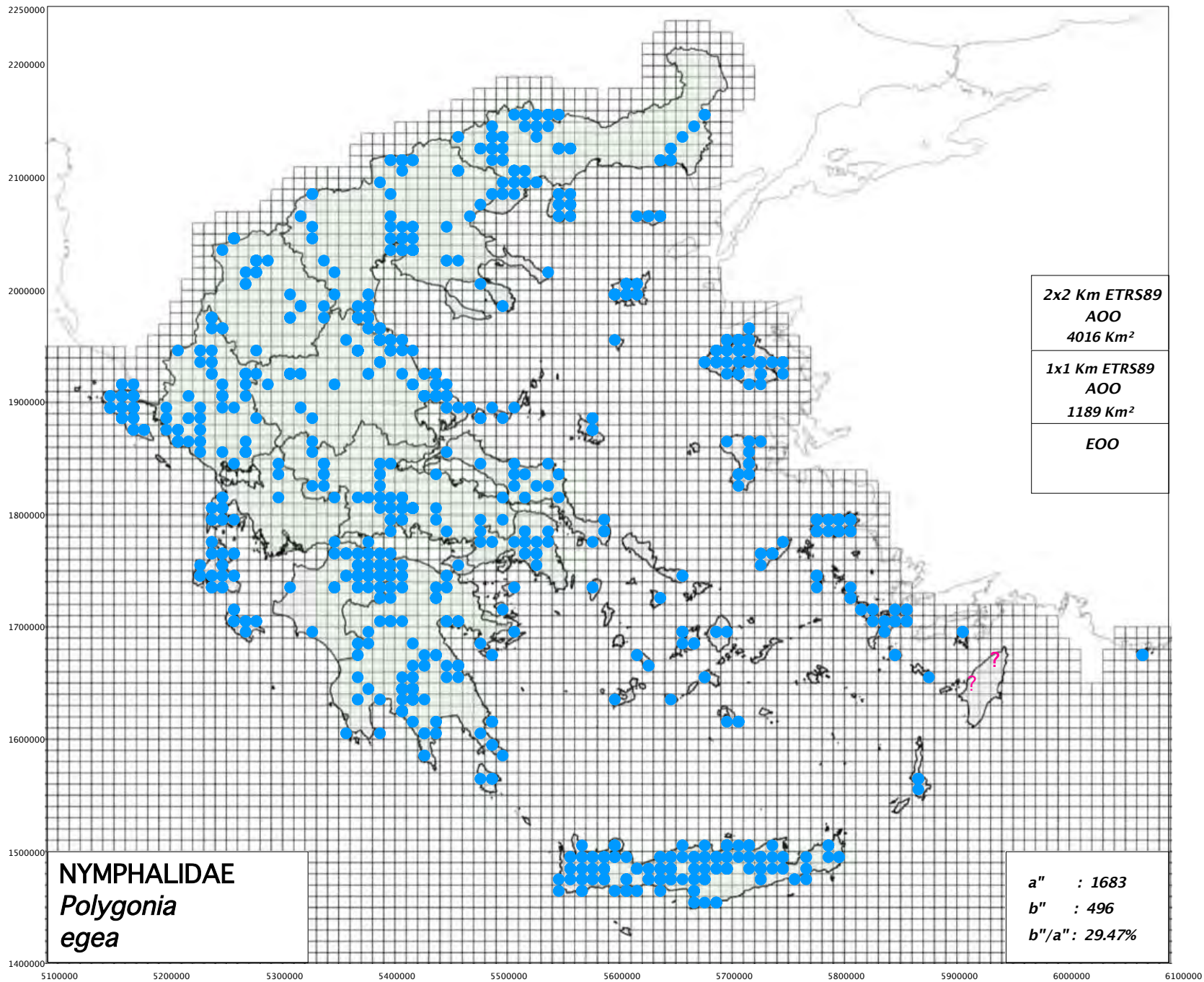


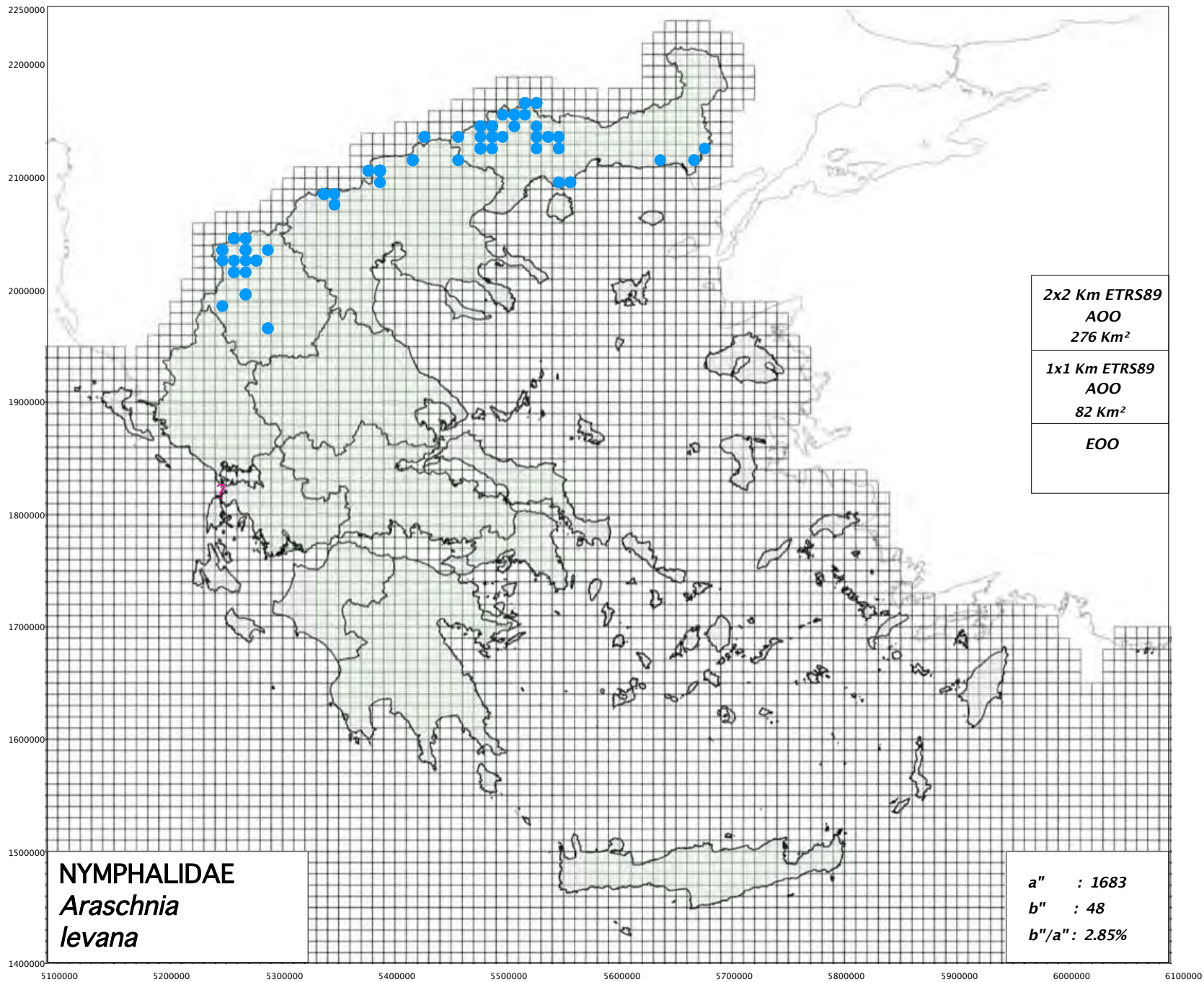


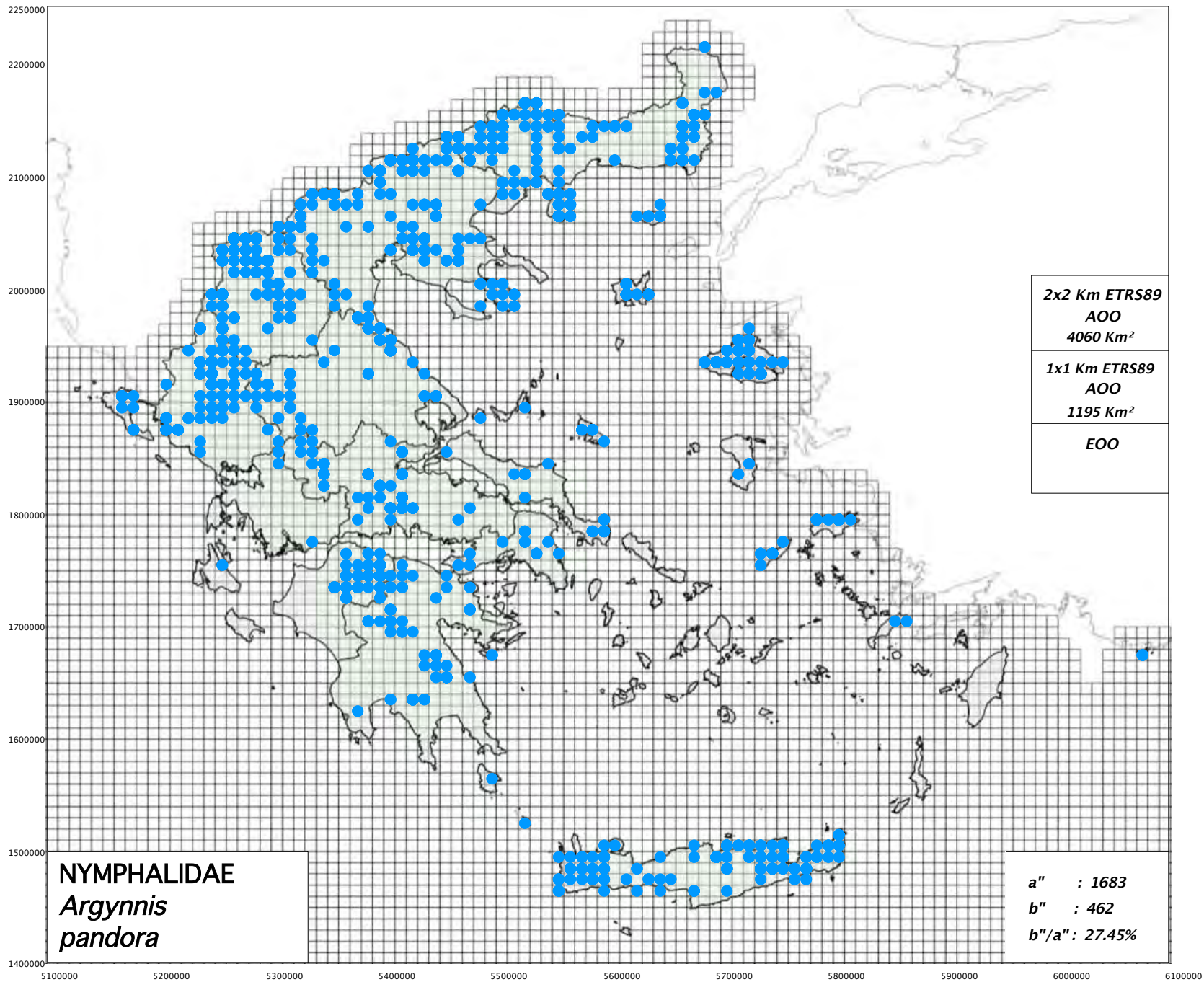


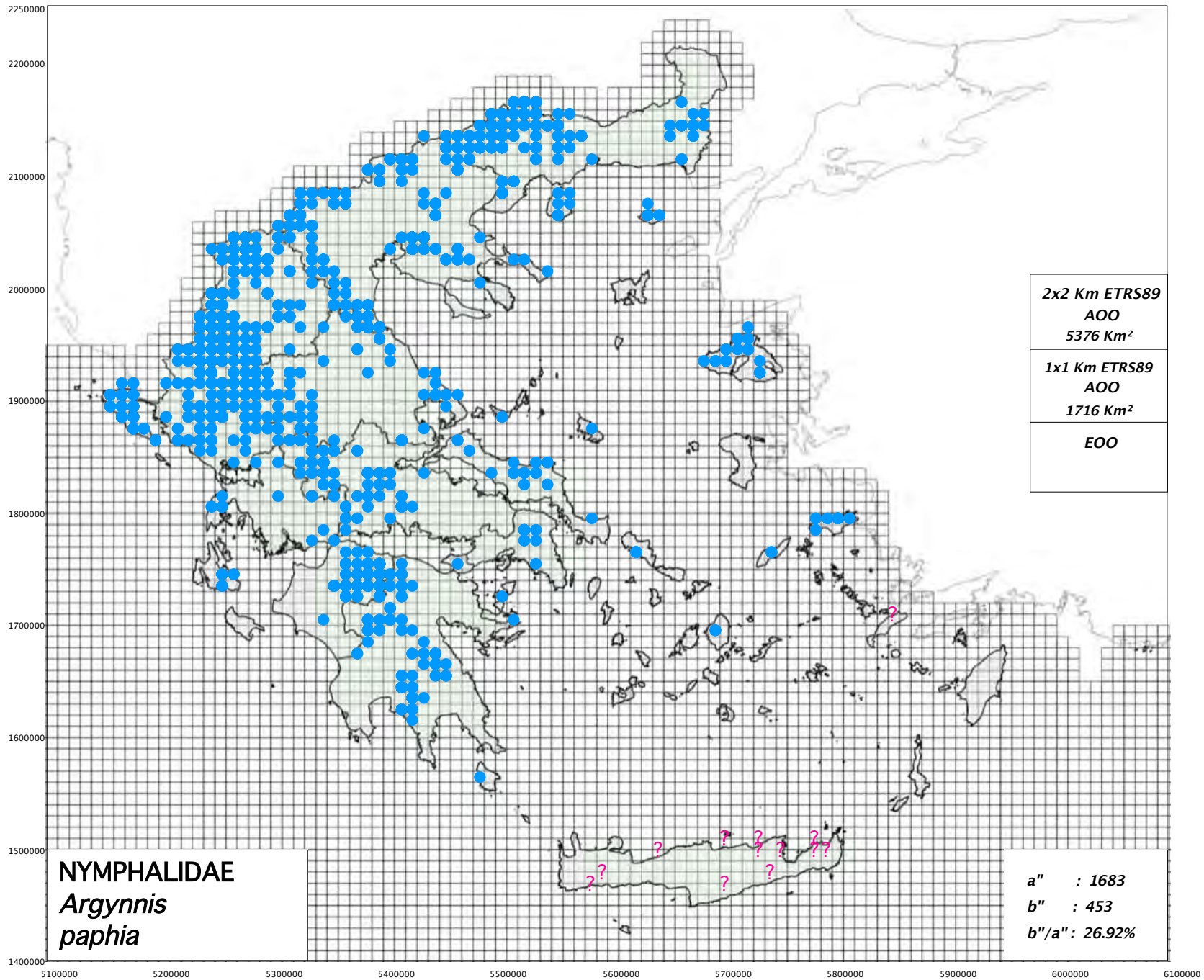


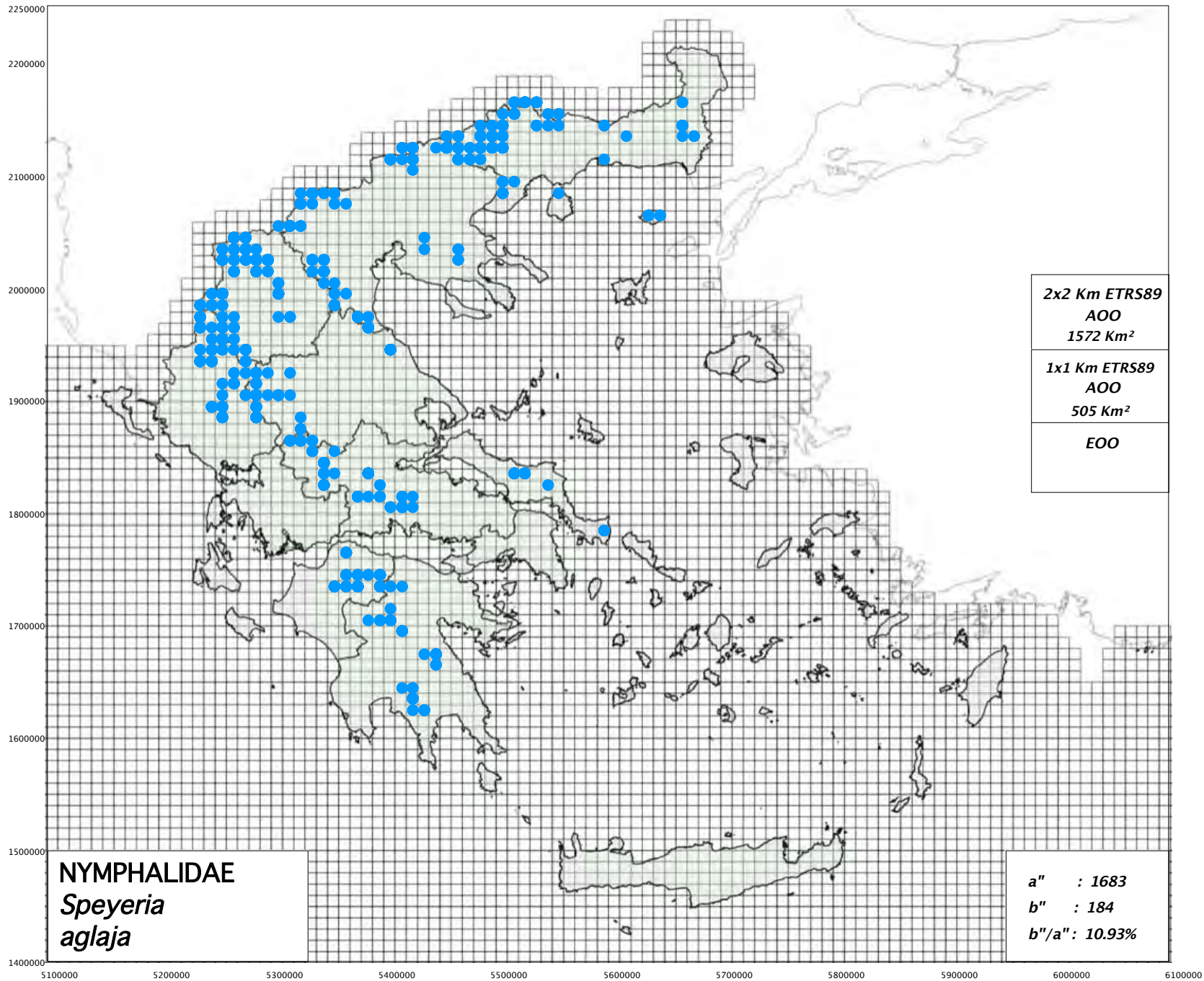


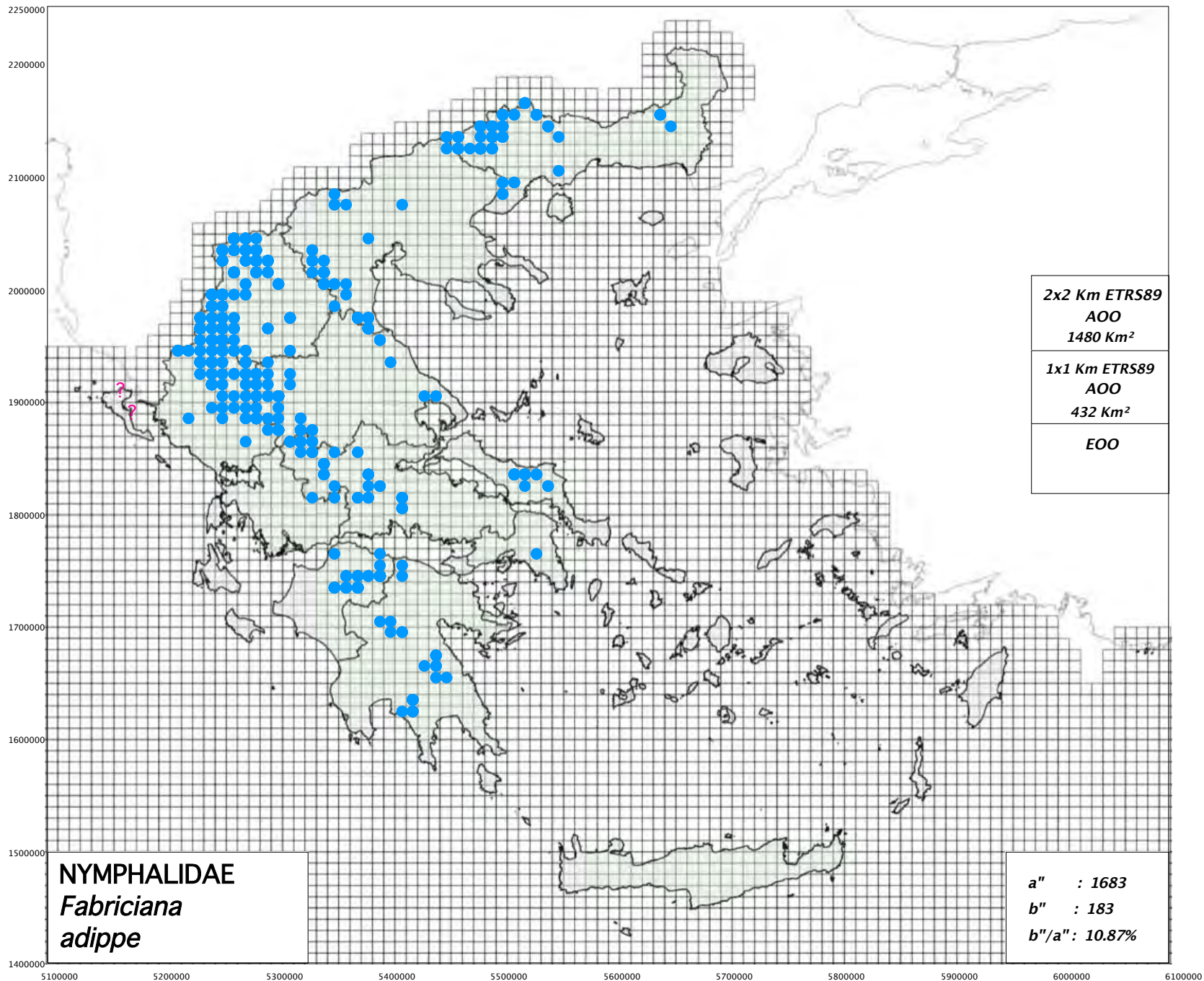


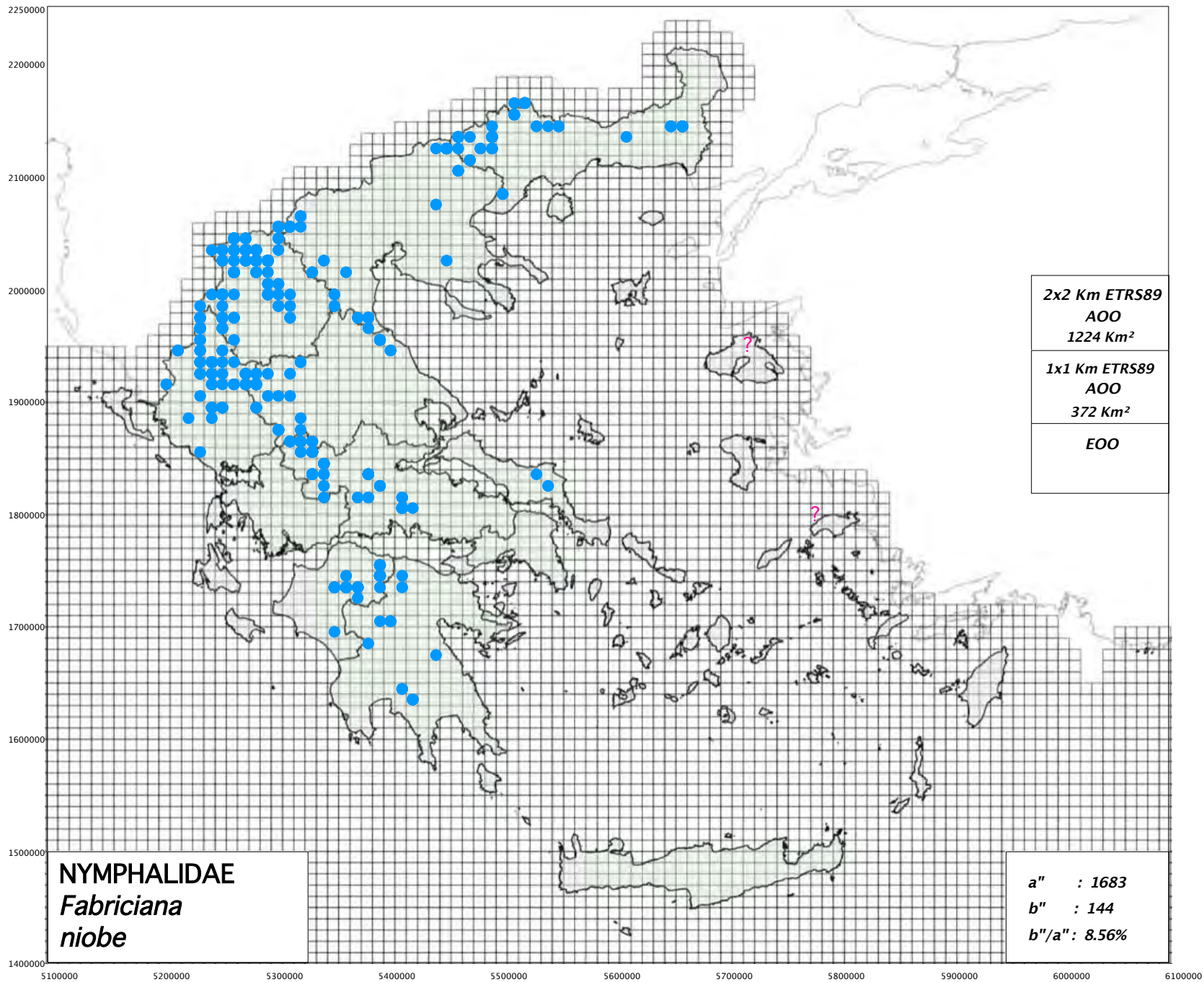


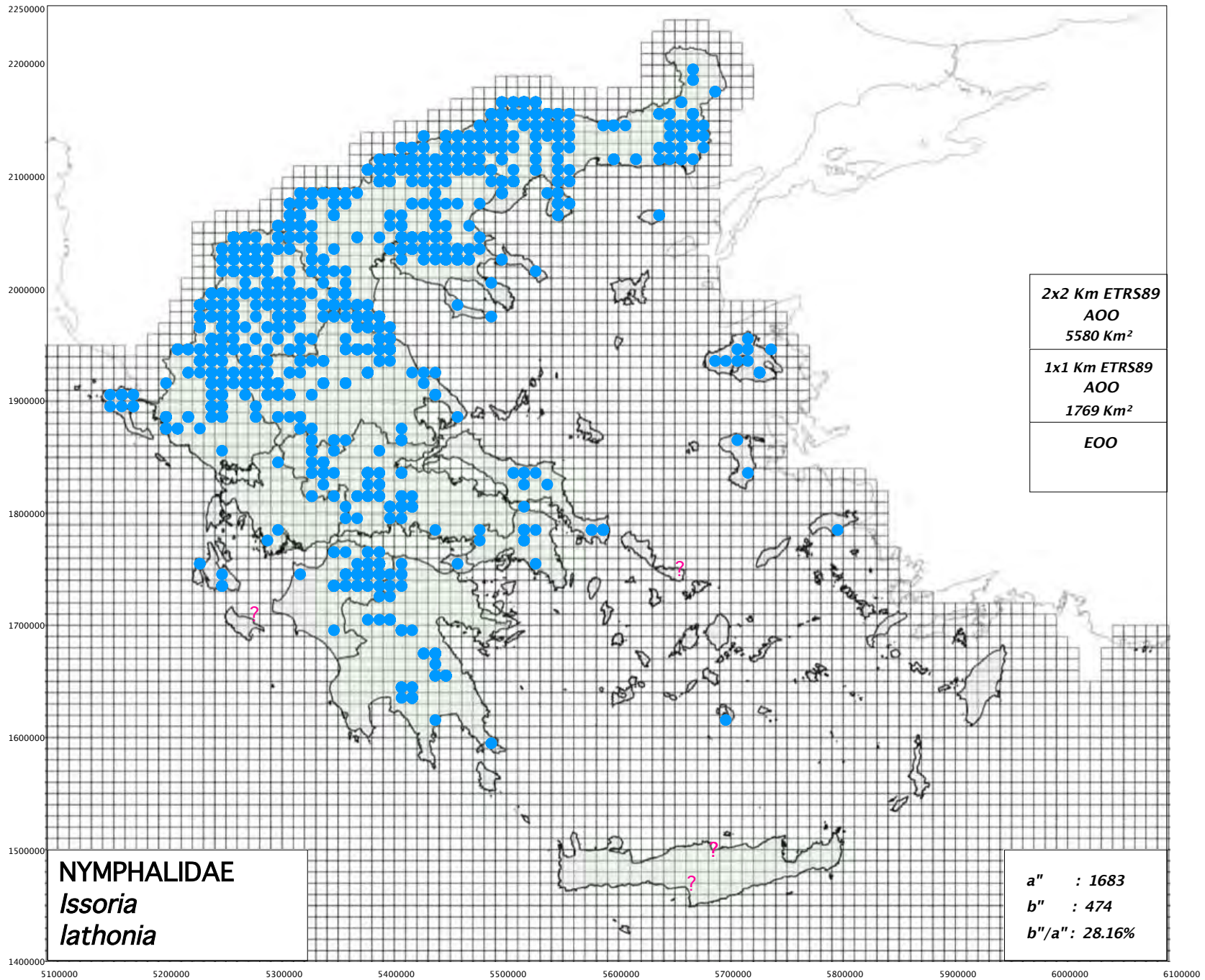


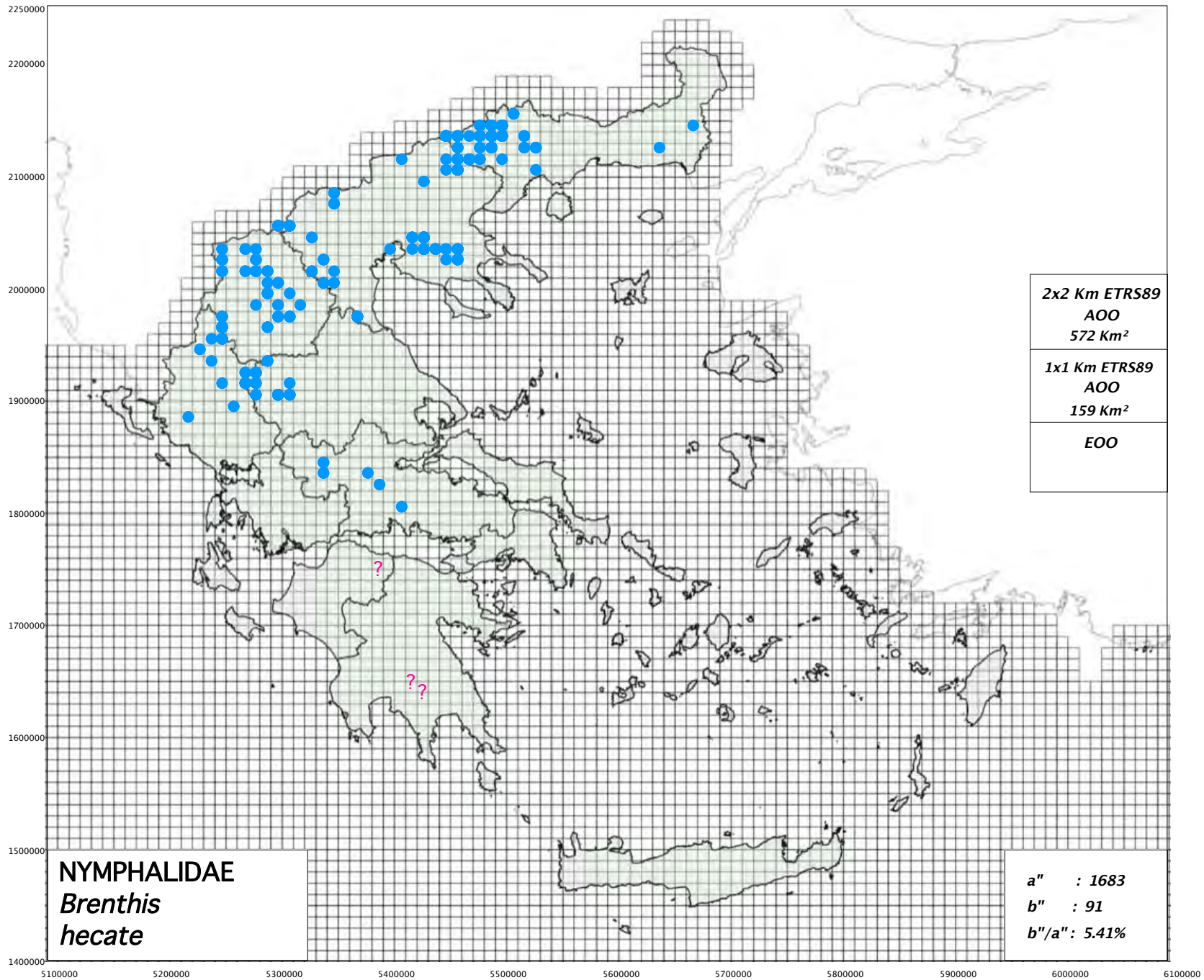


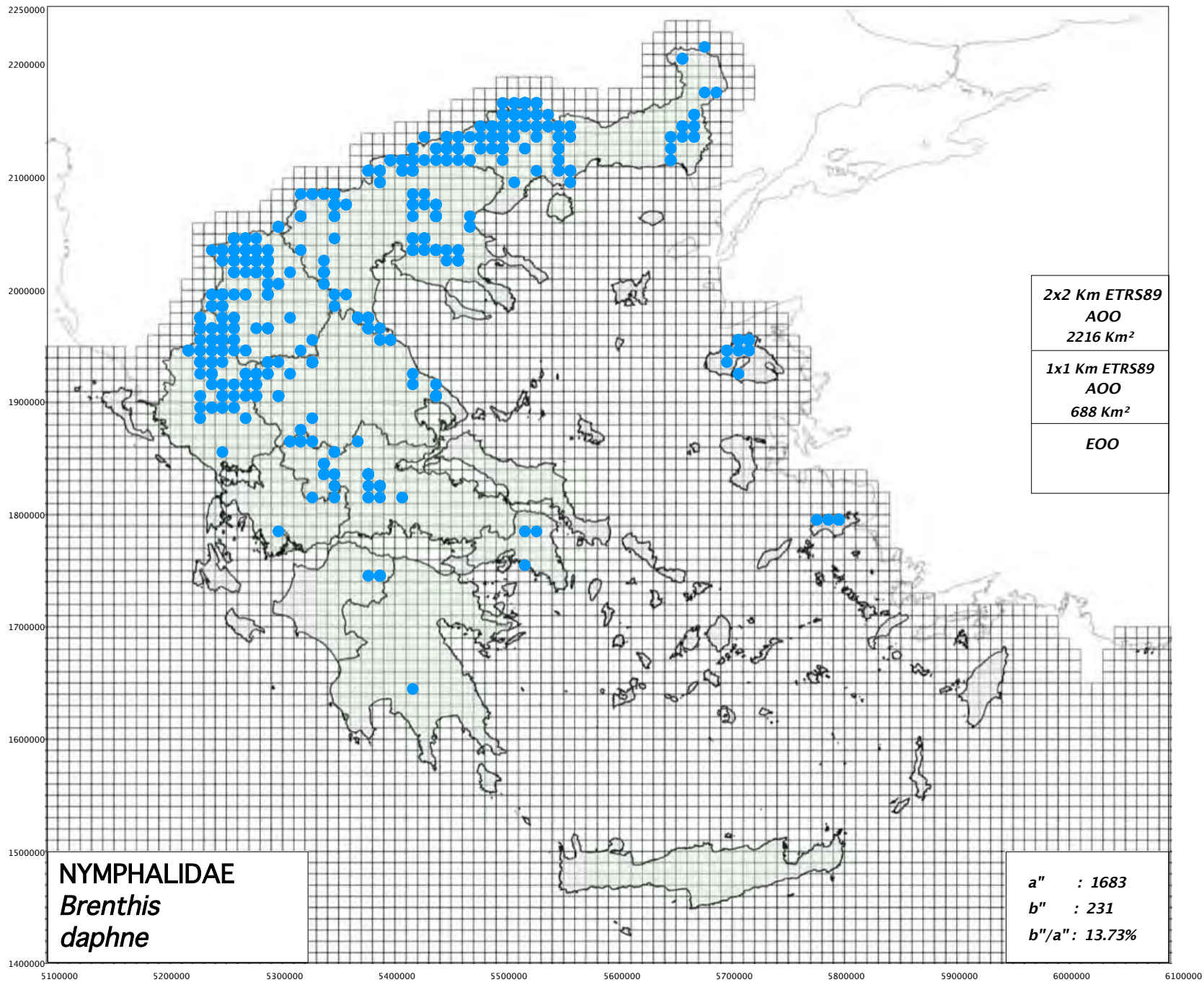


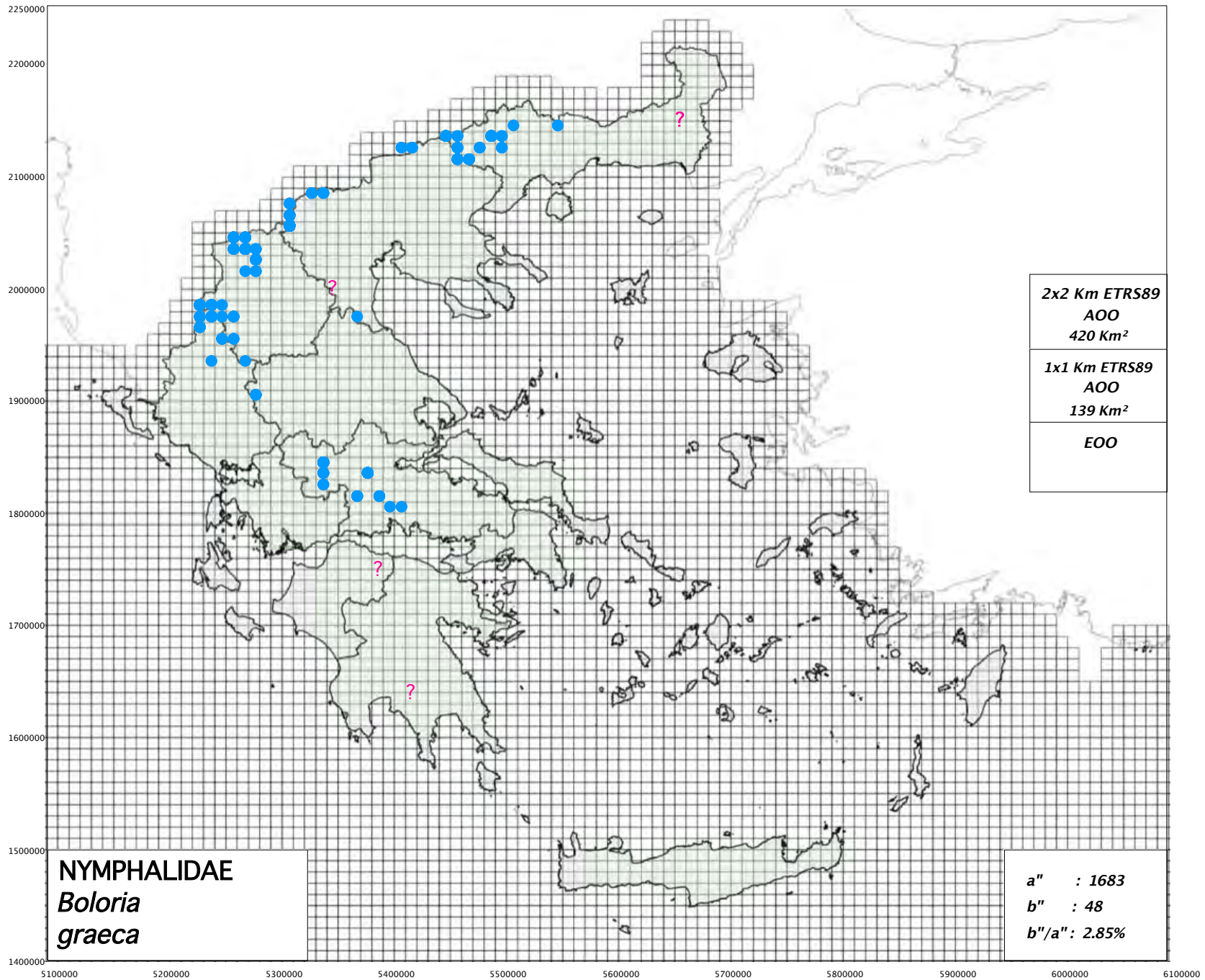


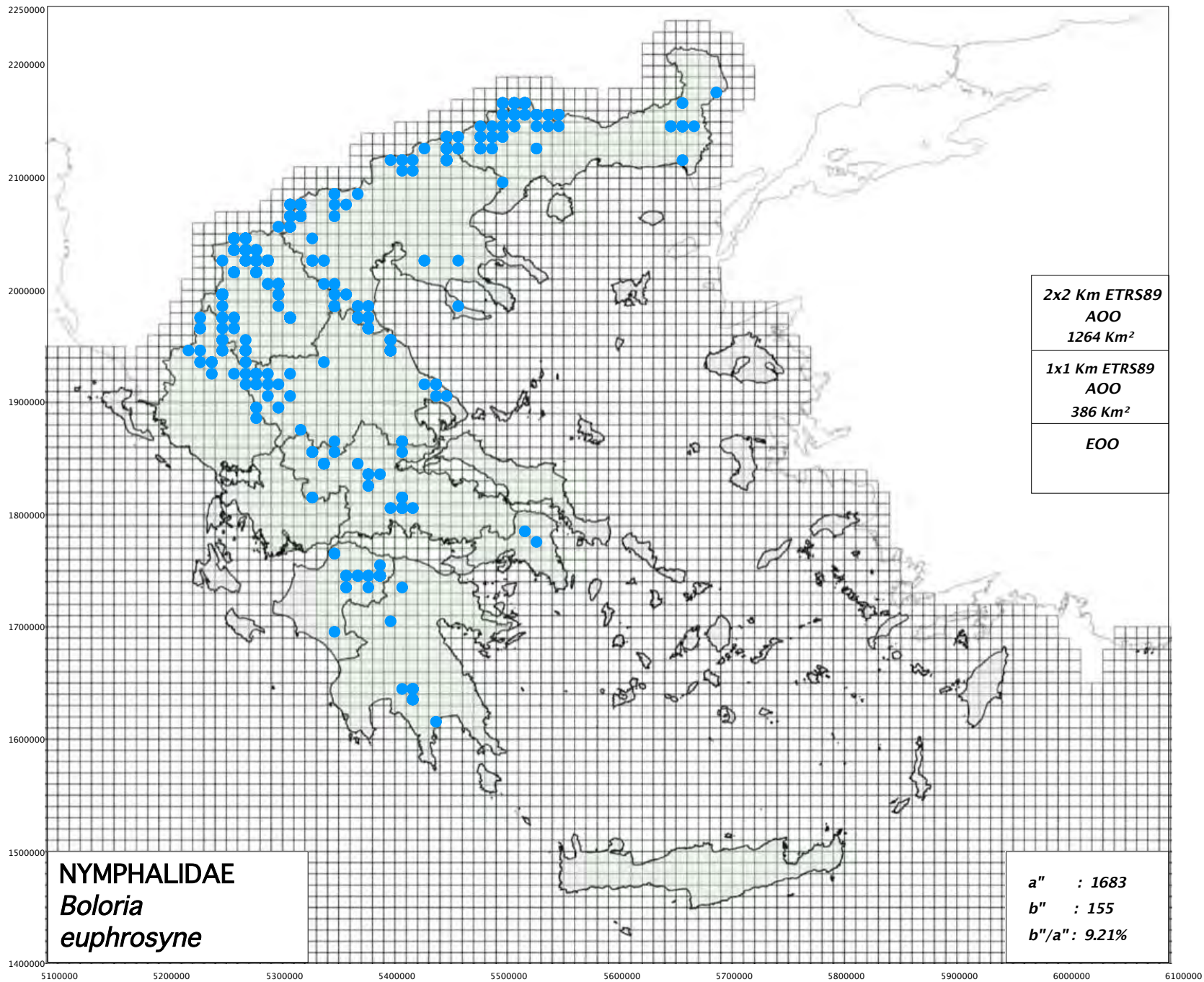


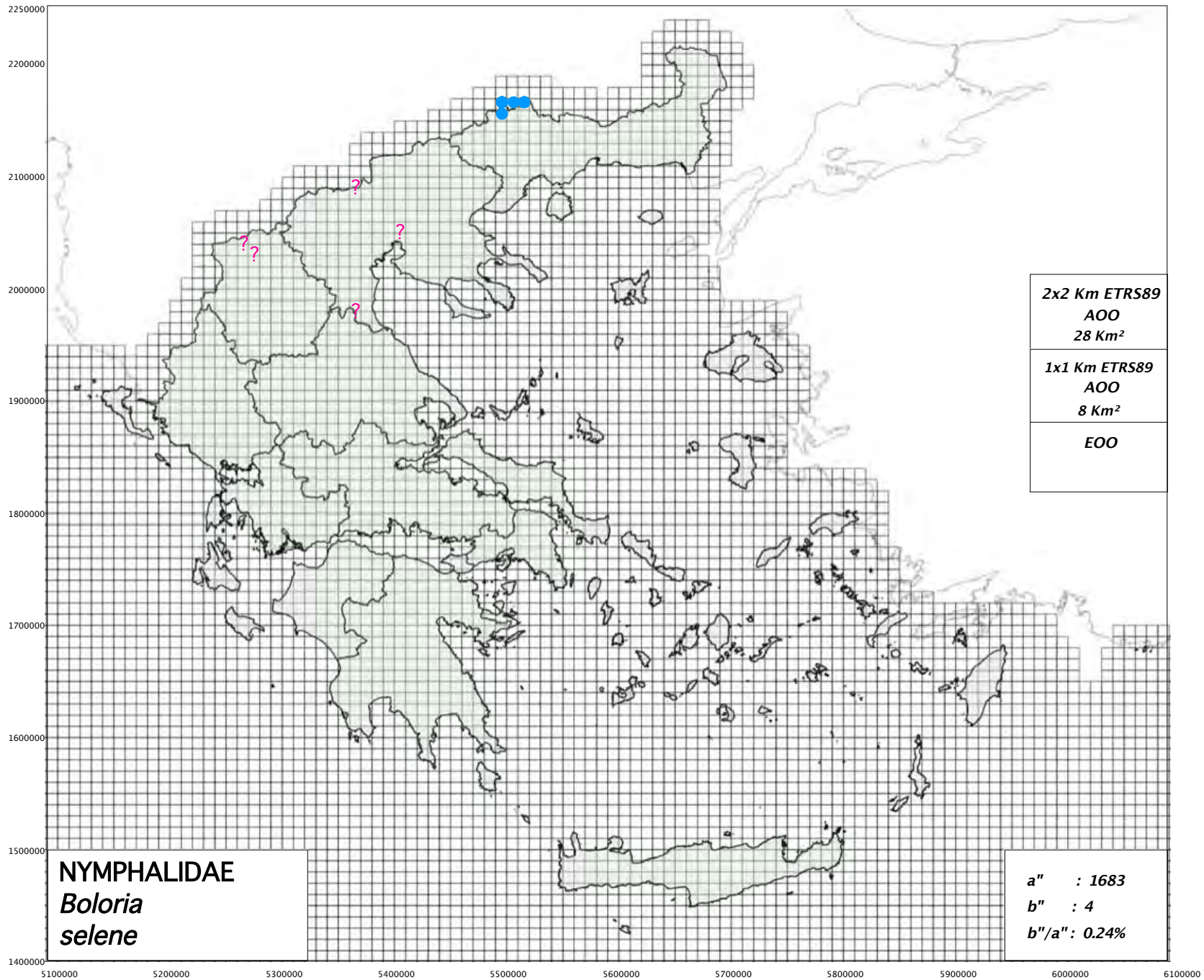


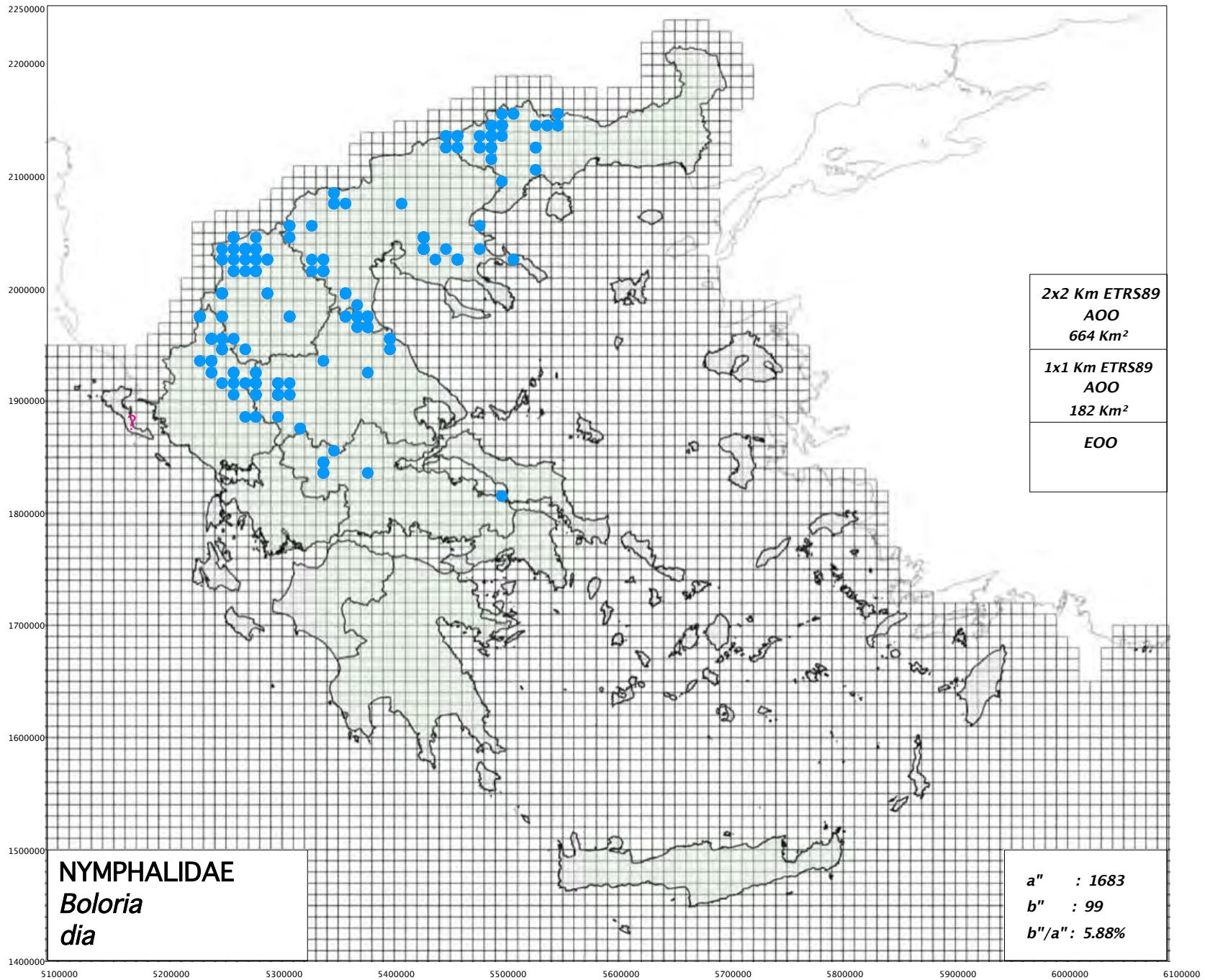


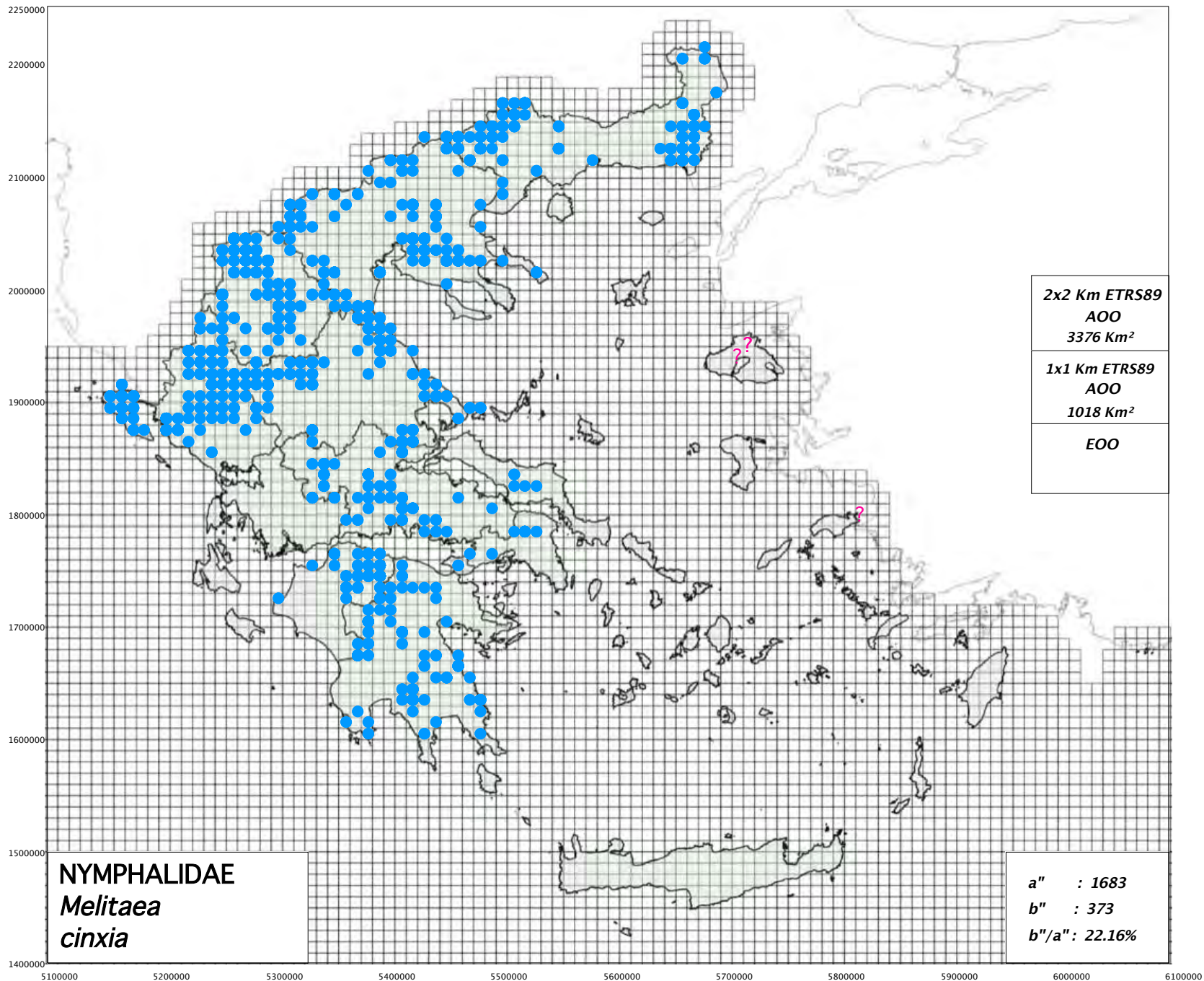


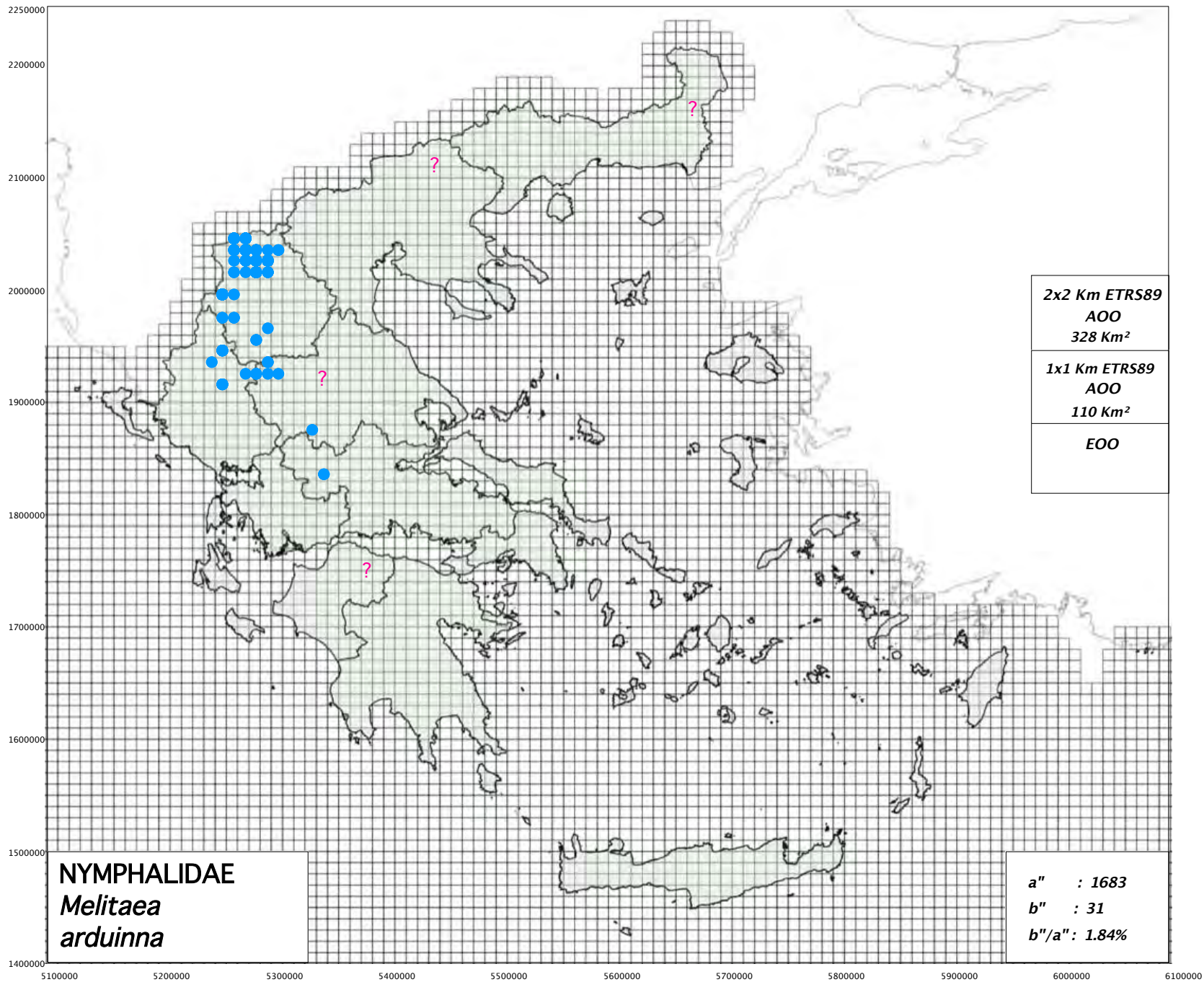


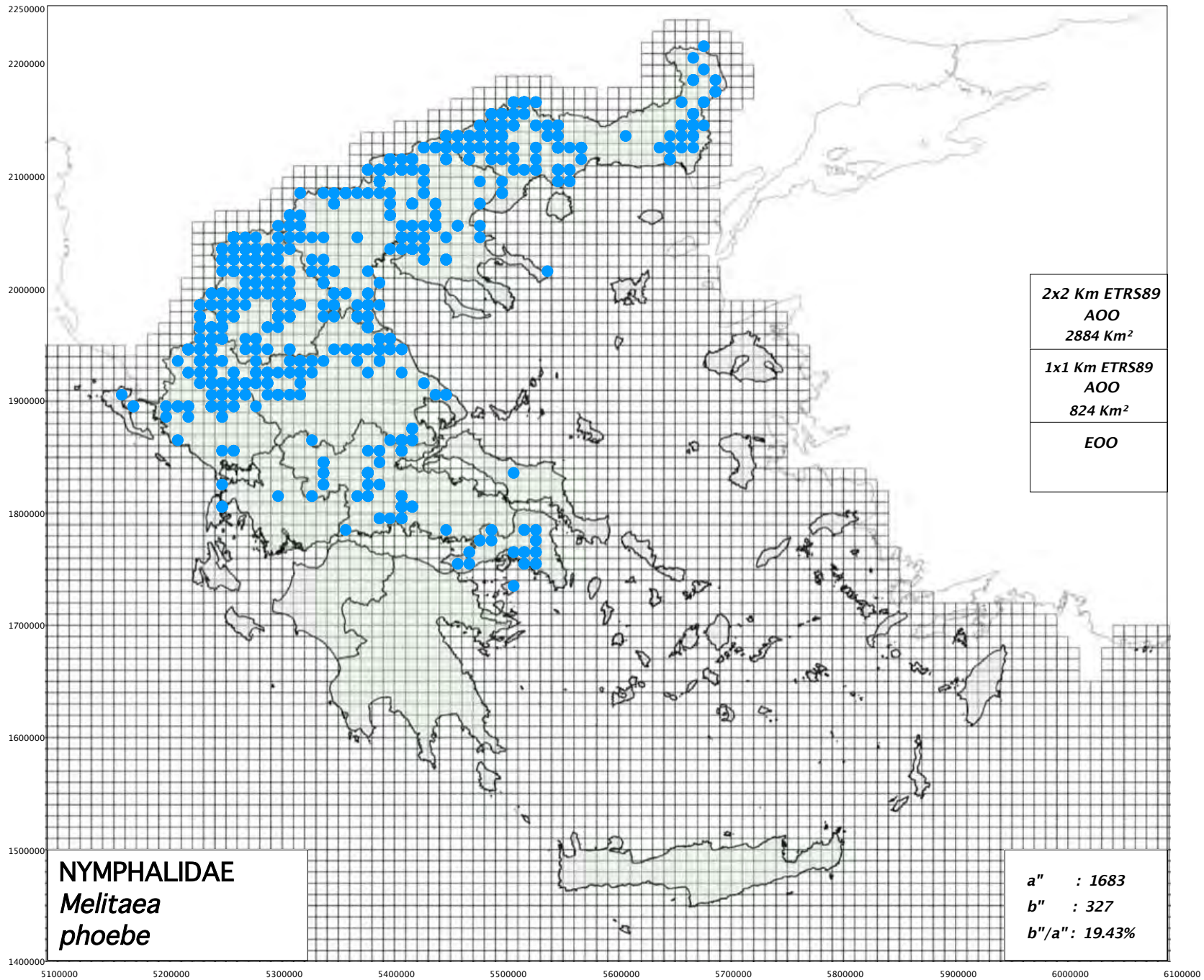


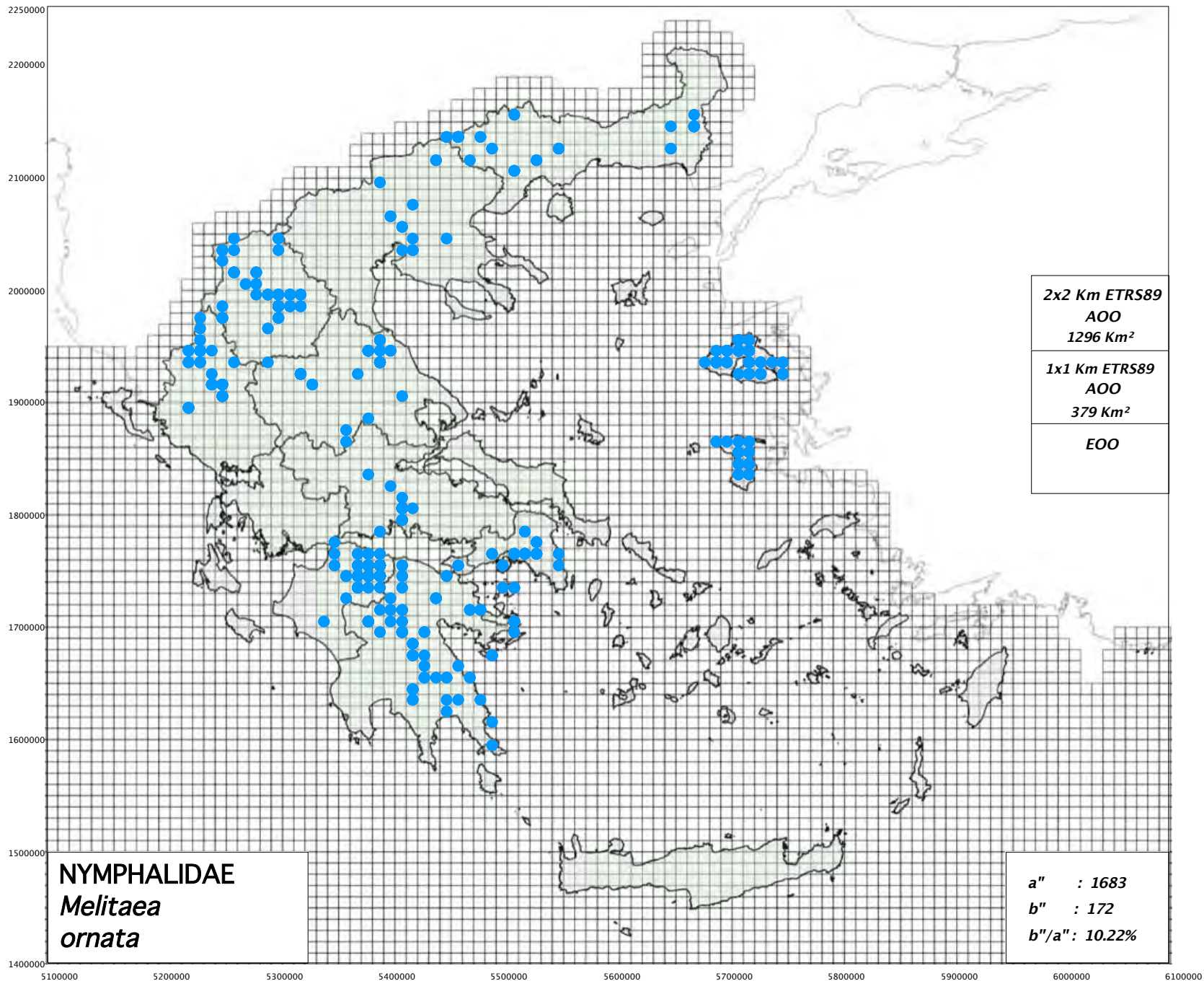


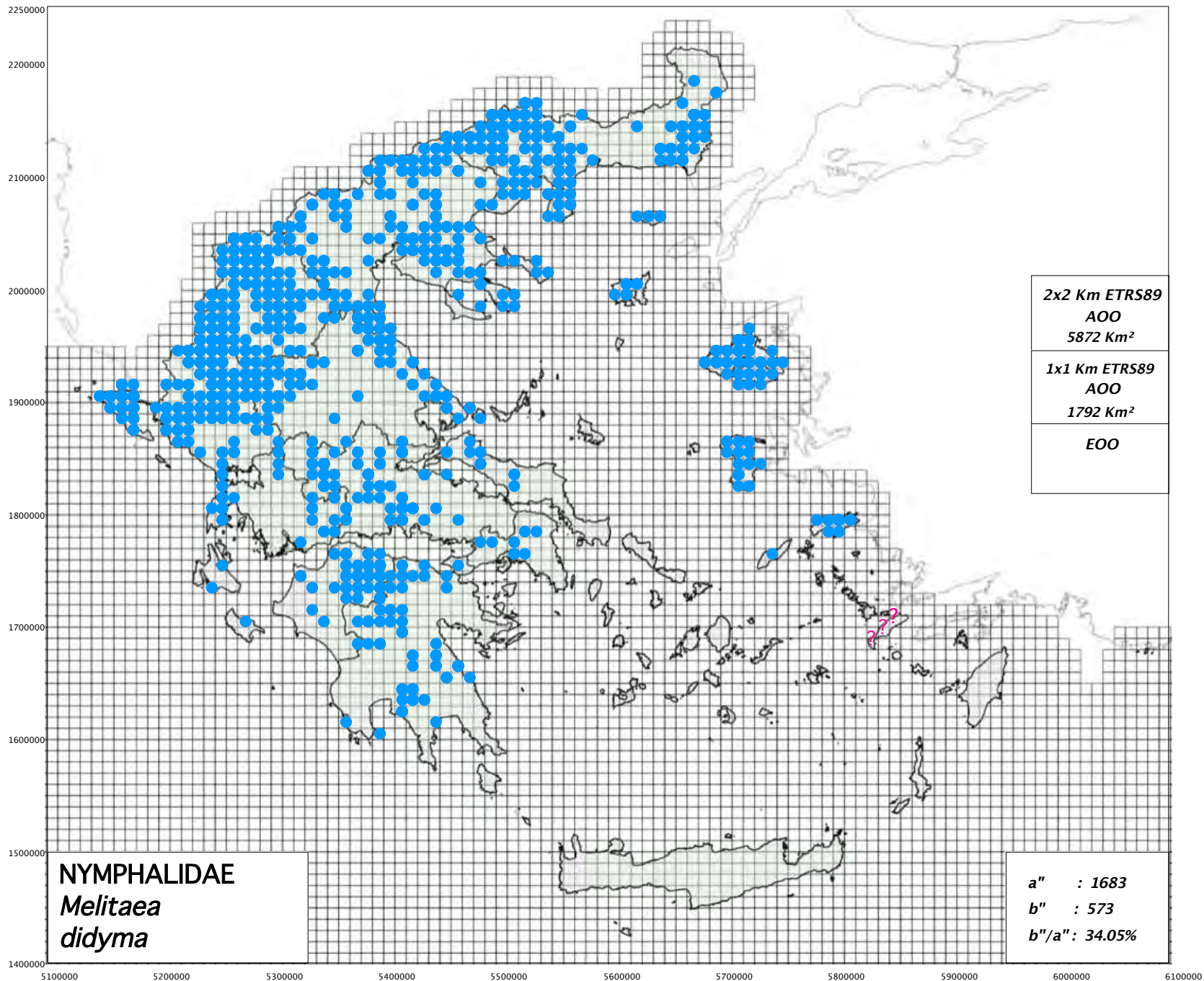


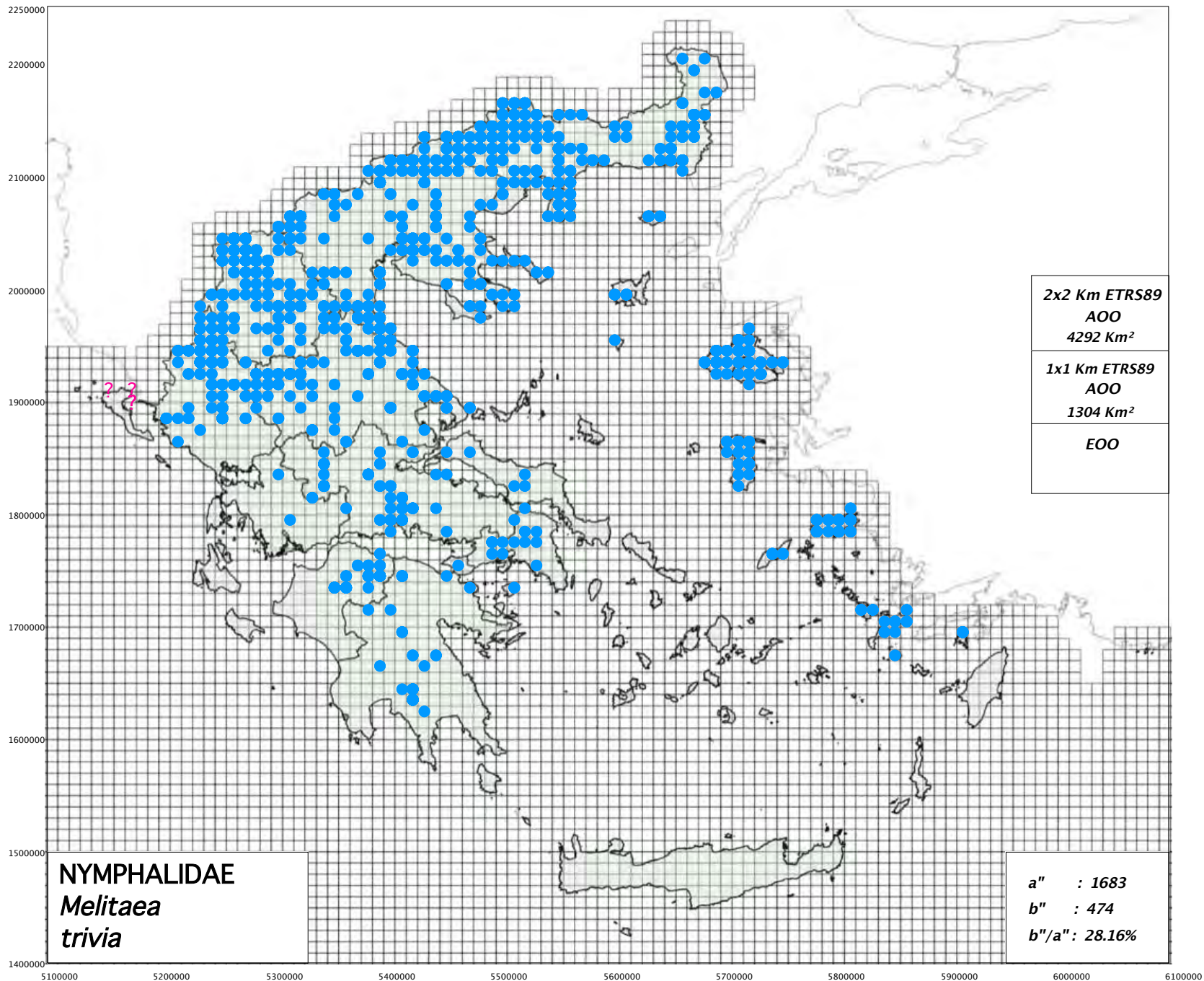


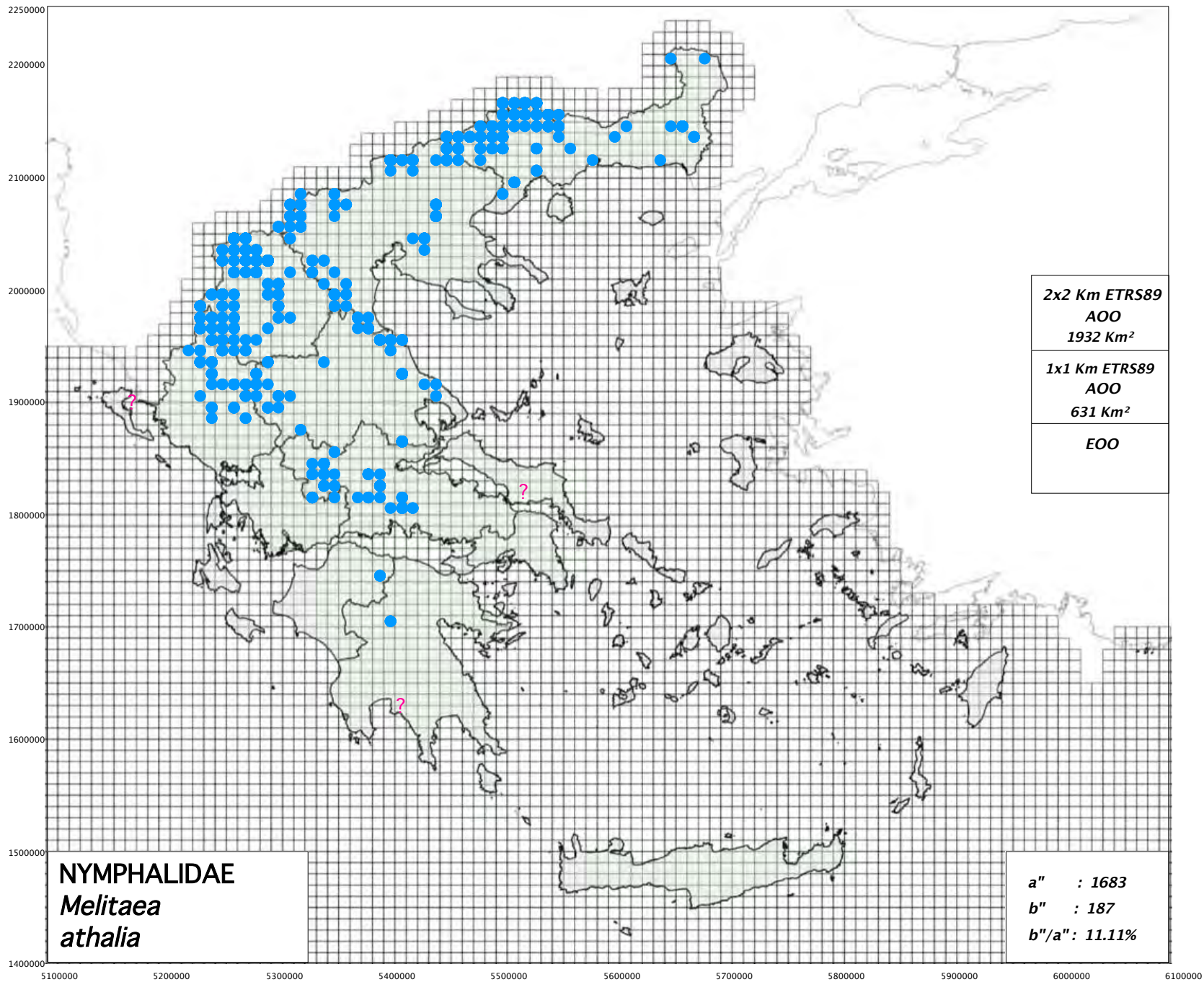


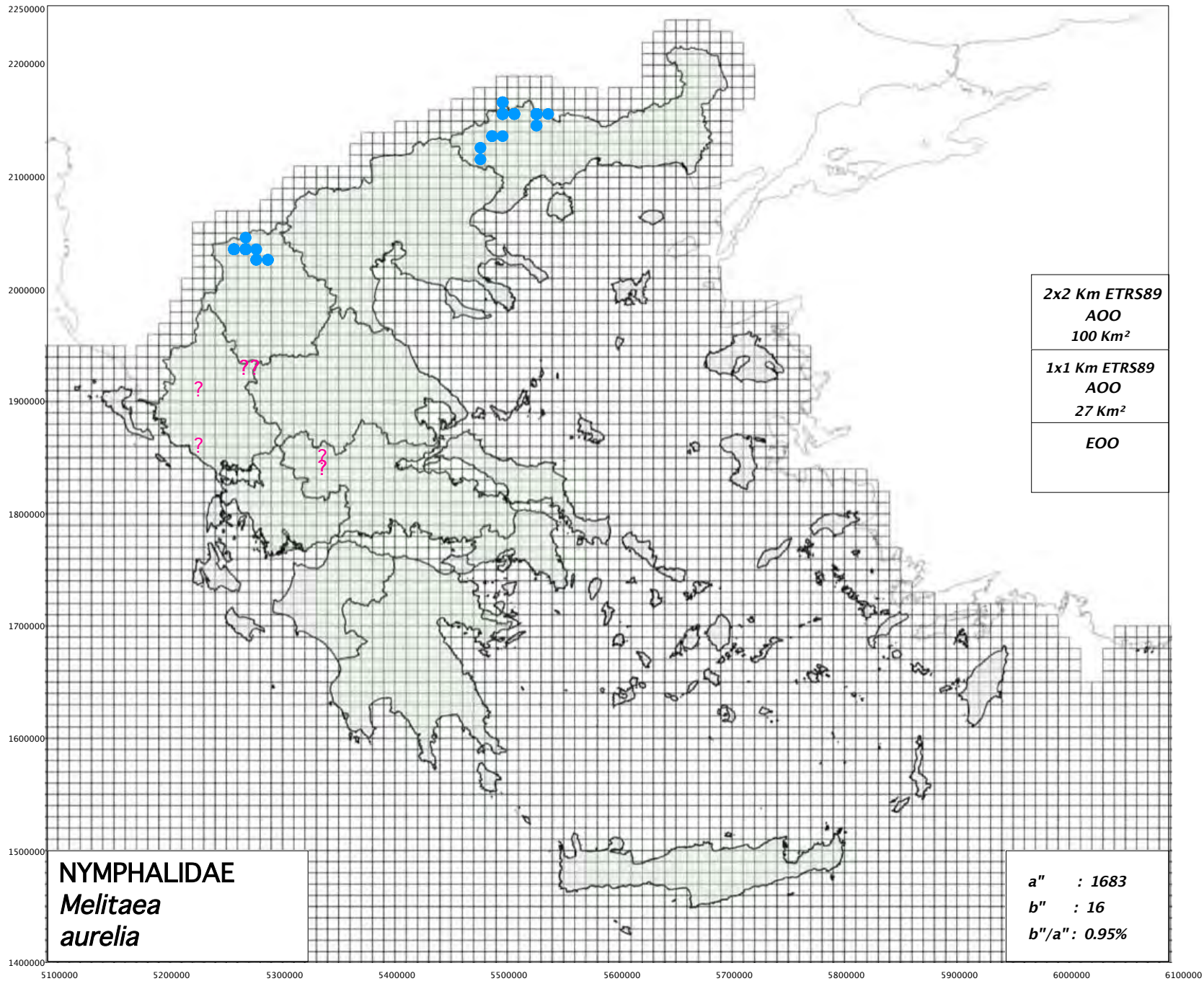


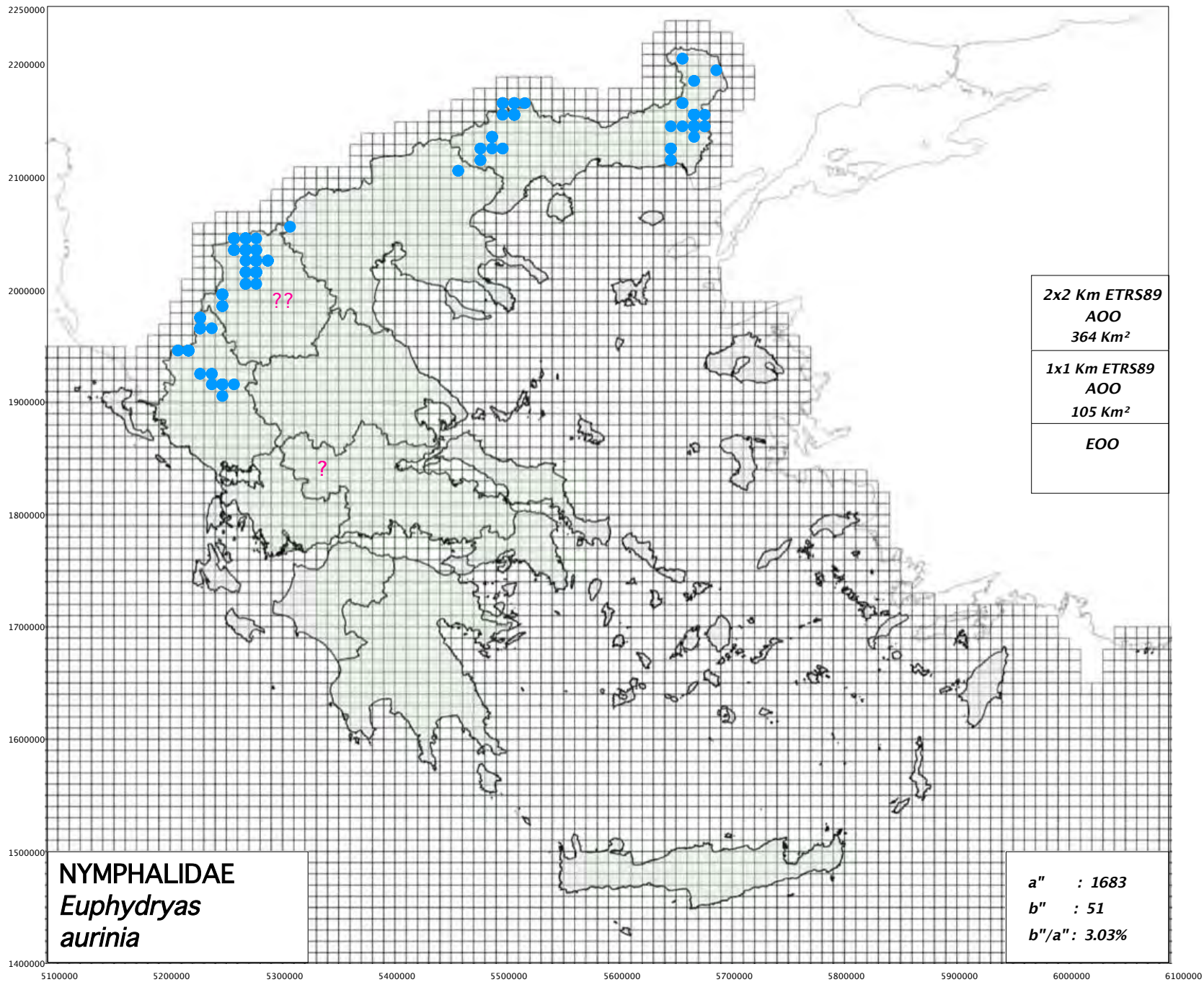


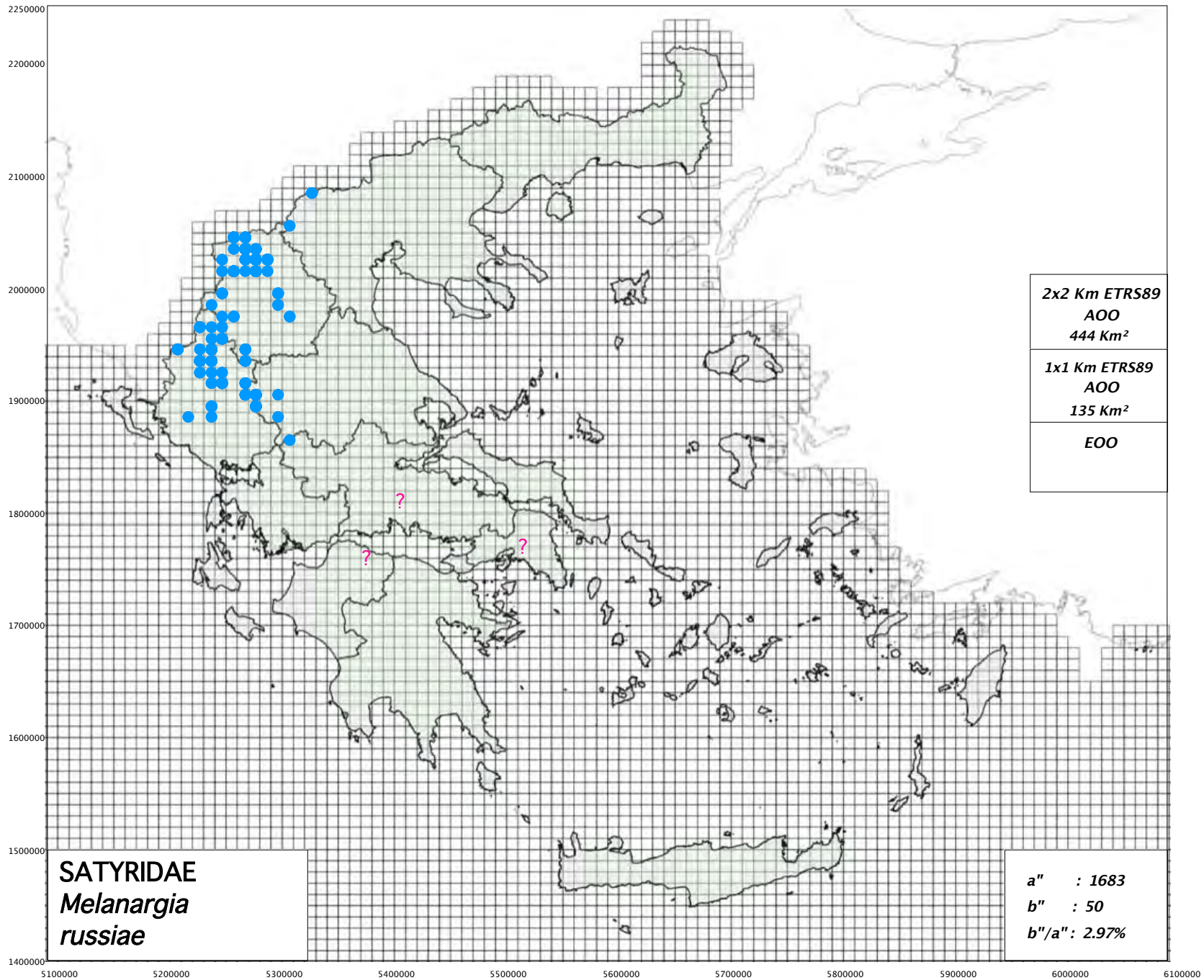


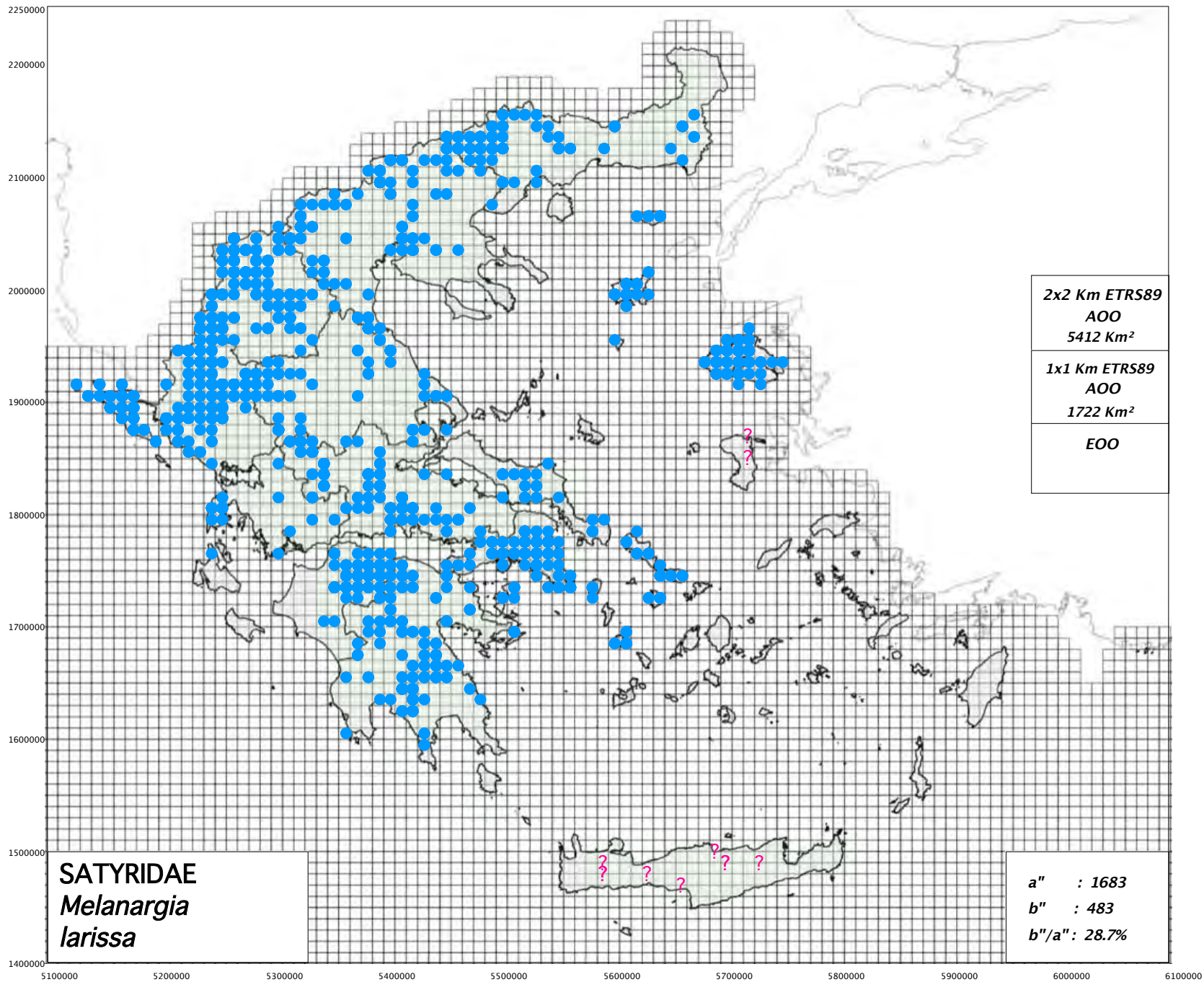


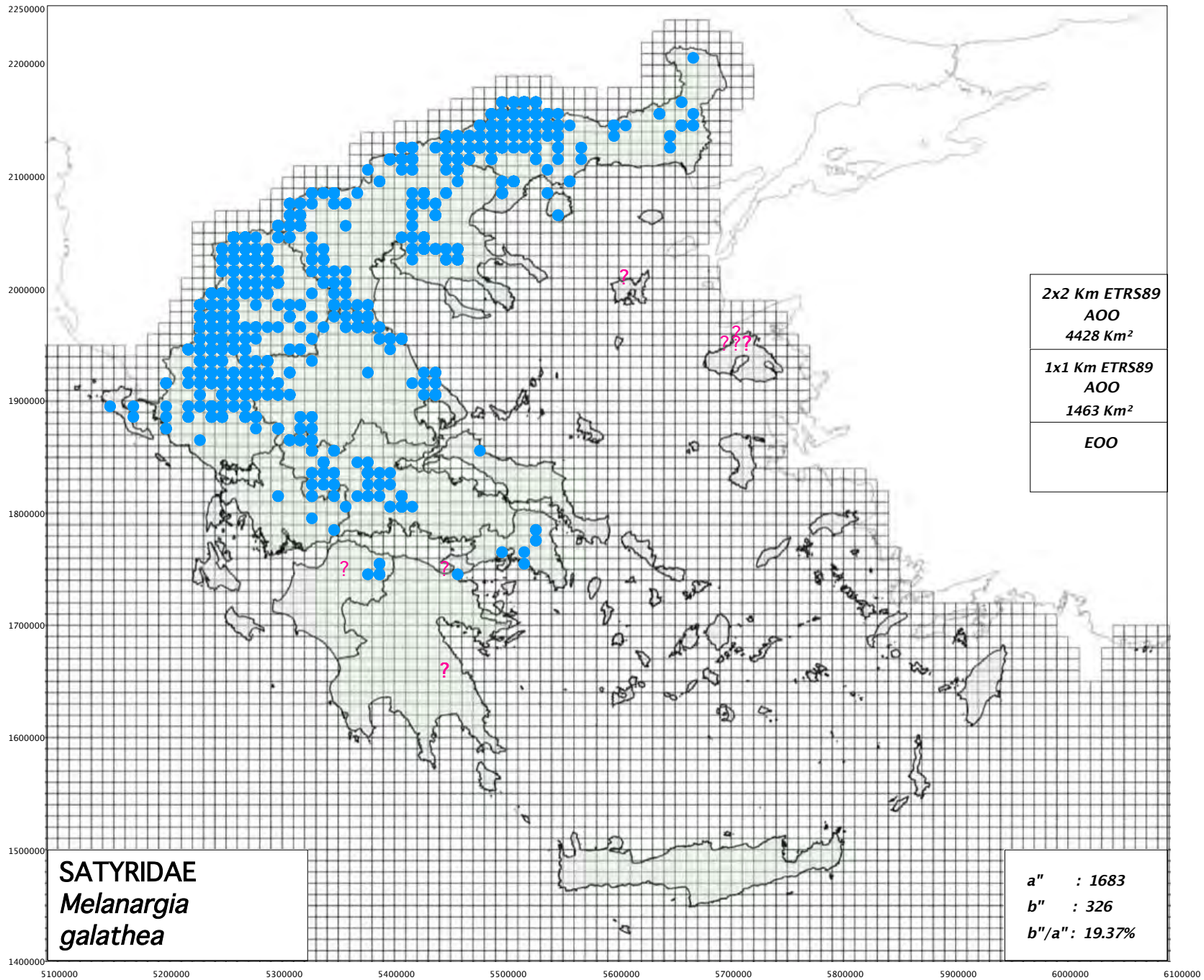


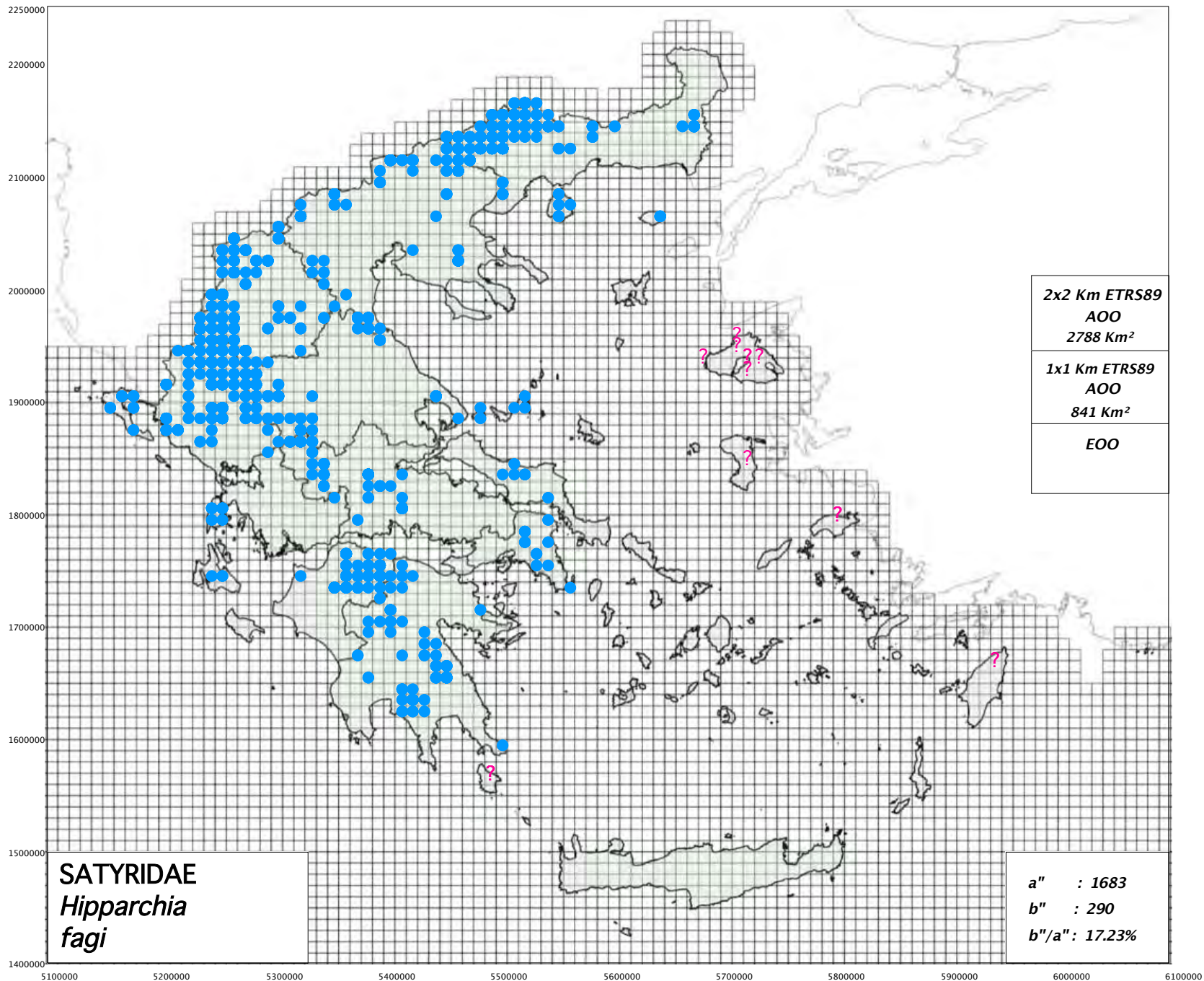


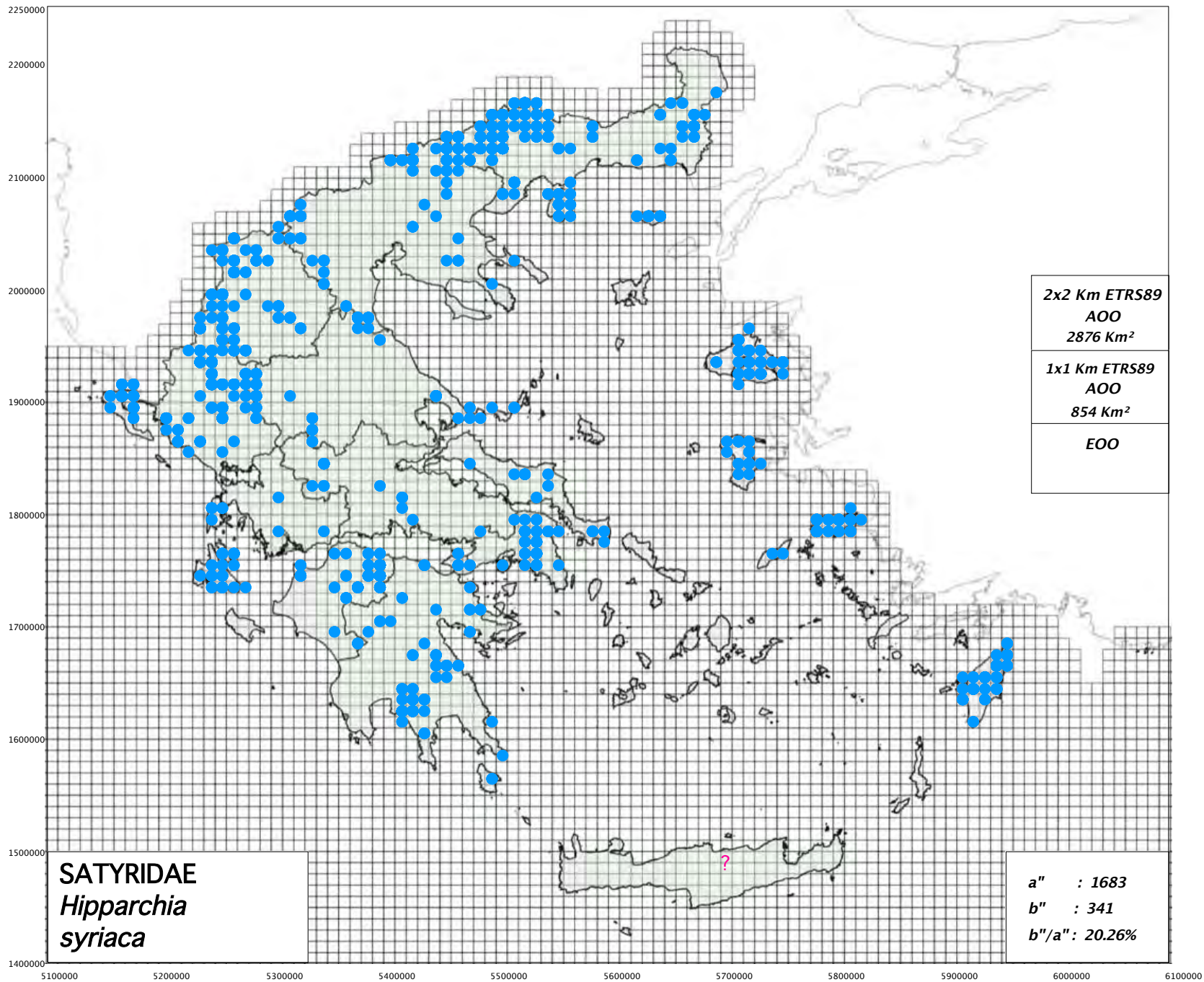


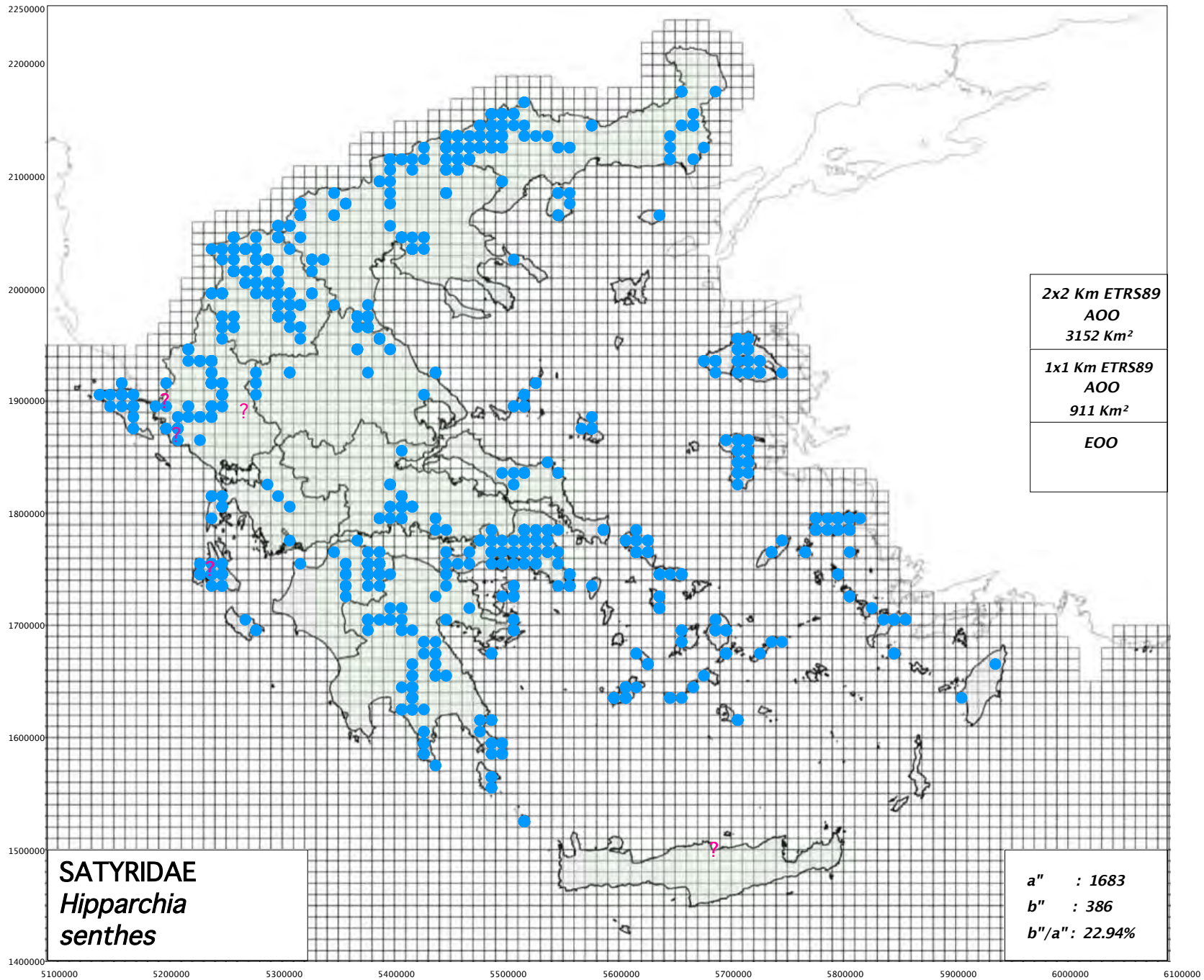


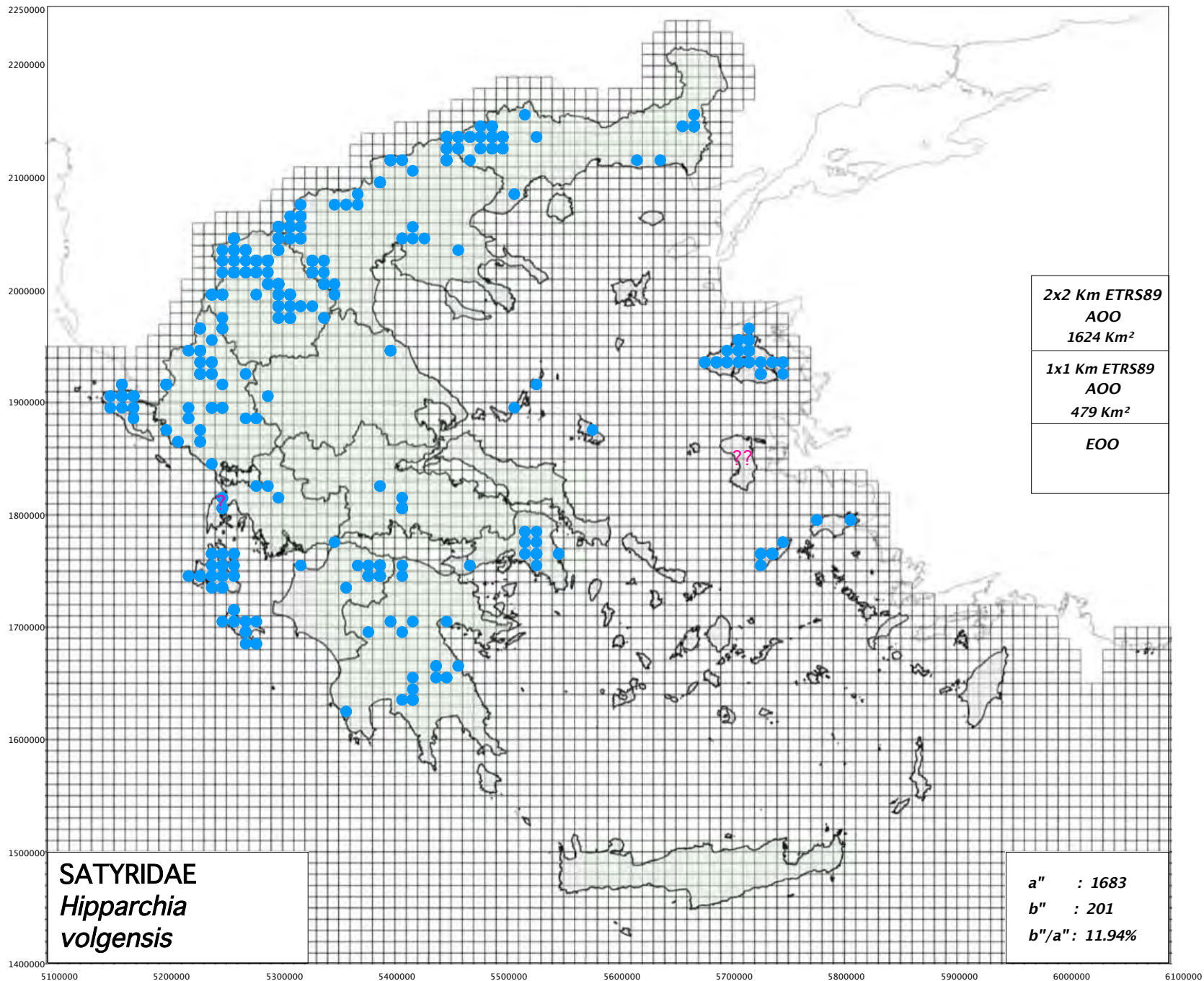


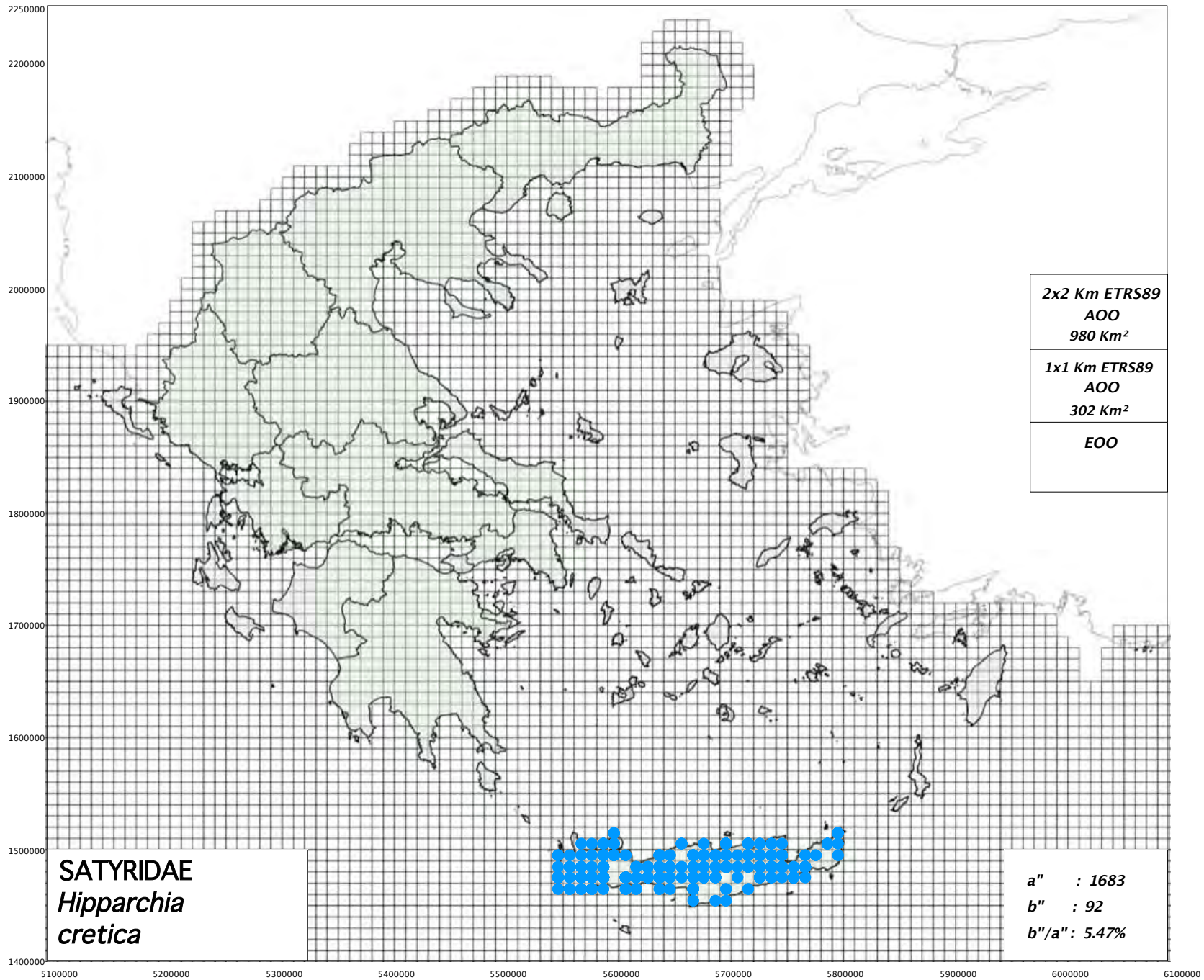


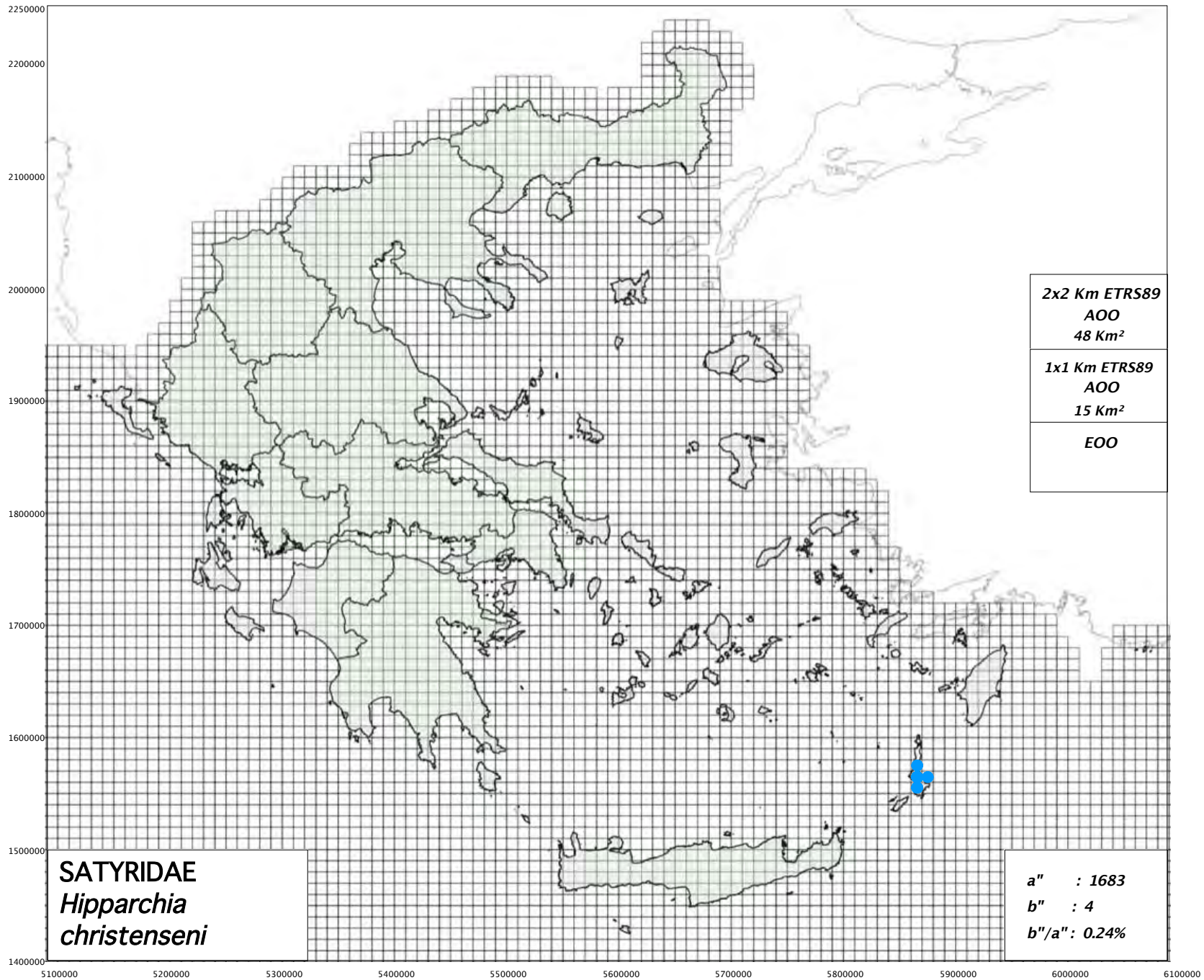


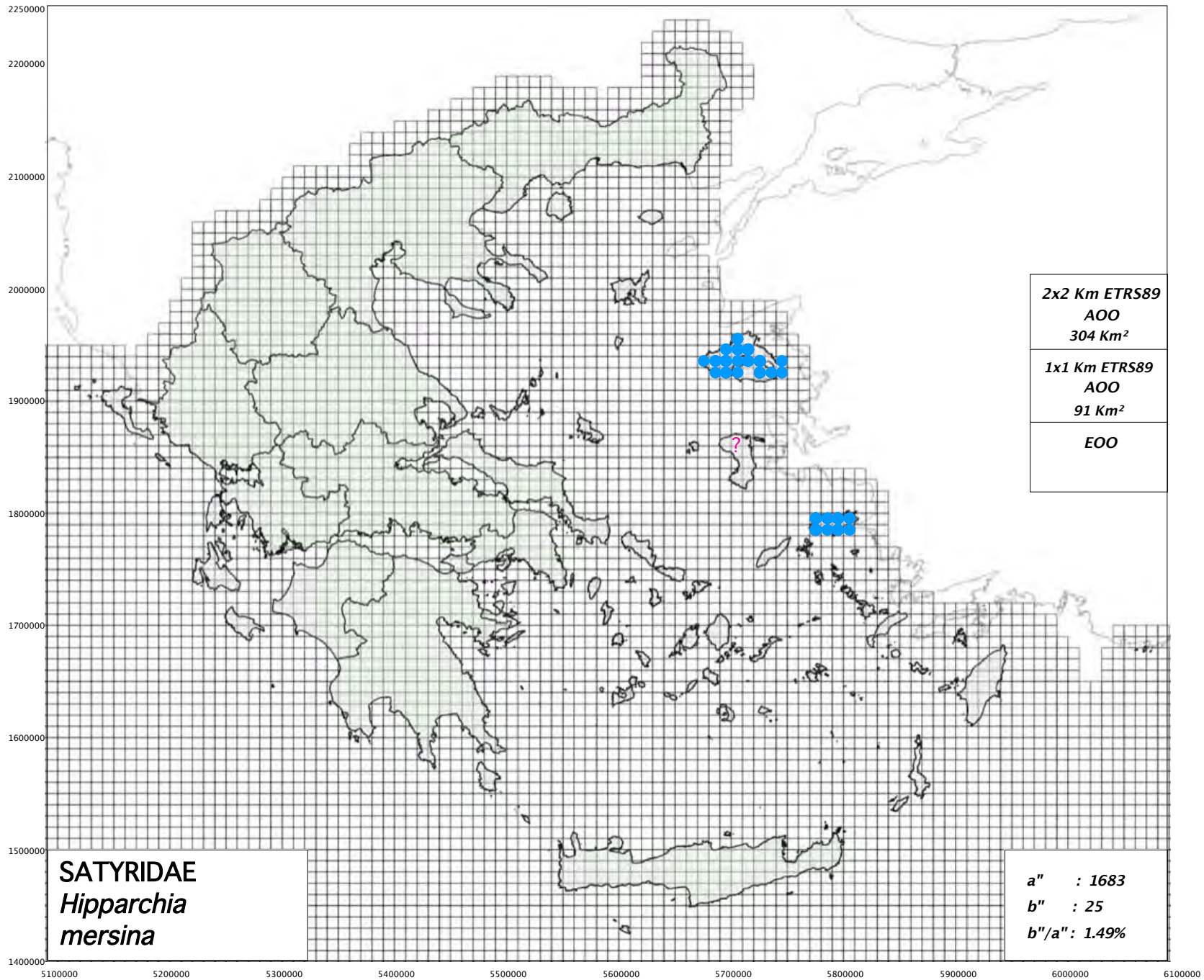


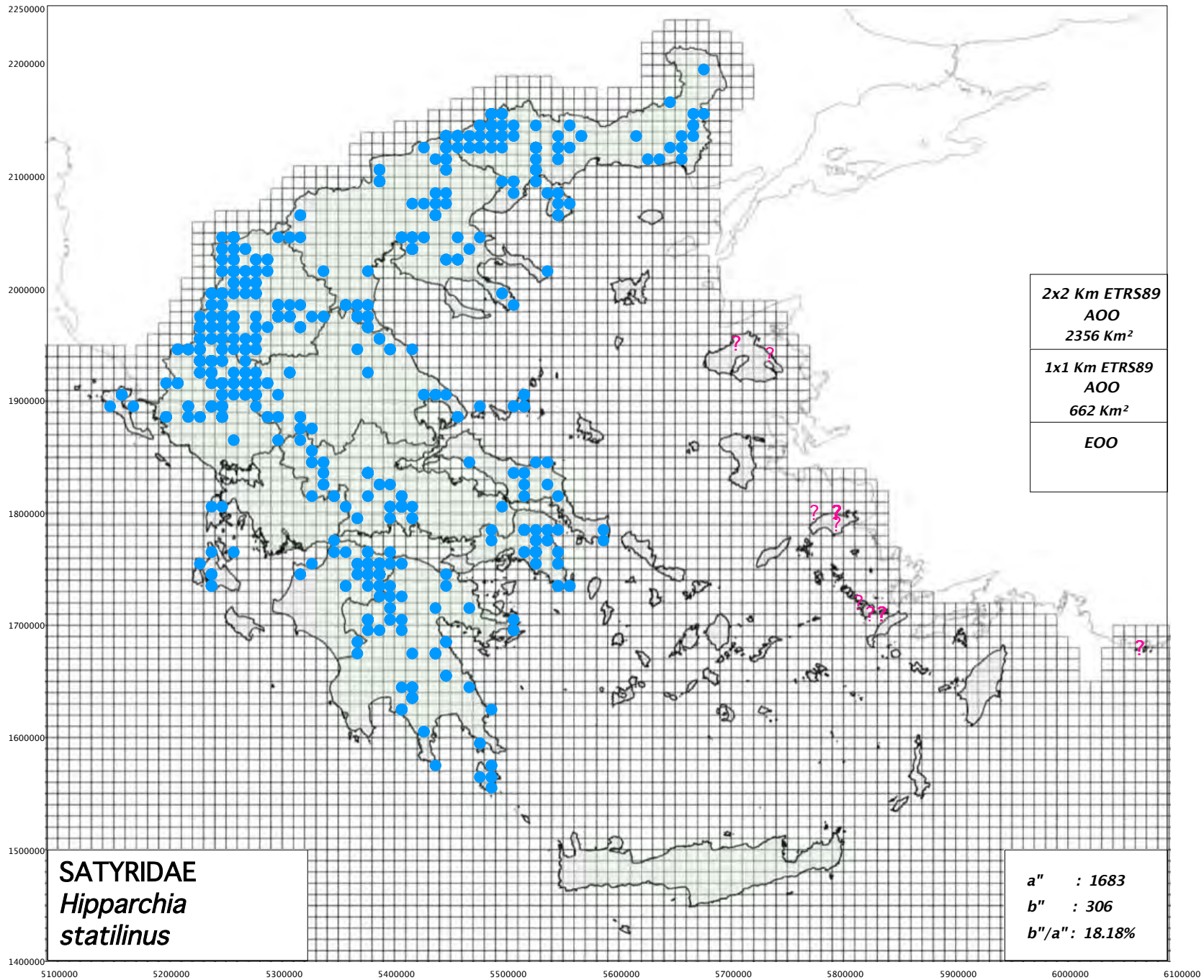


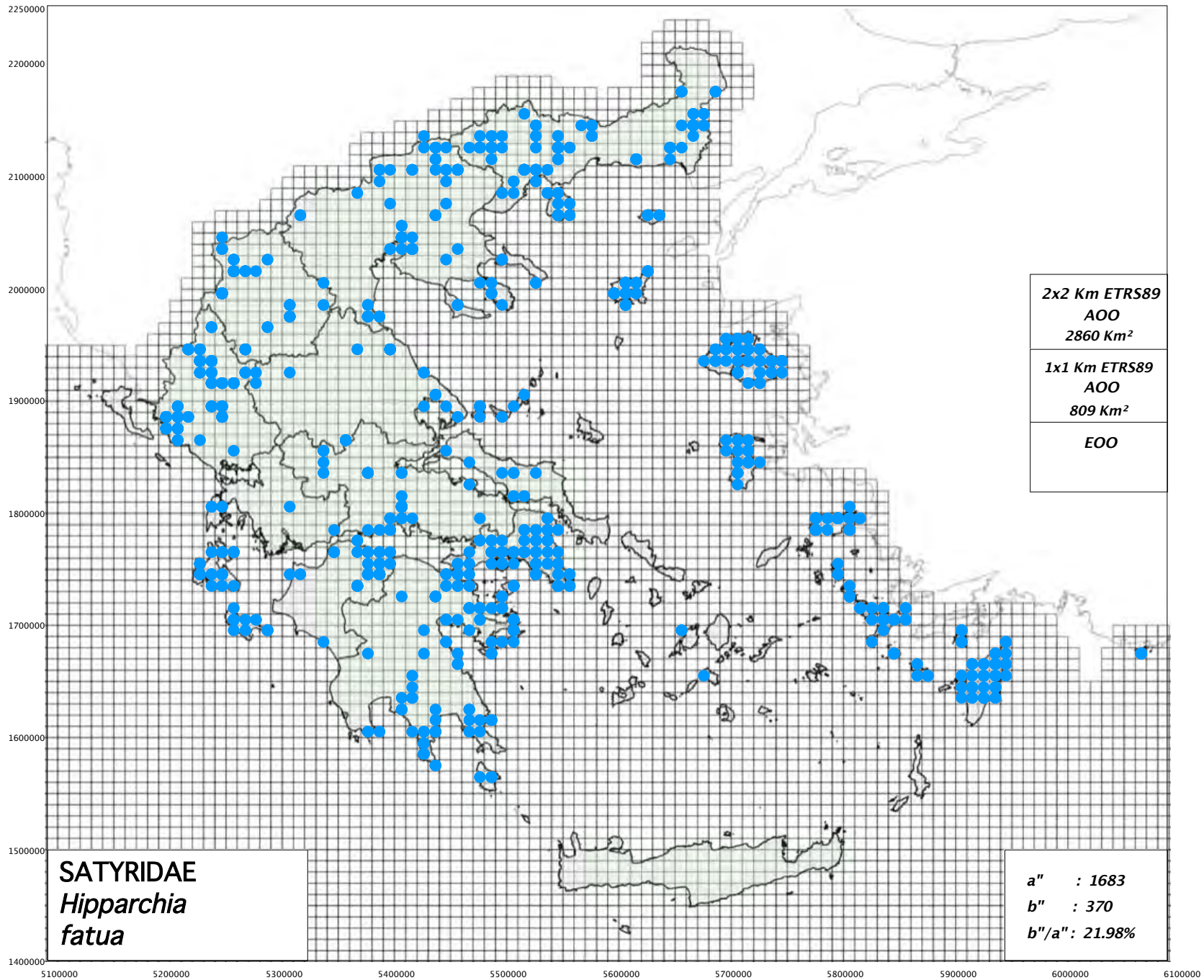


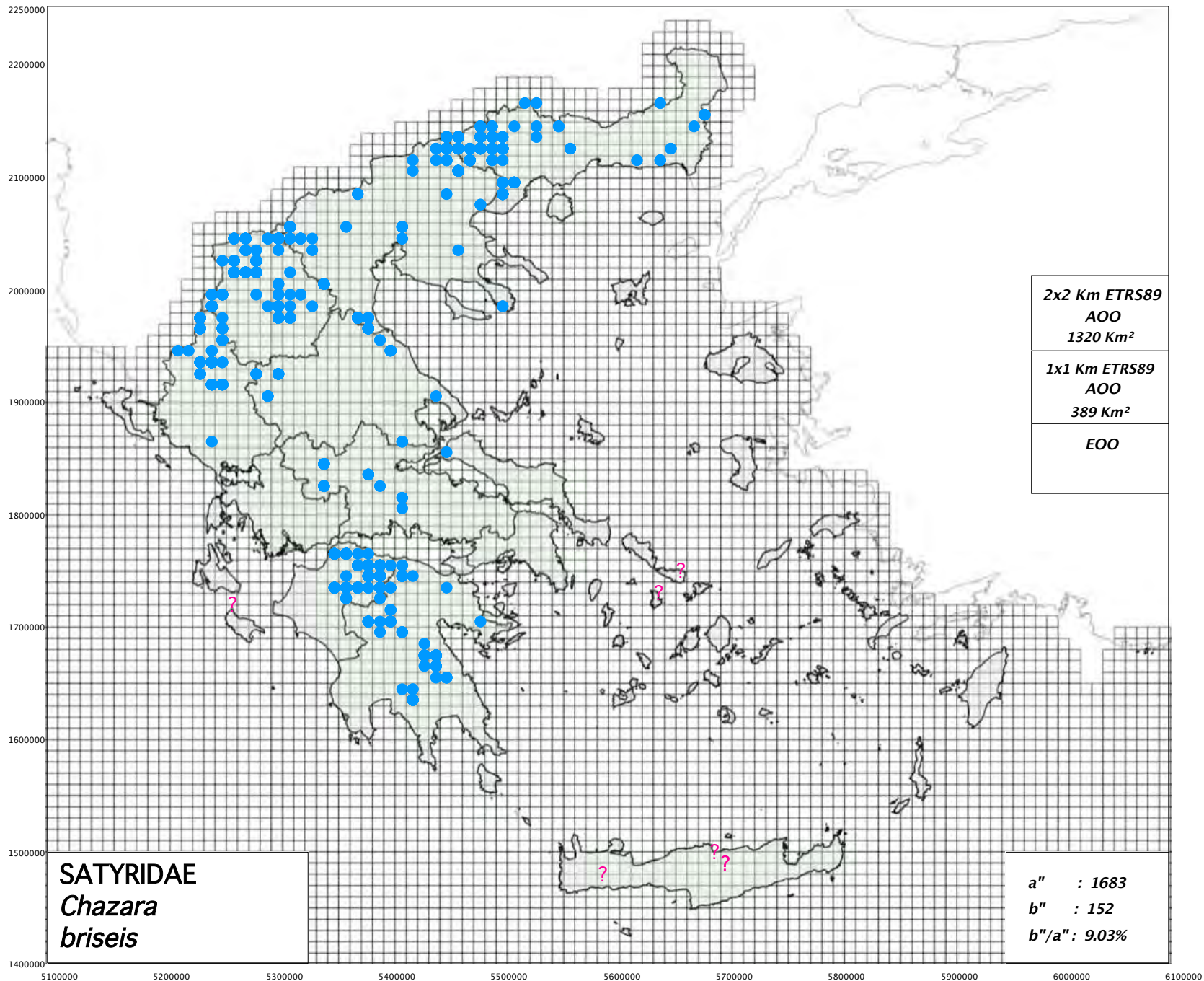


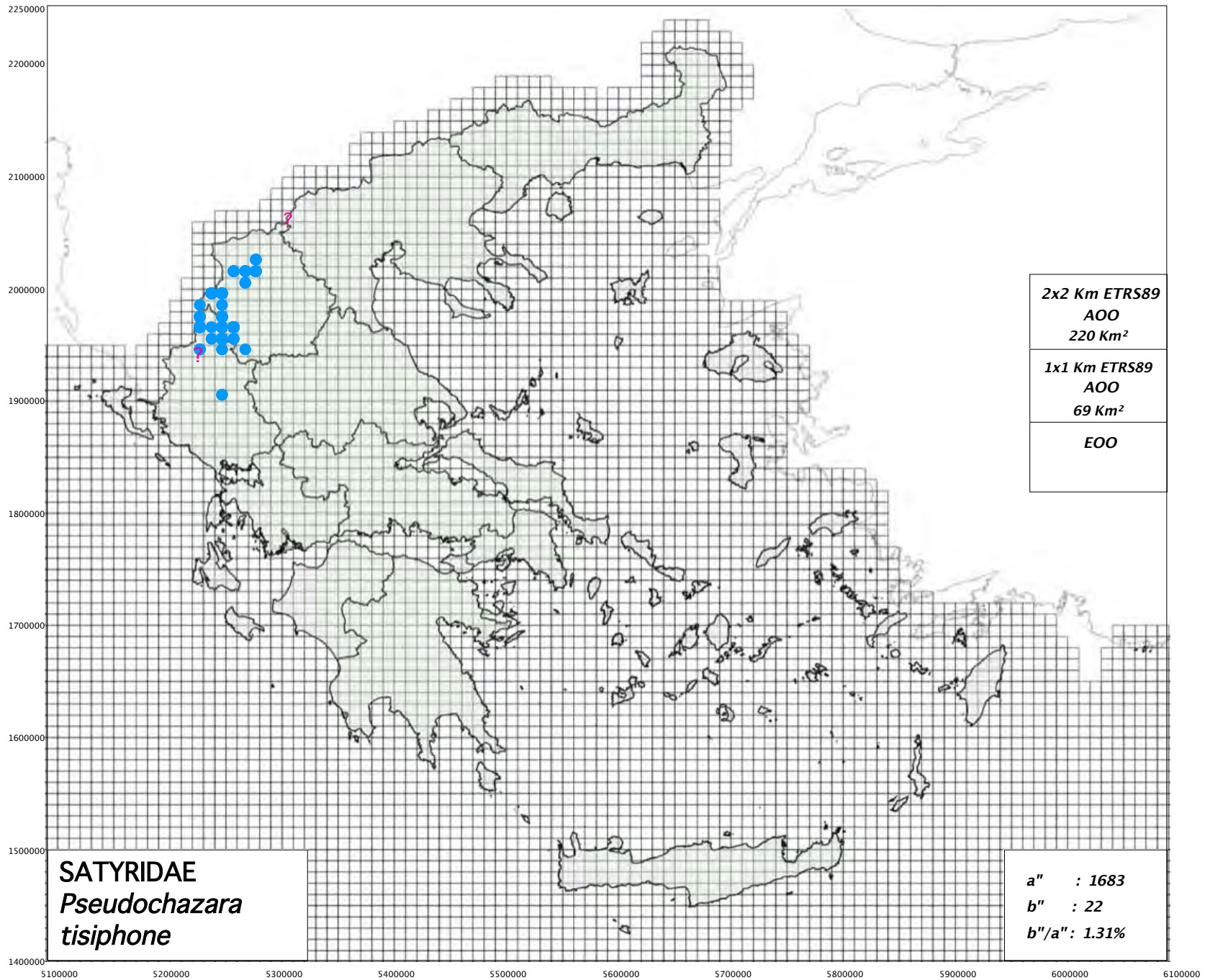


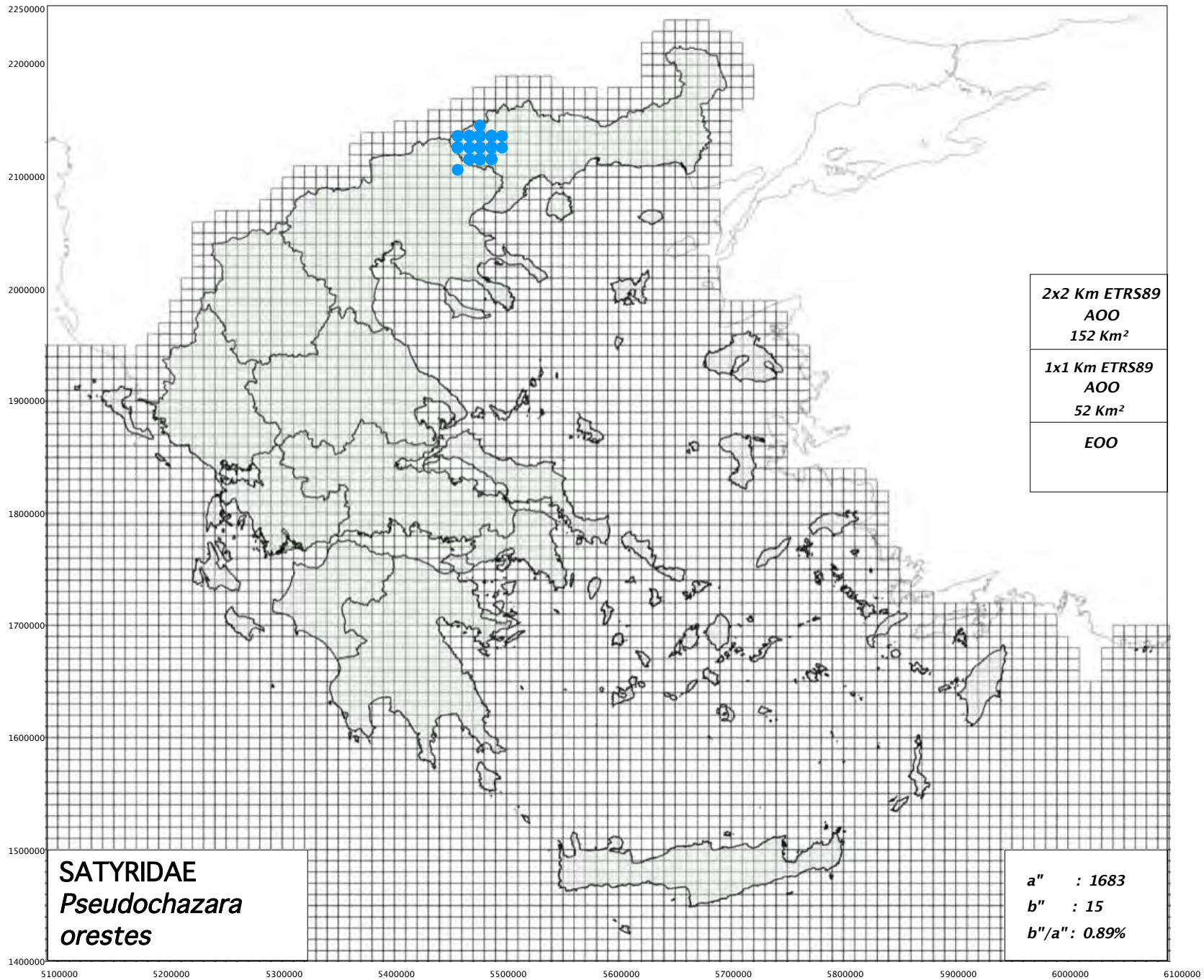


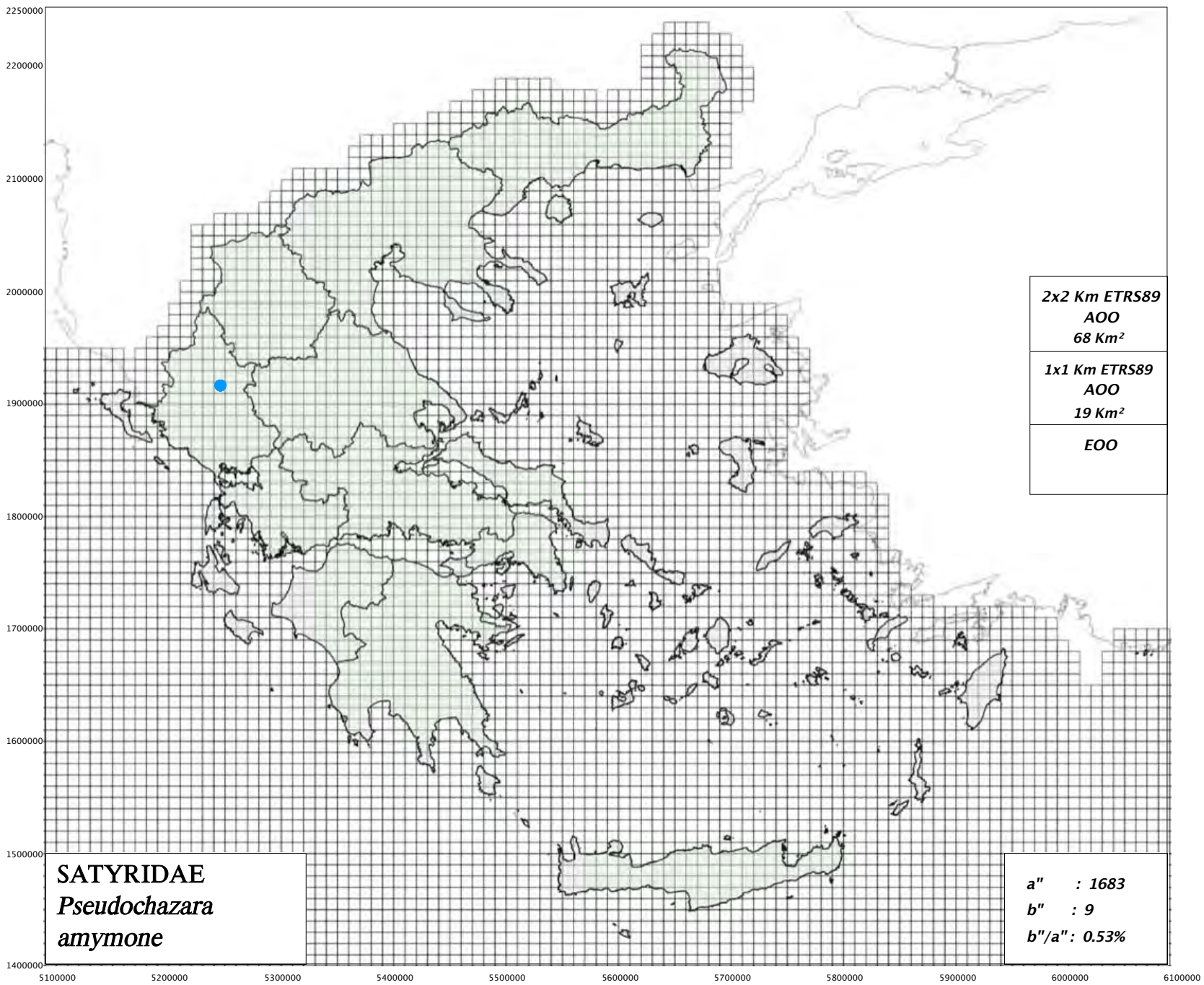


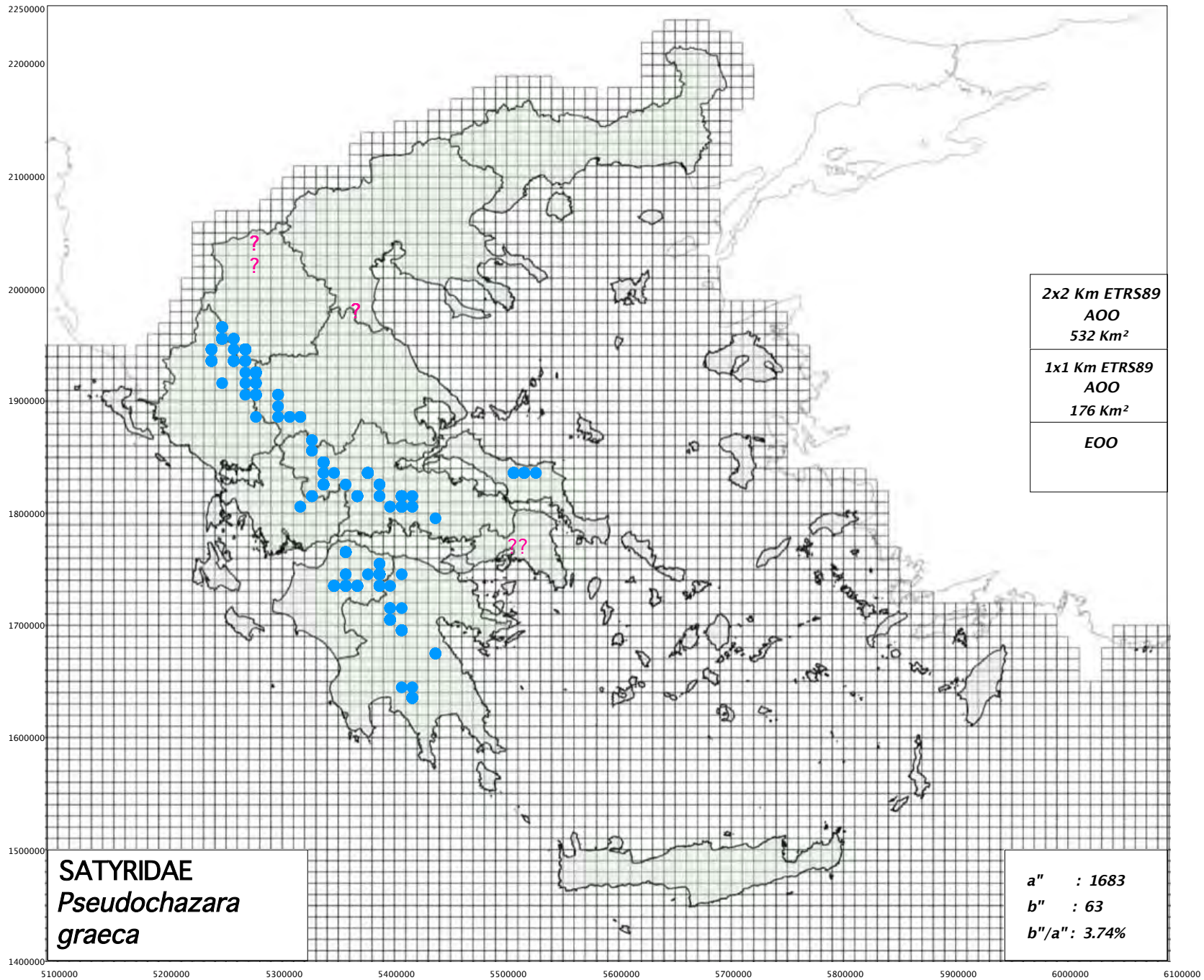


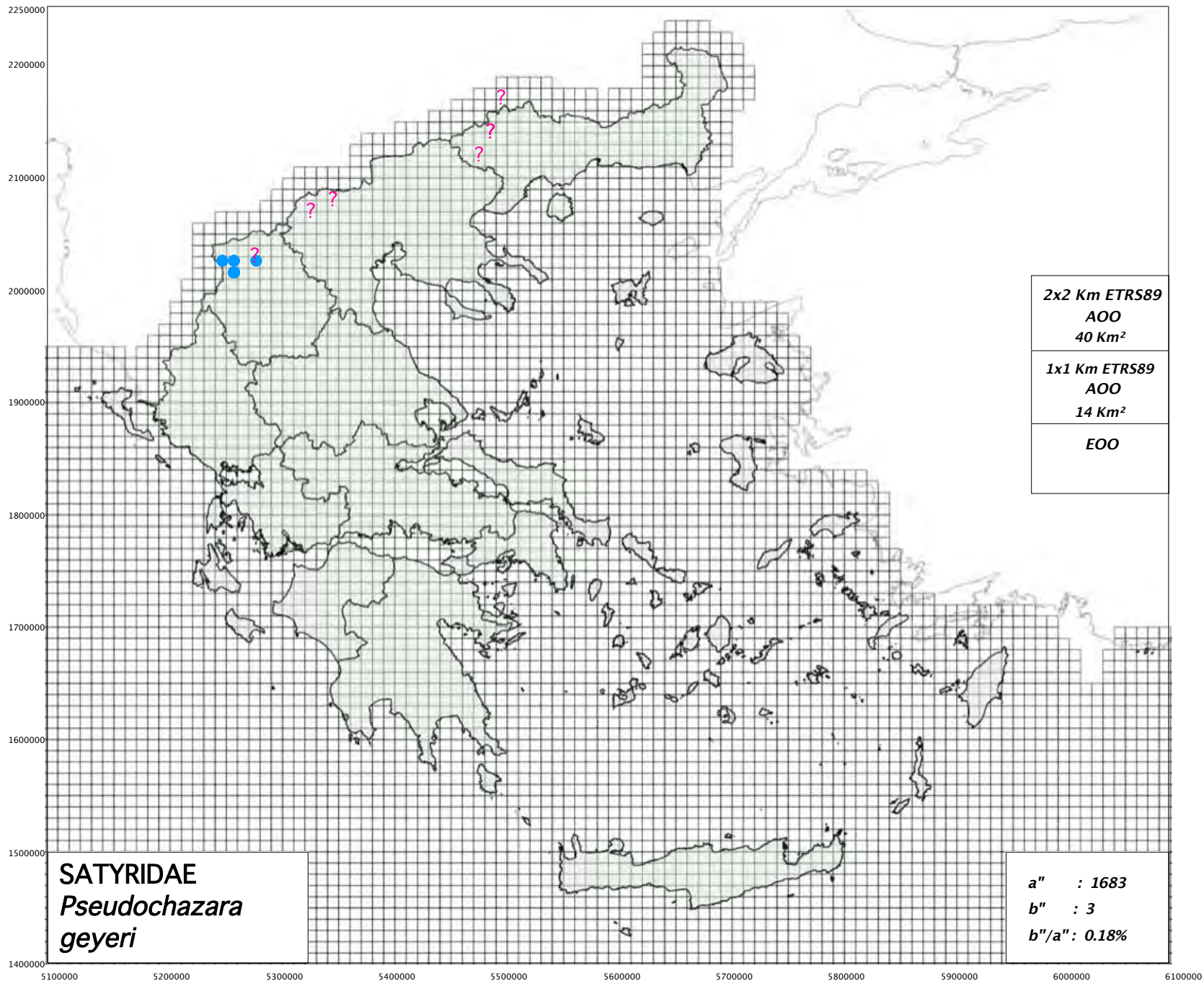












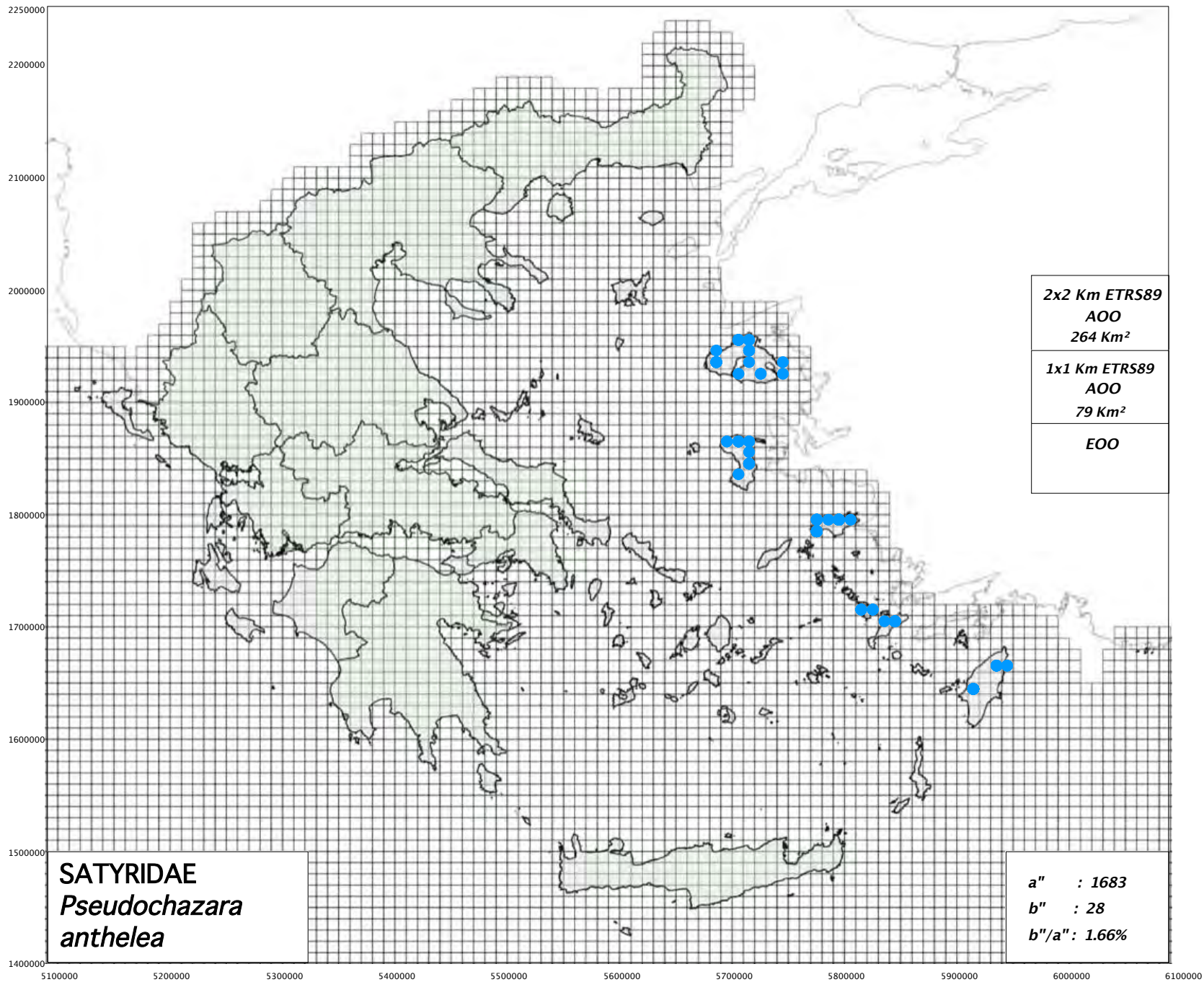
2x2 Km ETRS89
AOO
40 Km²

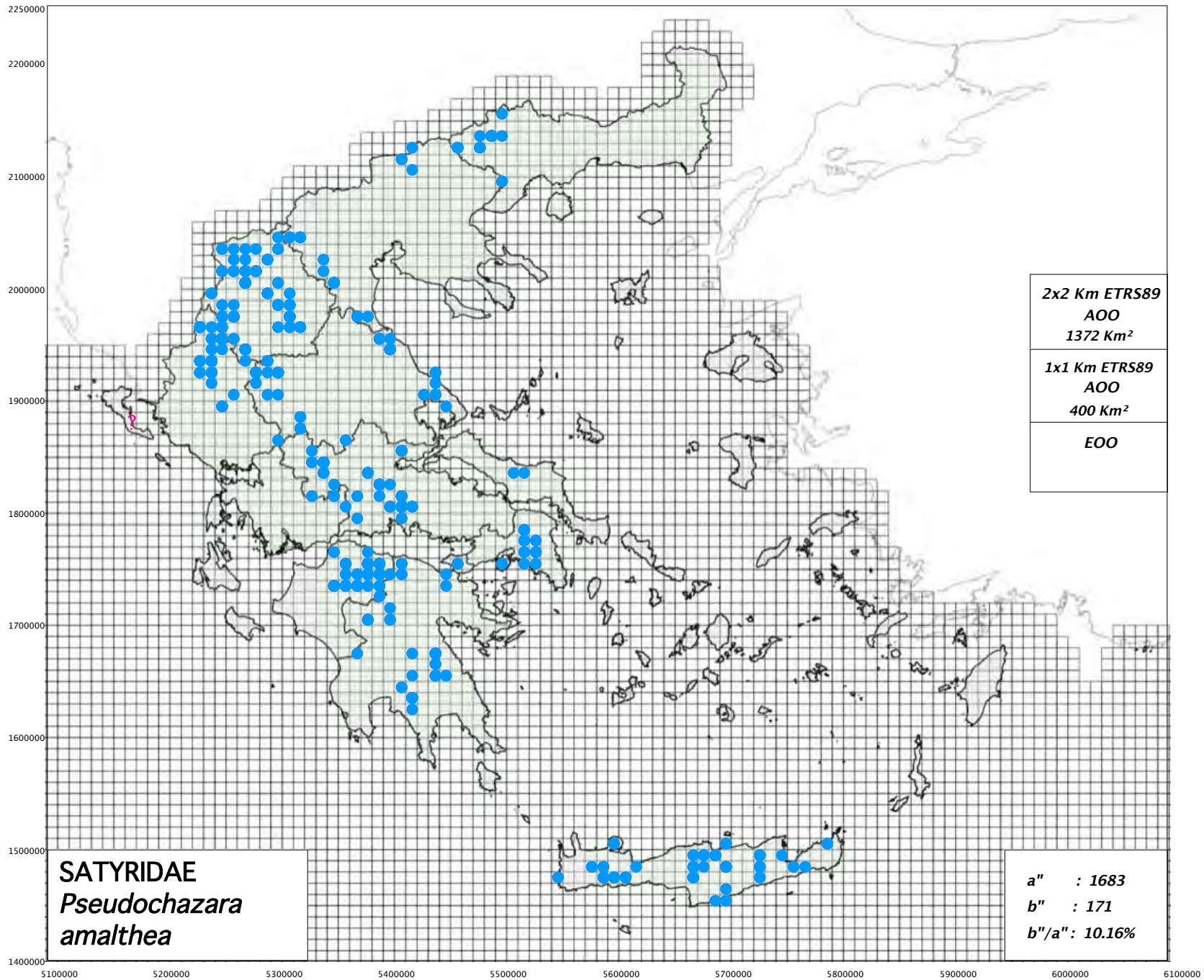
1x1 Km ETRS89
AOO
14 Km²

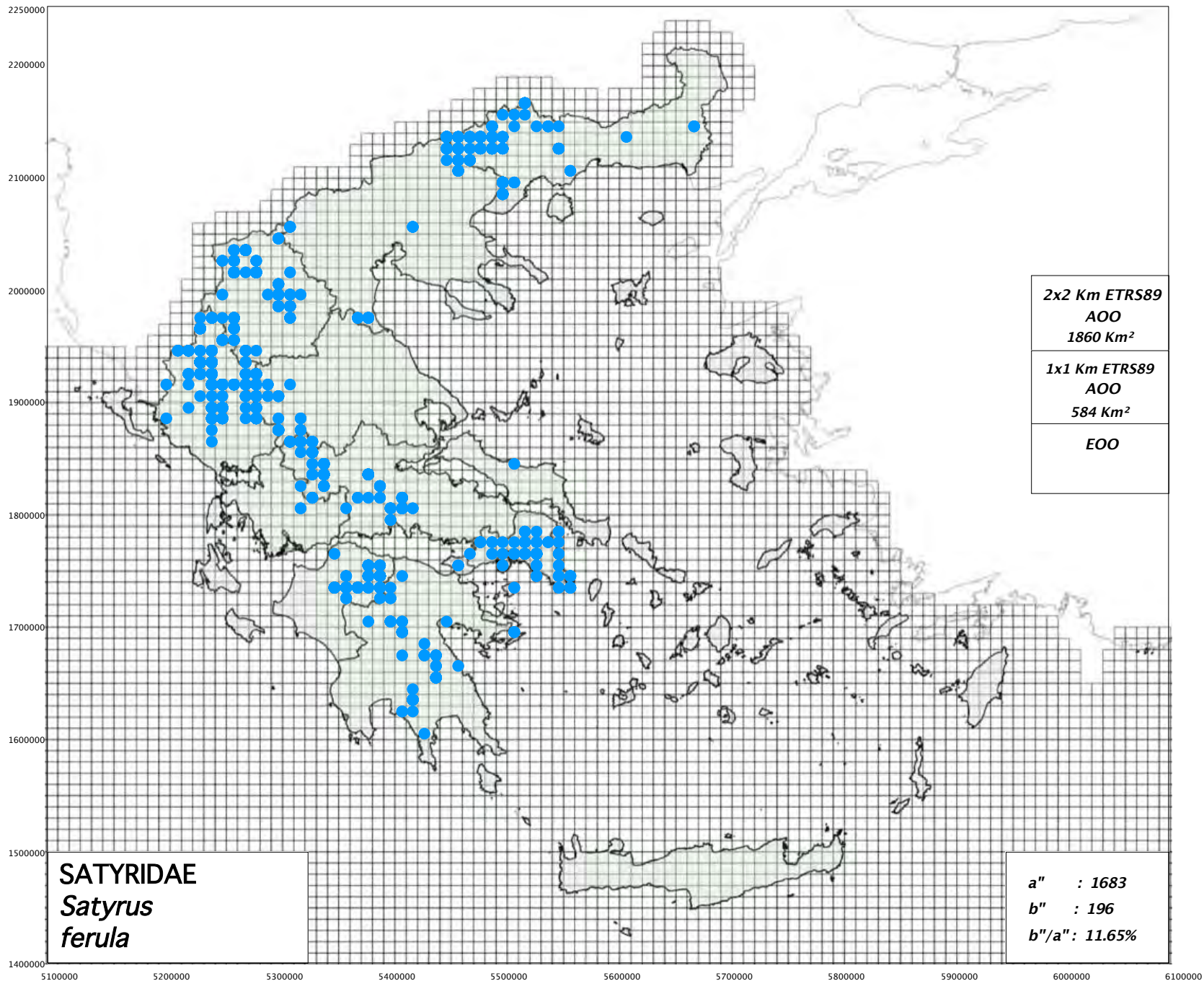
EOO

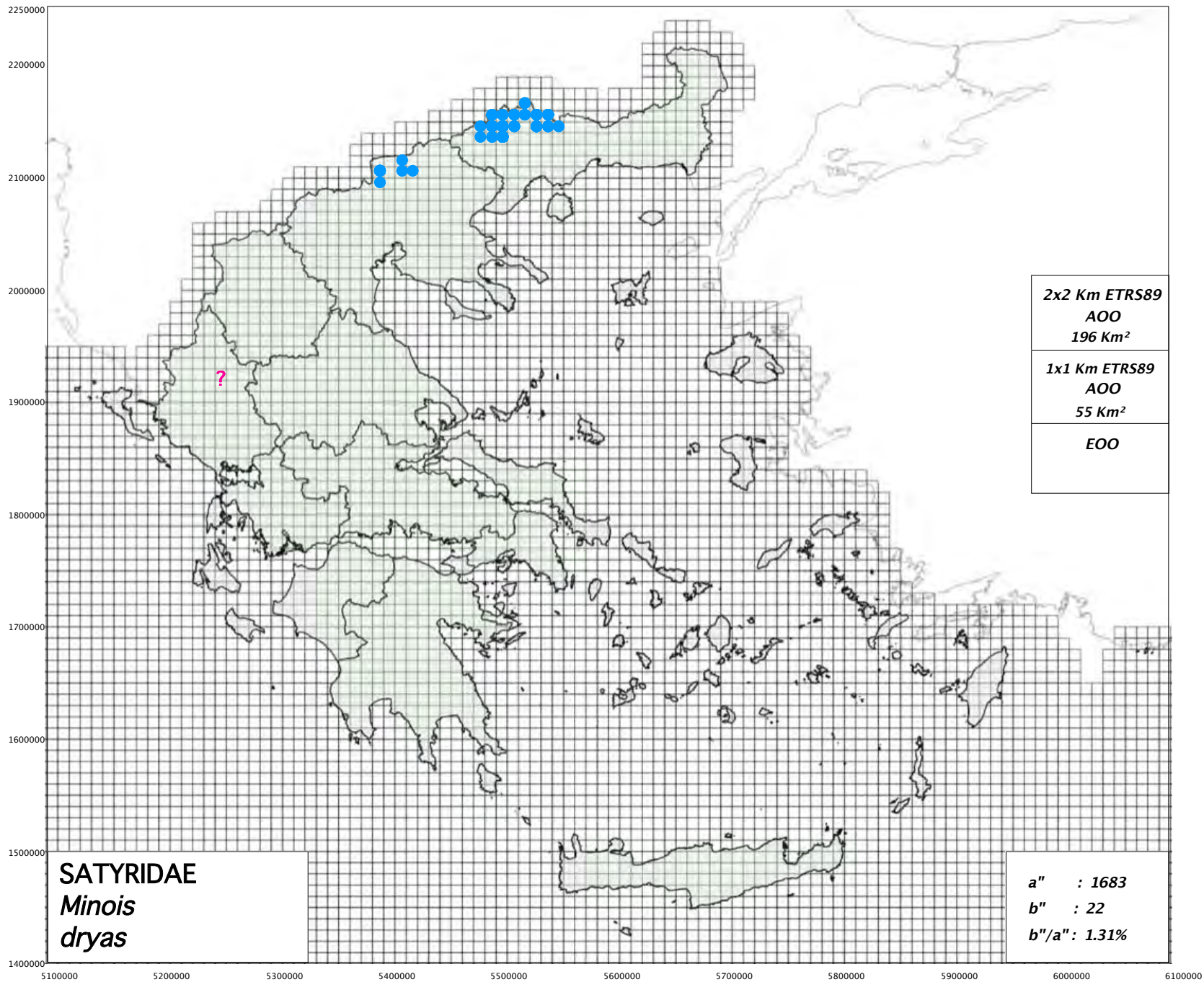
SATYRIDAE
Pseudochazara
geyeri

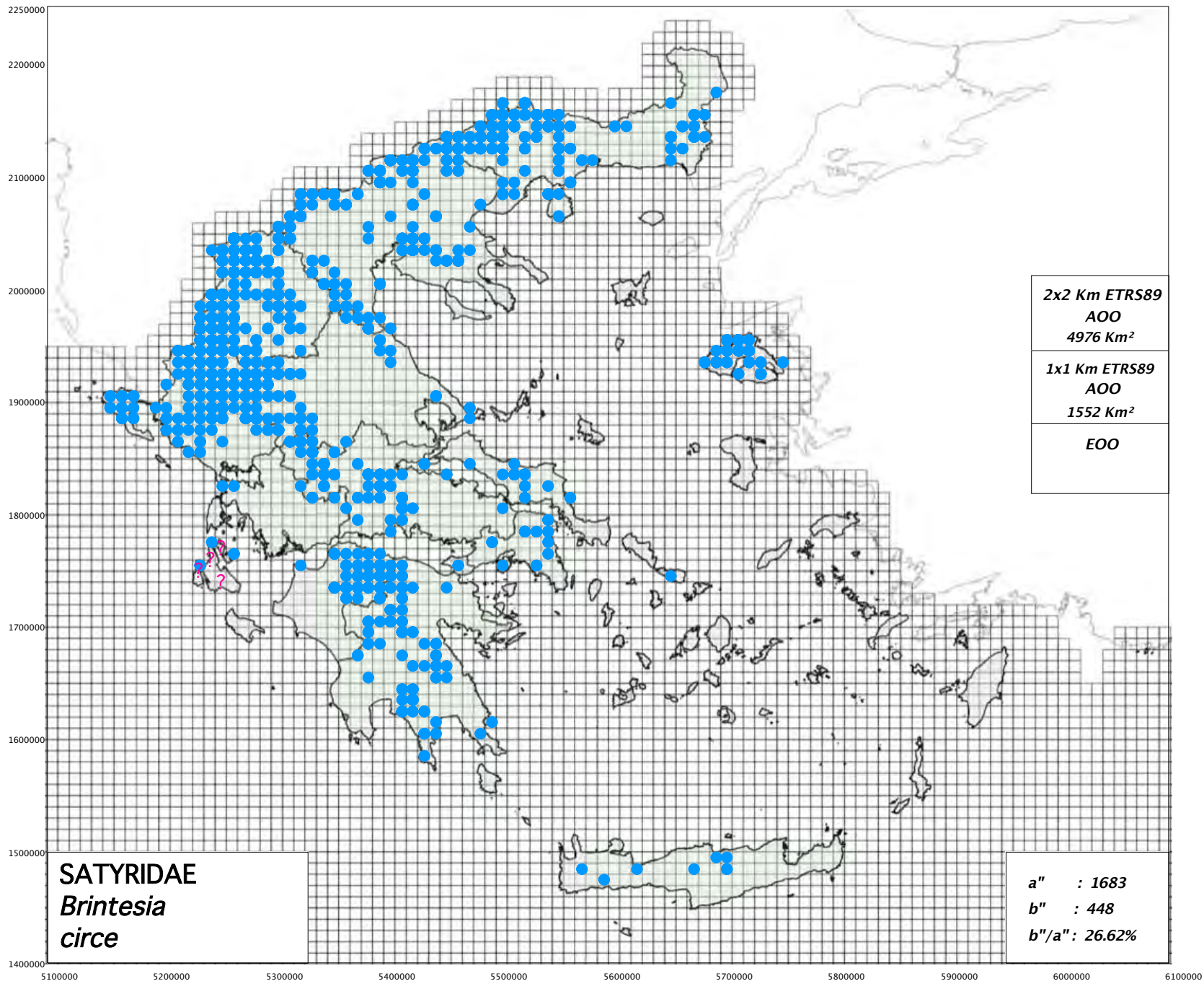
a" : 1683
b" : 3
b"/a" : 0.18%

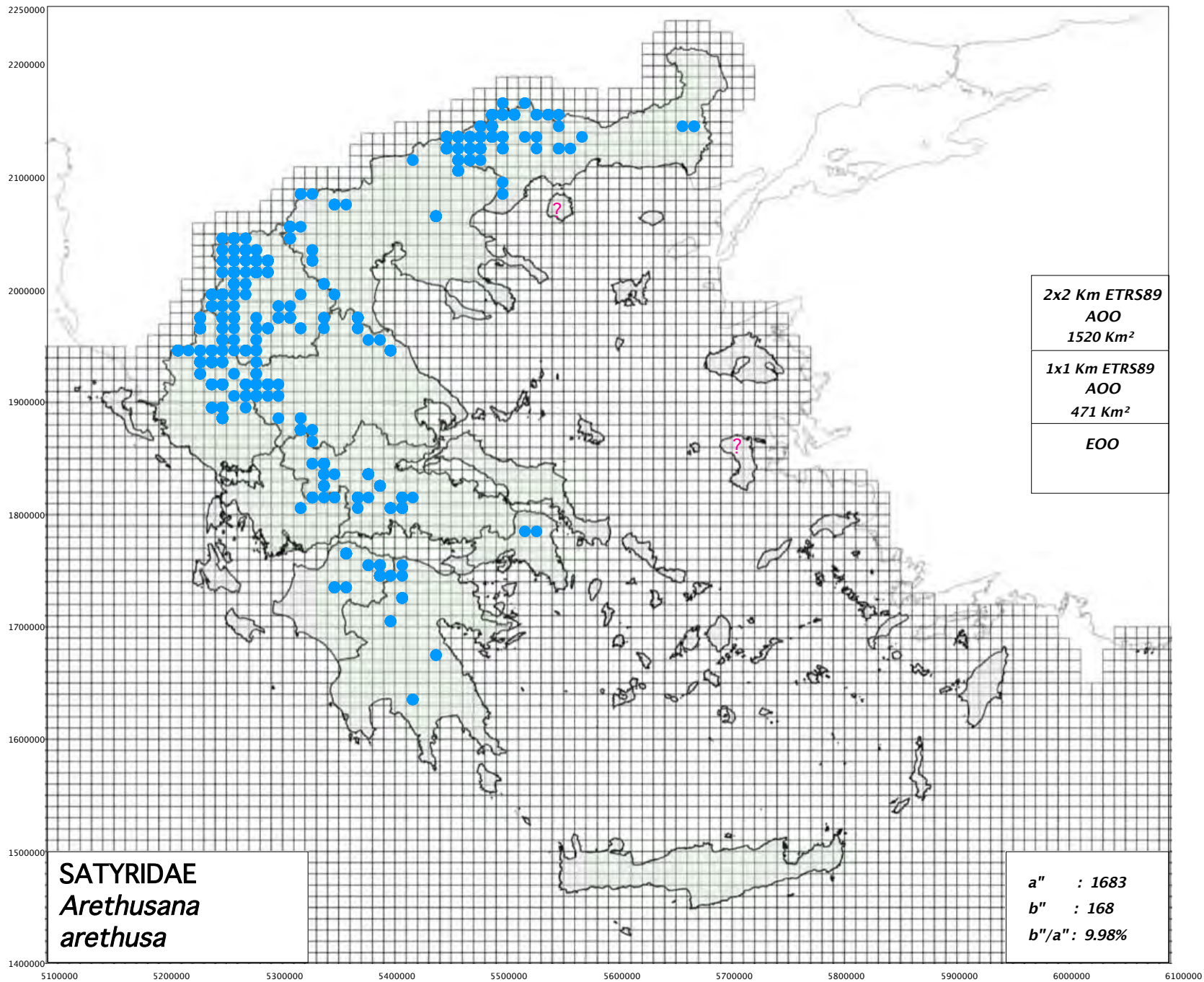


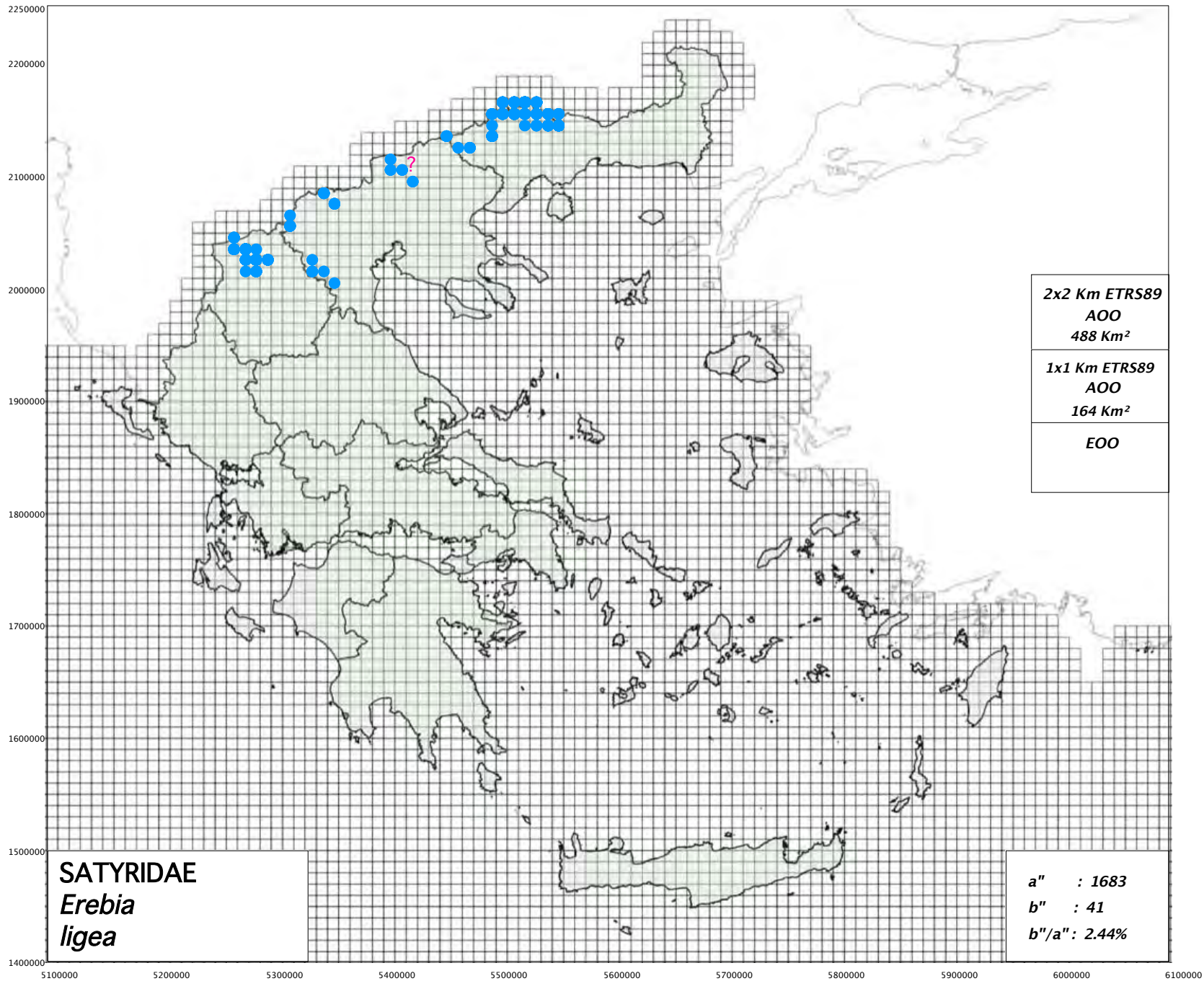


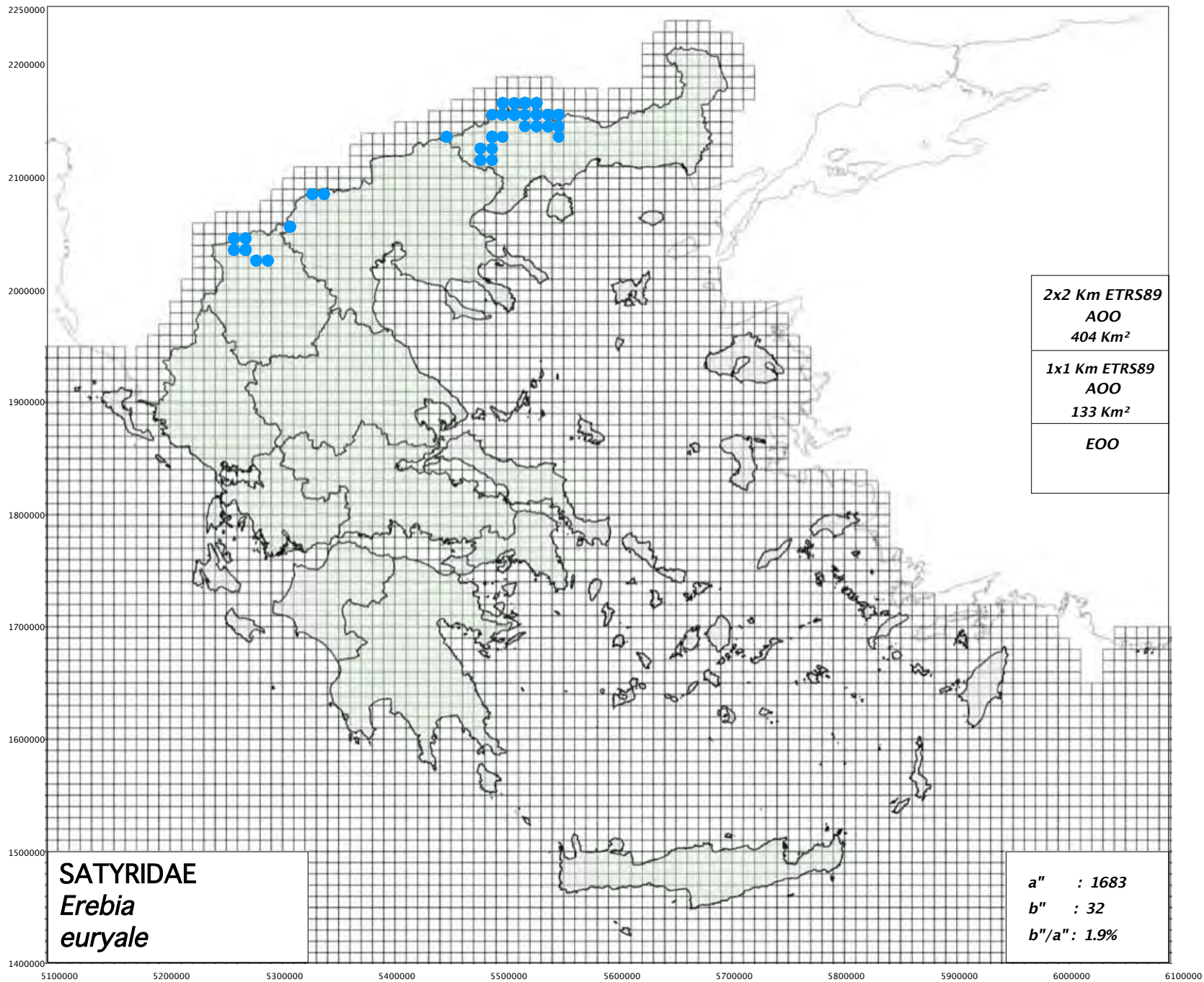


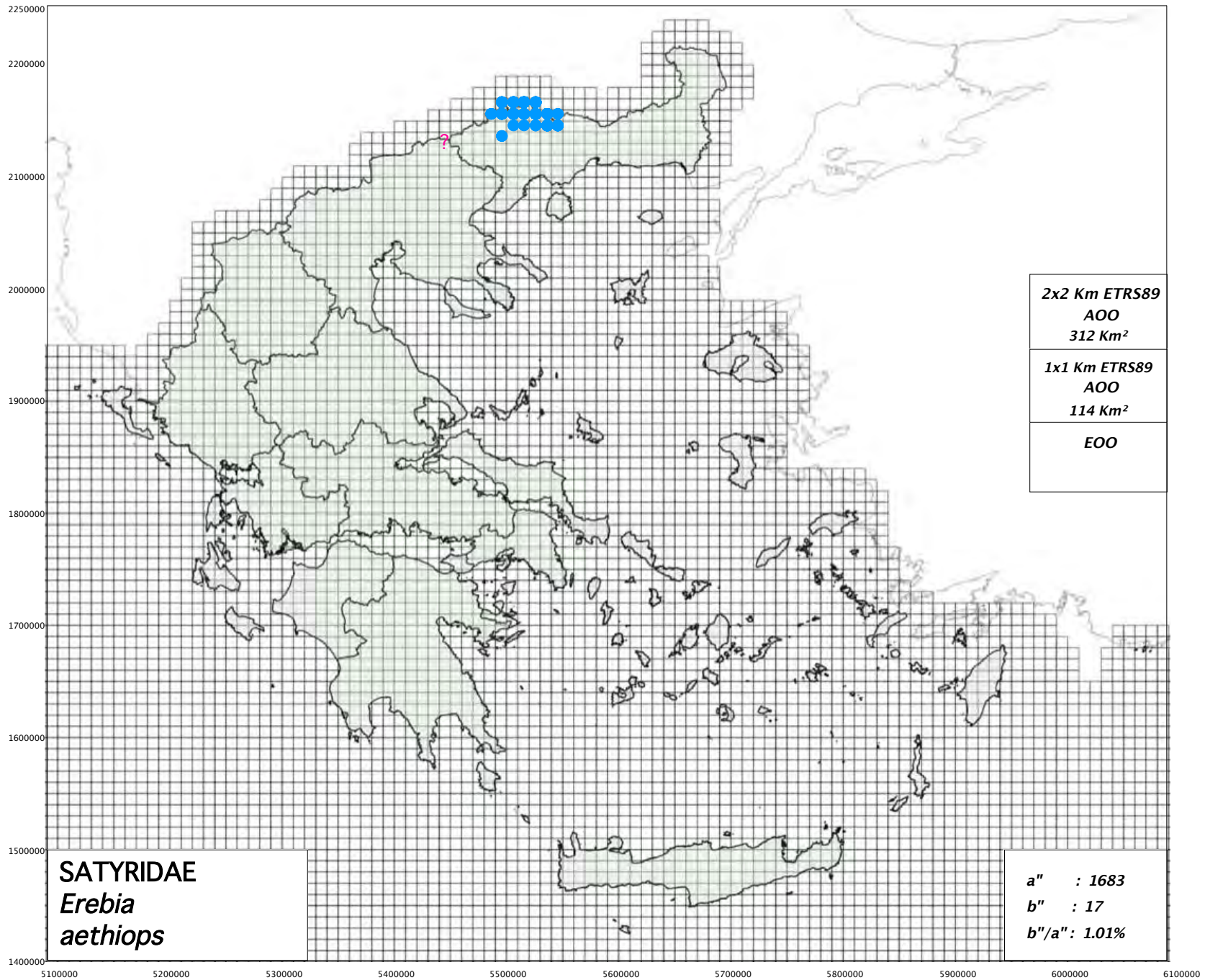


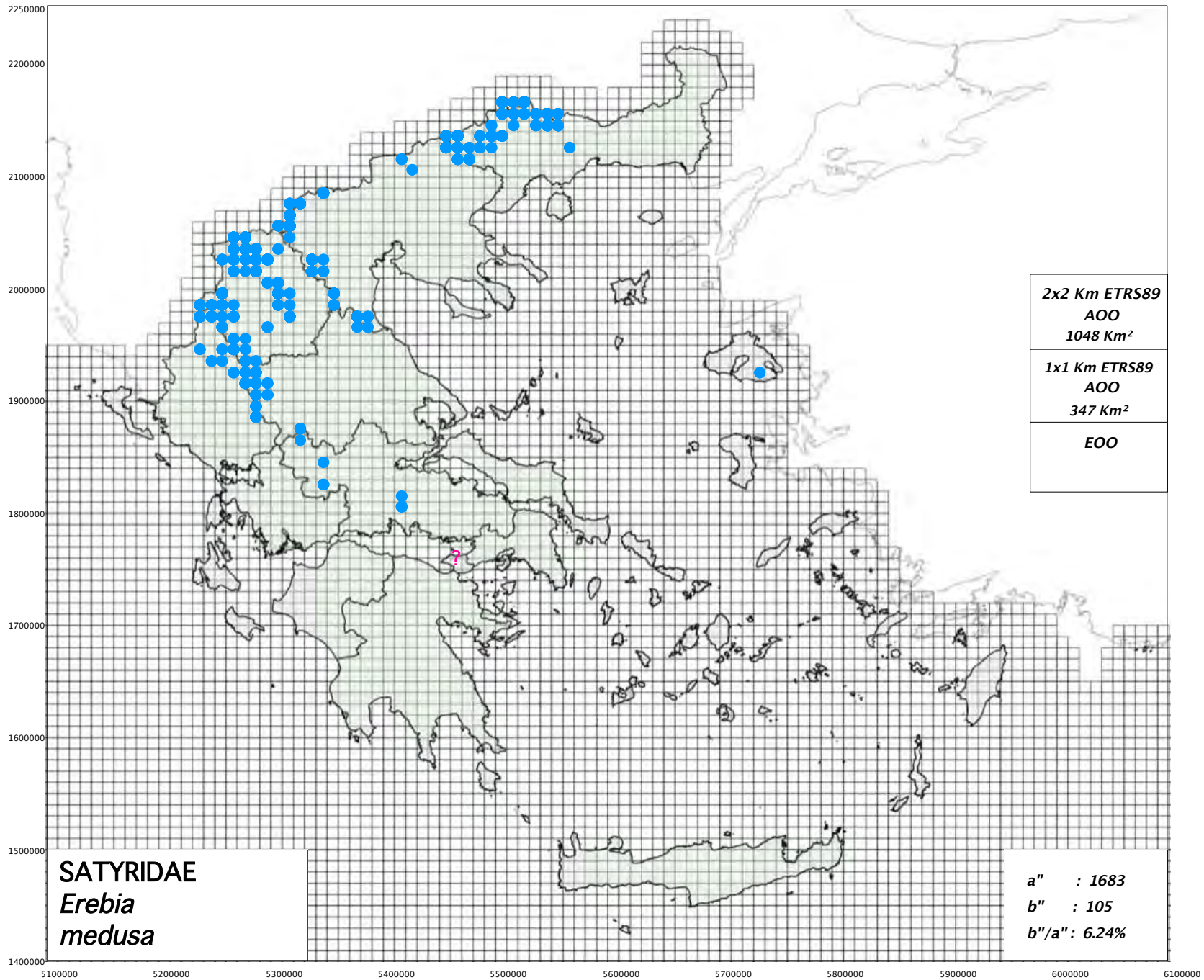


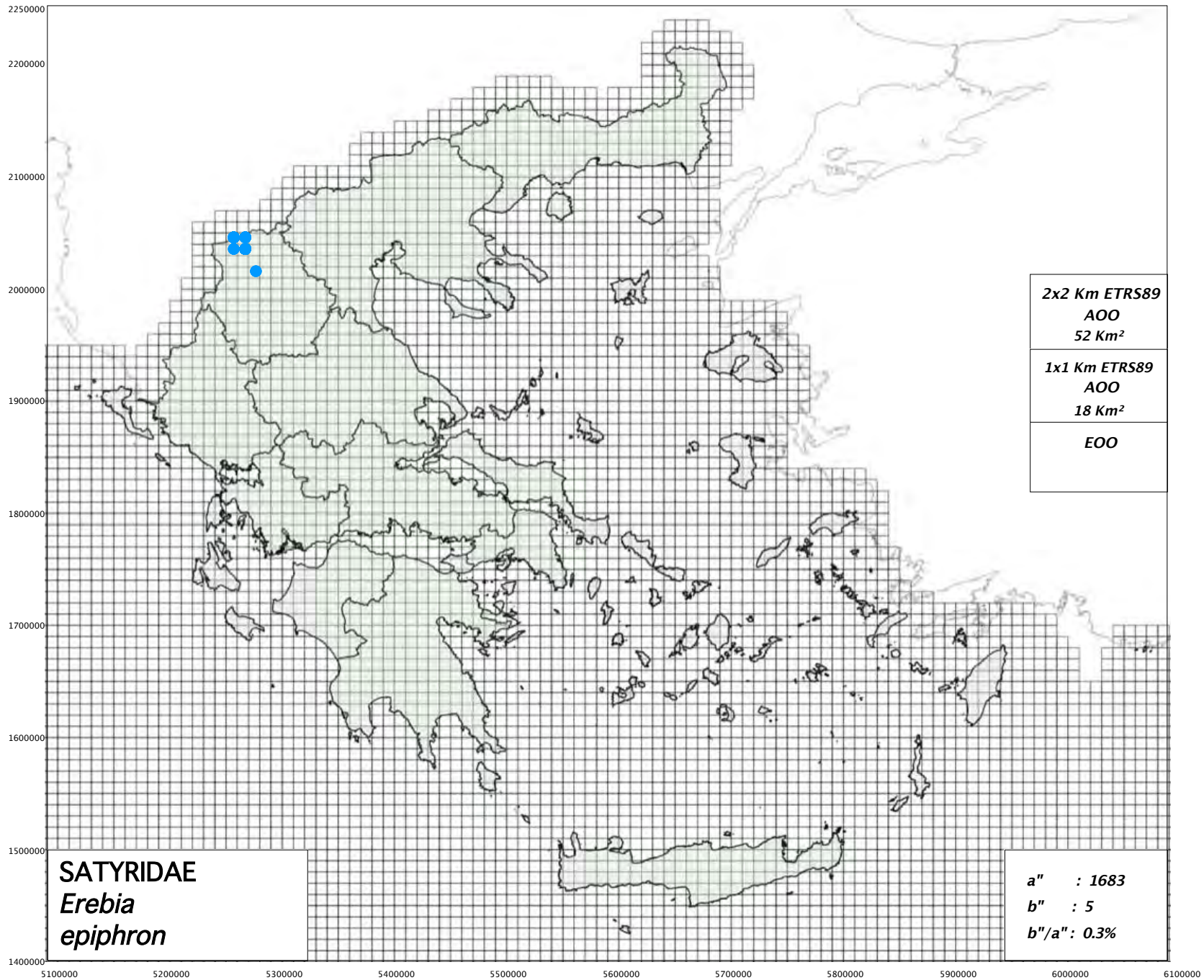


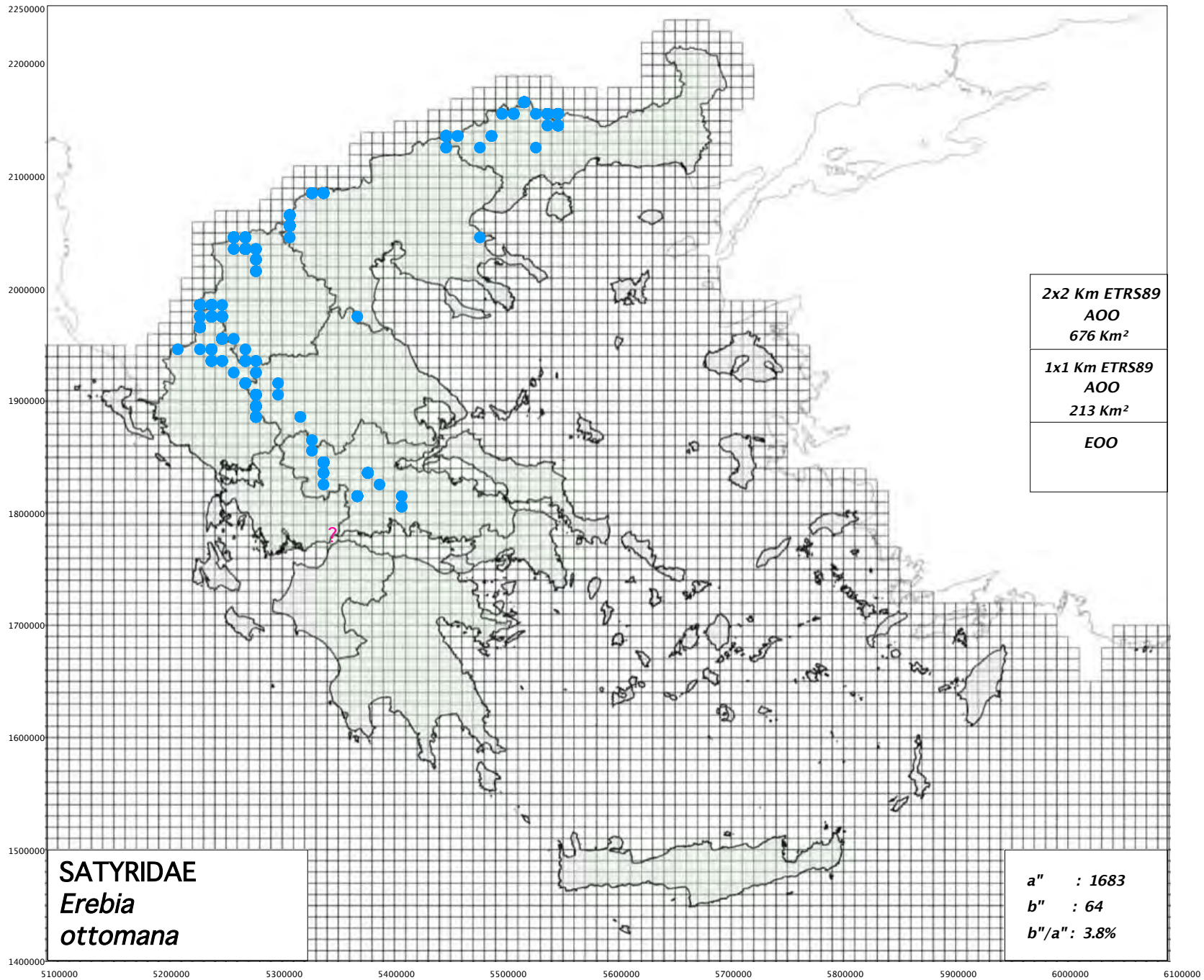


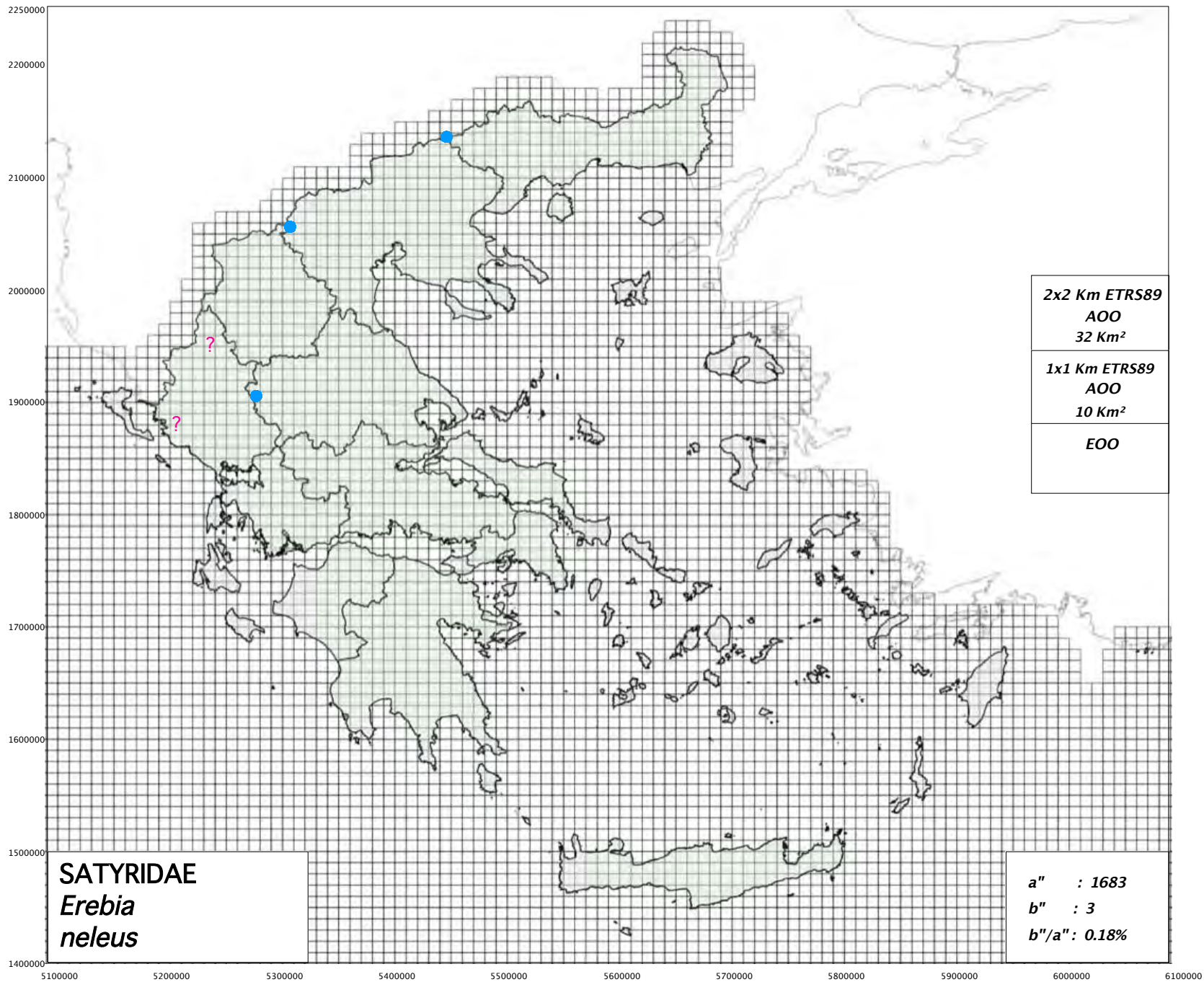


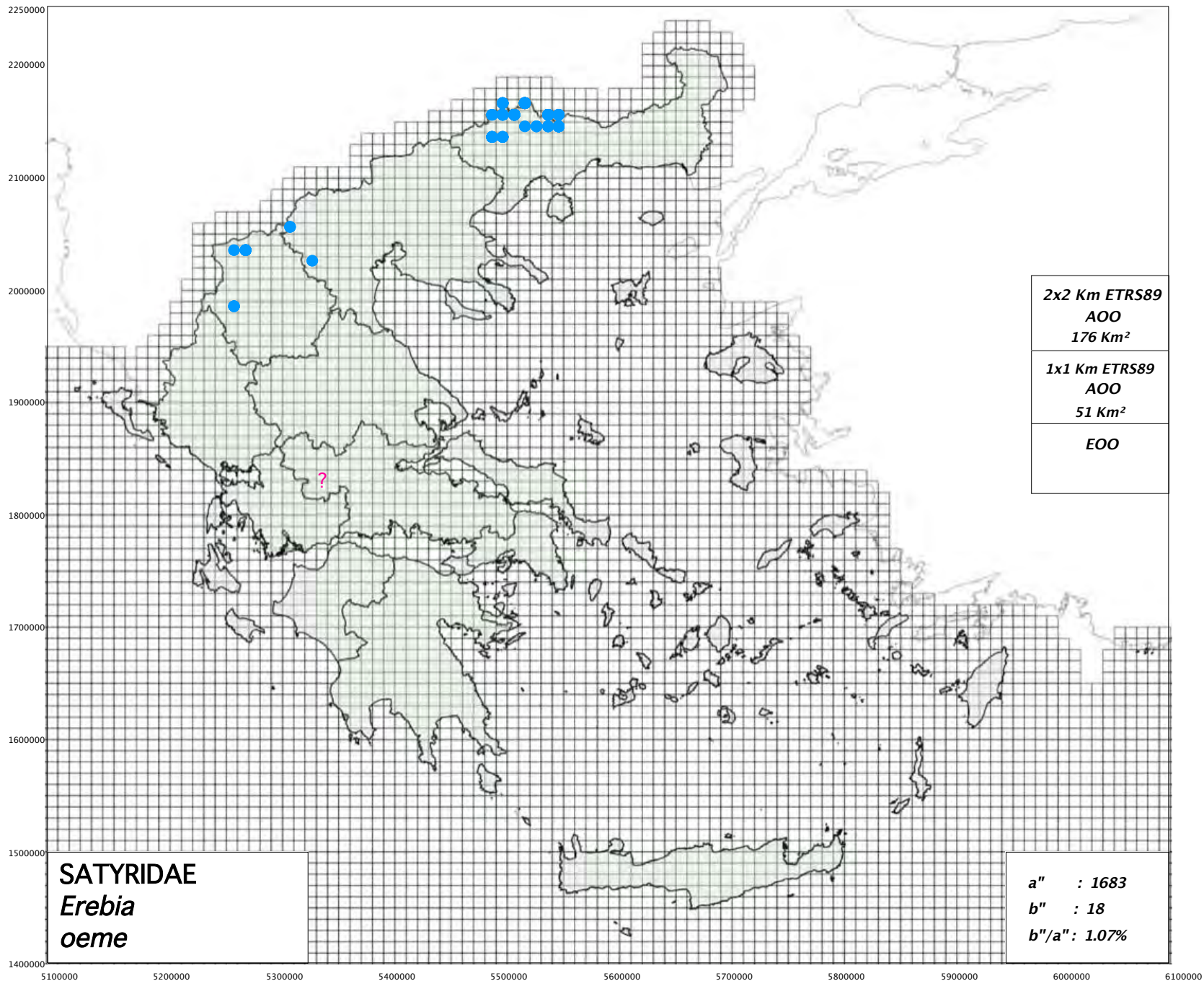


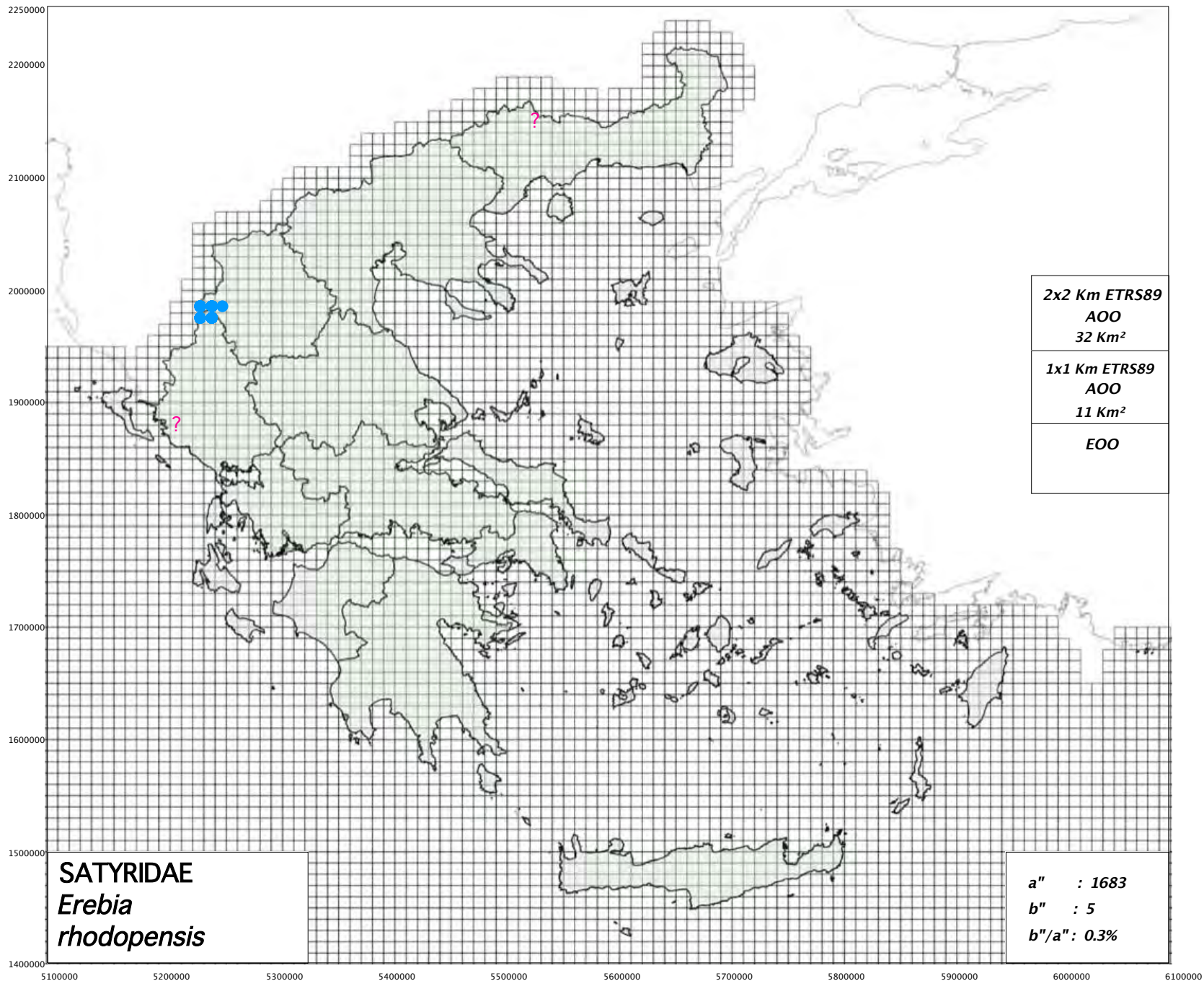


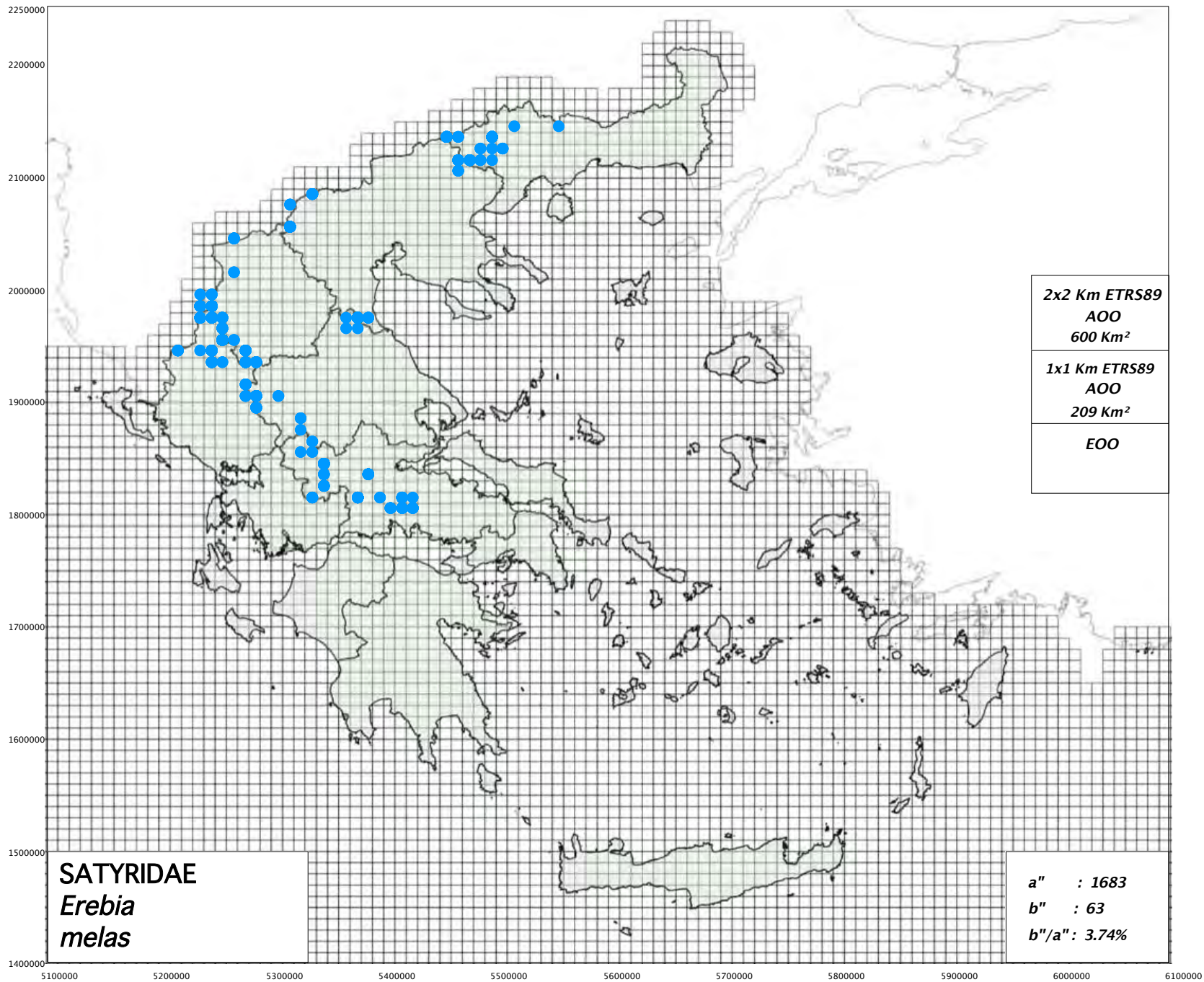


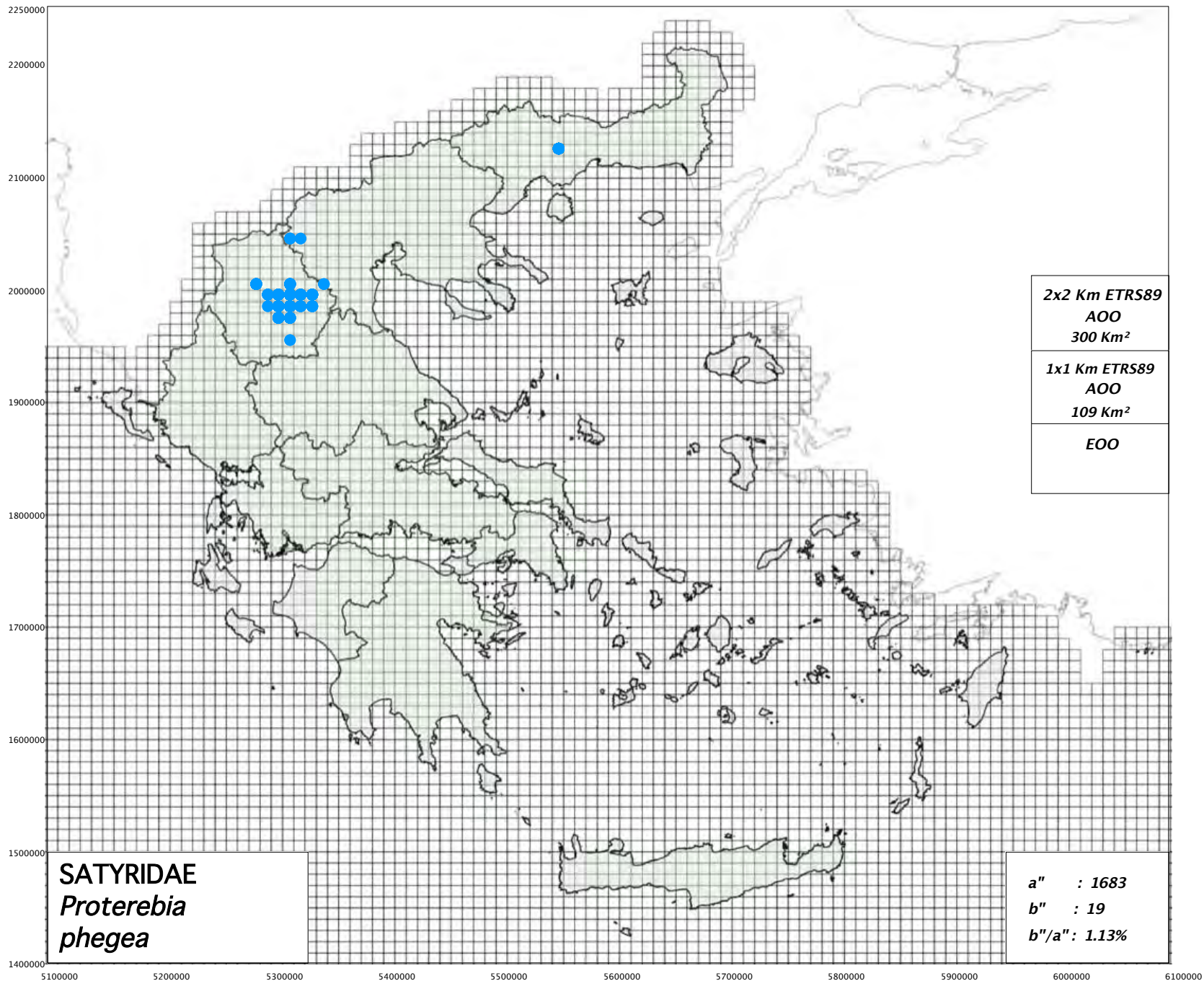


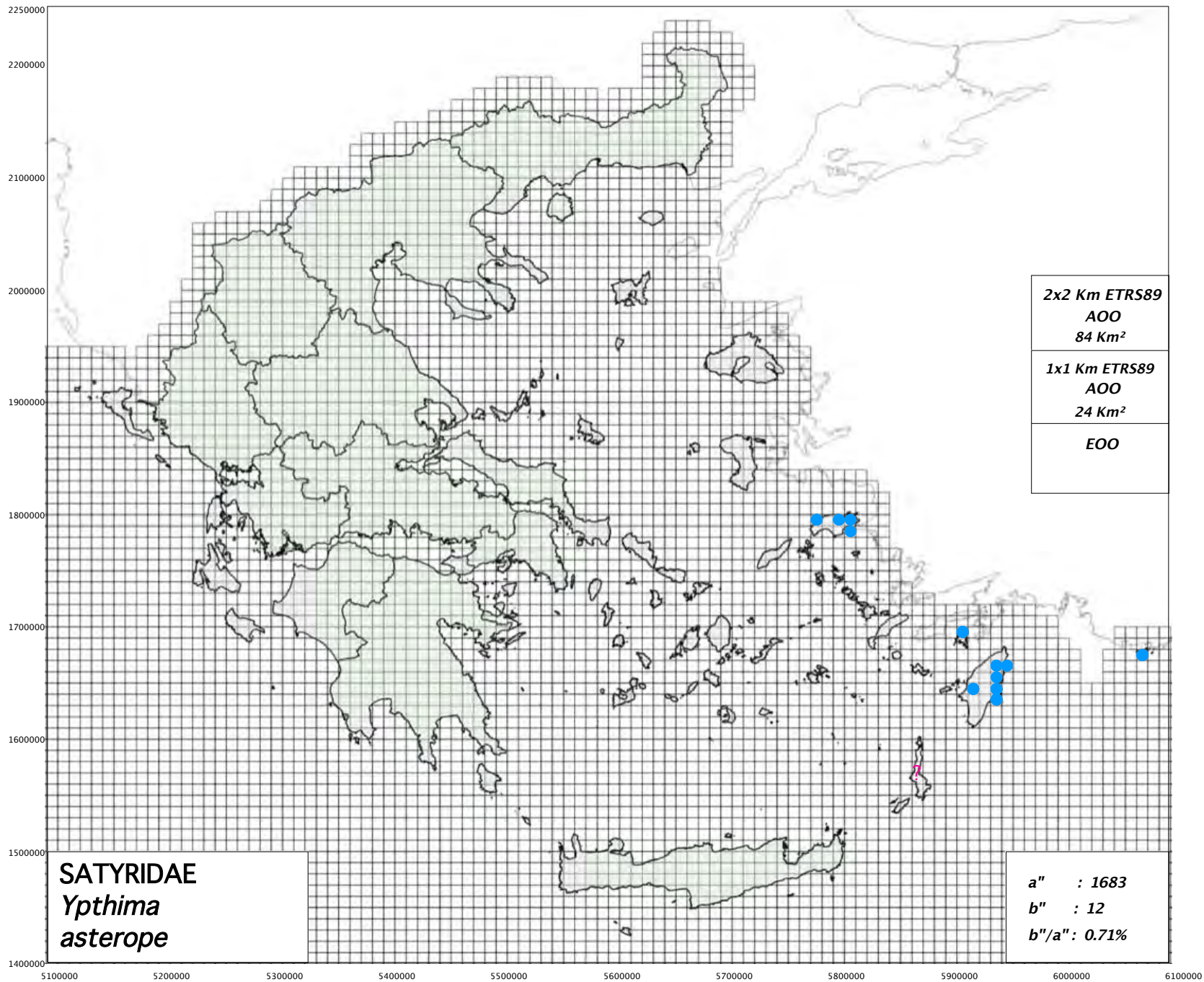


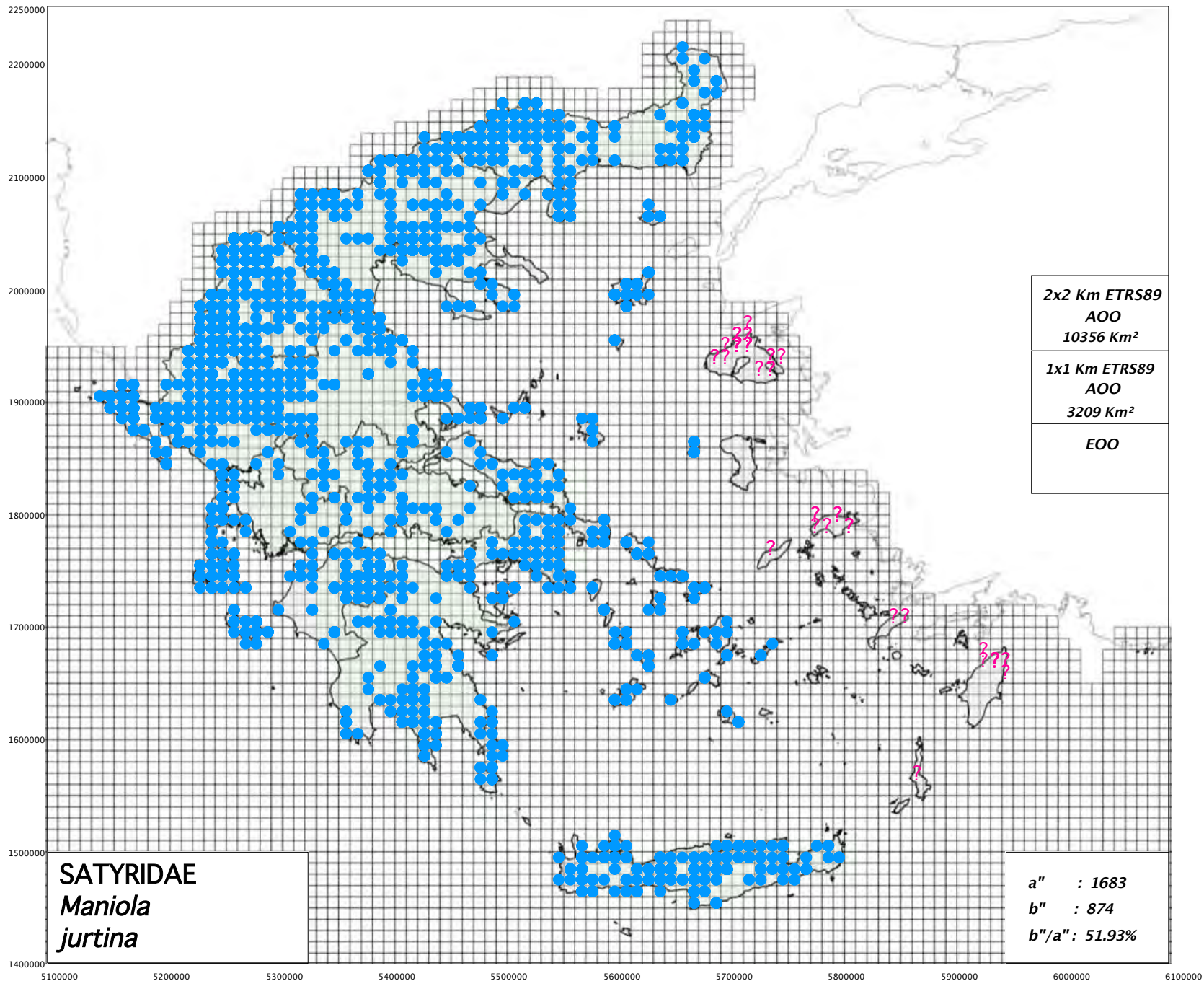


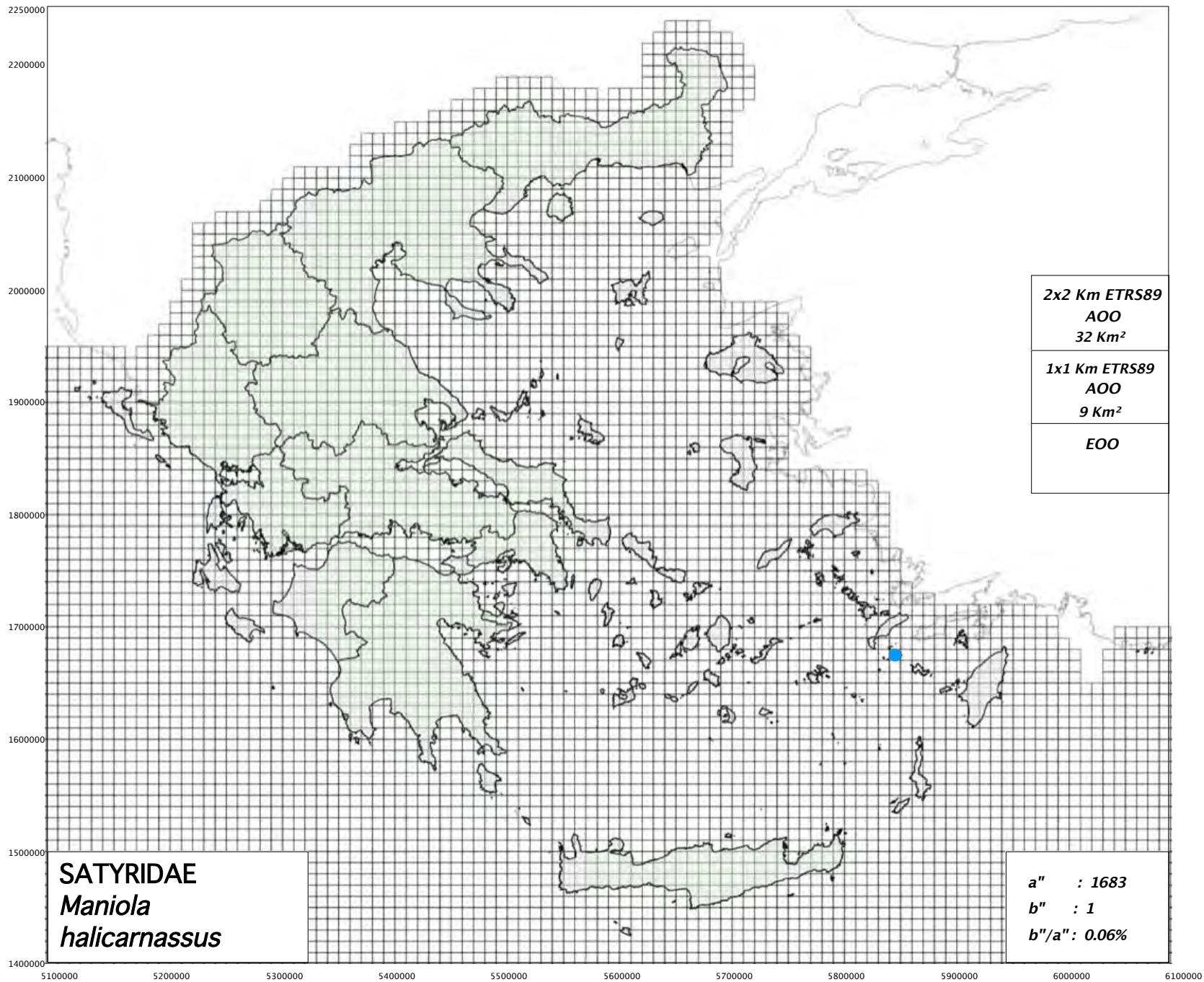


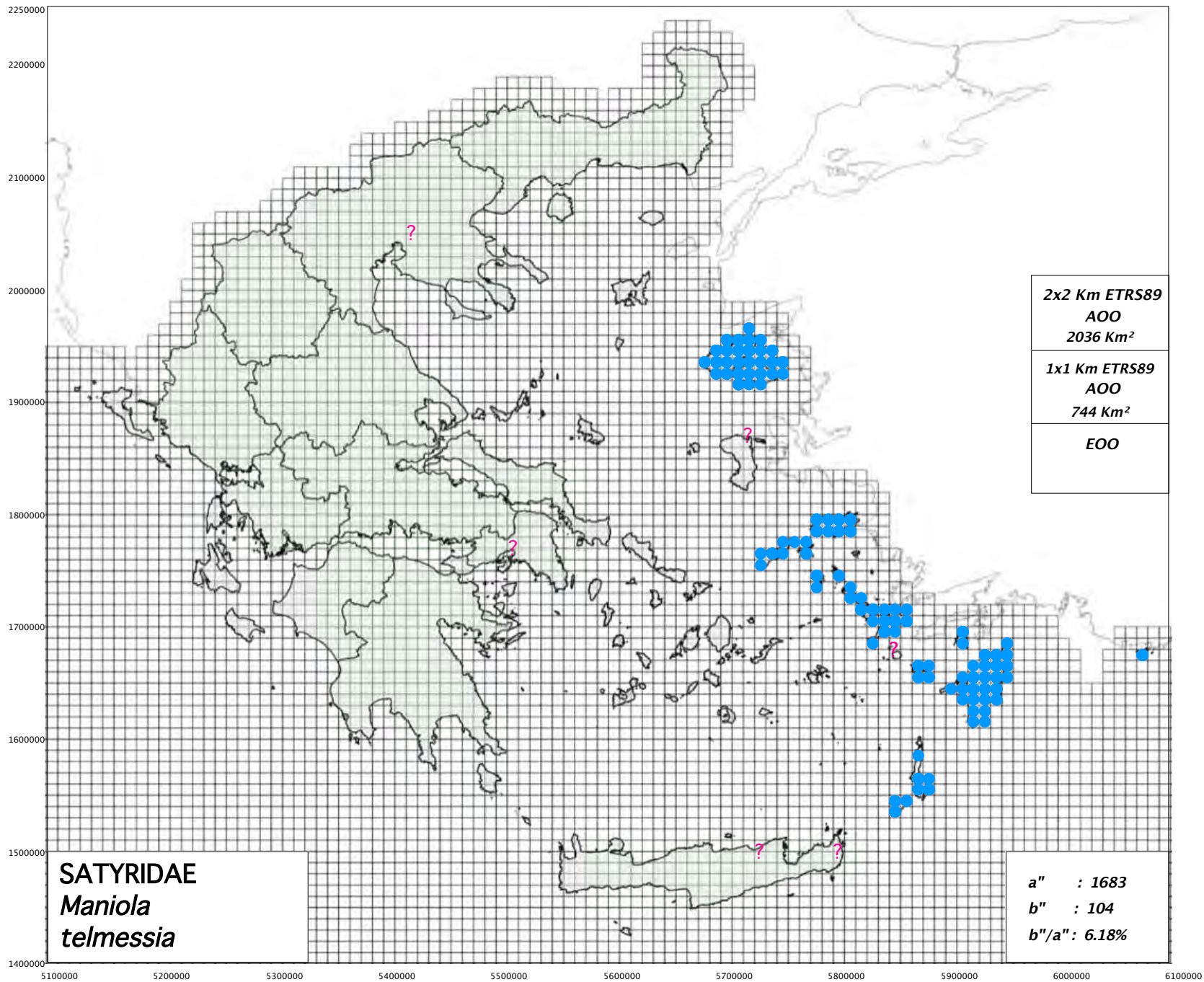


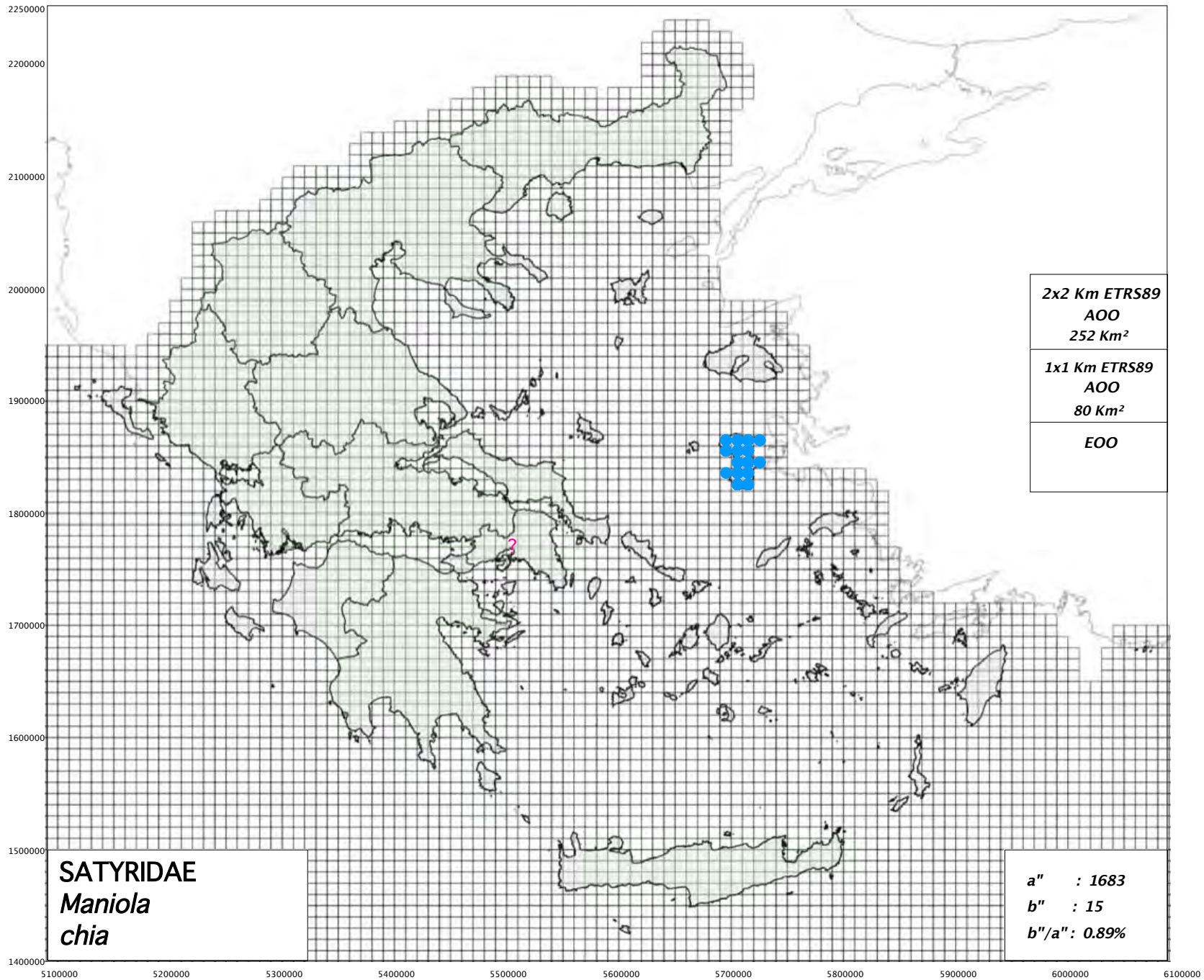


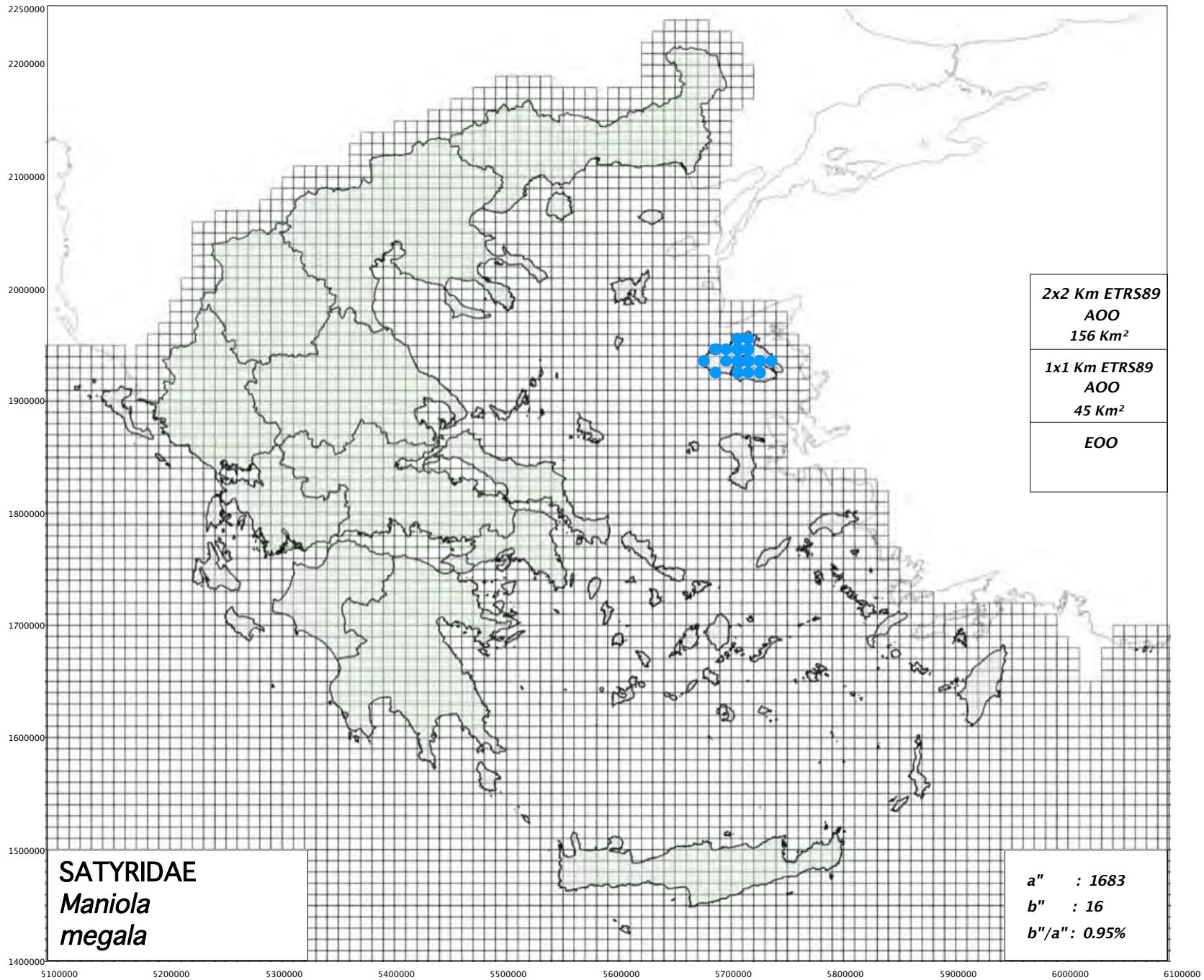


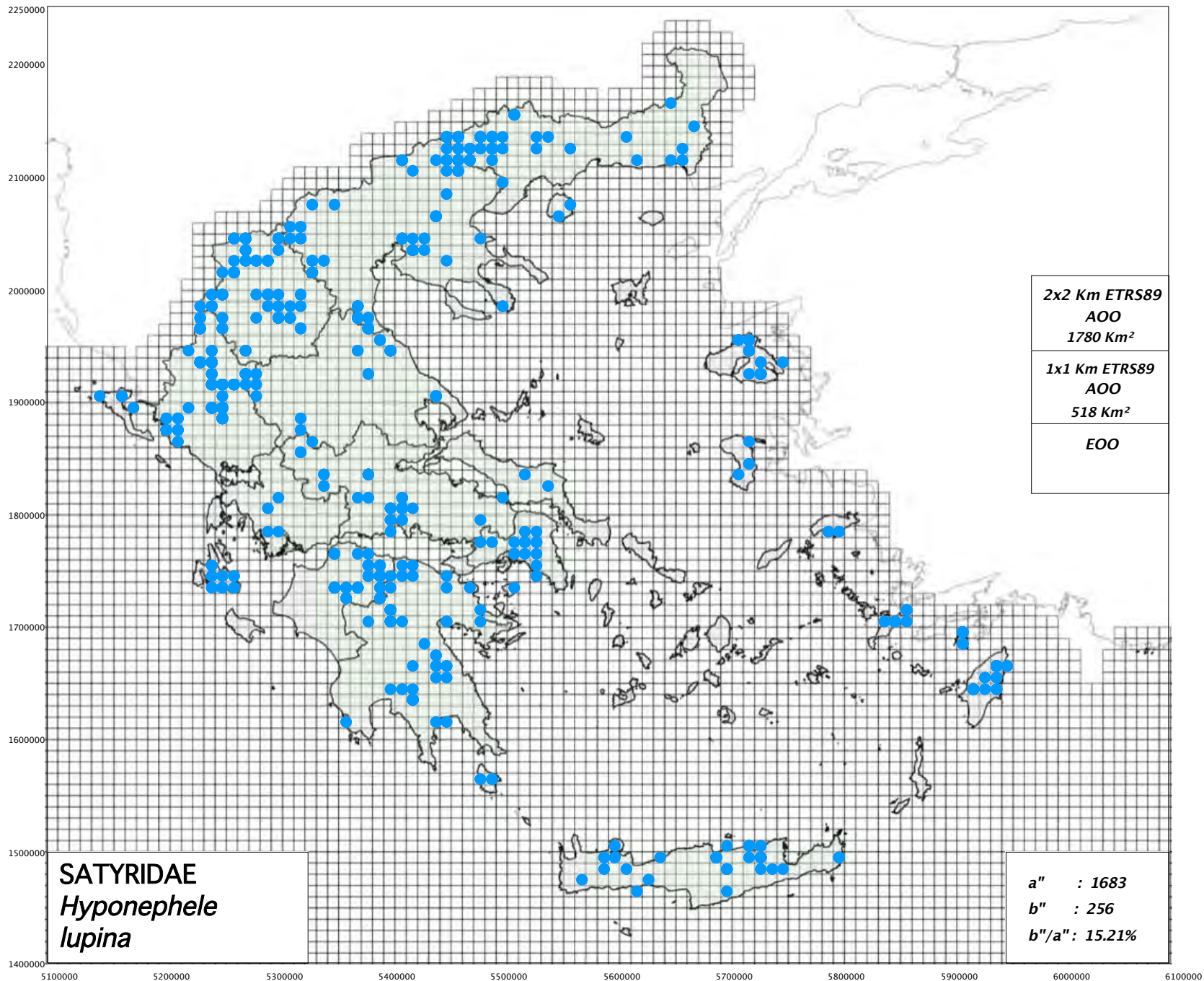


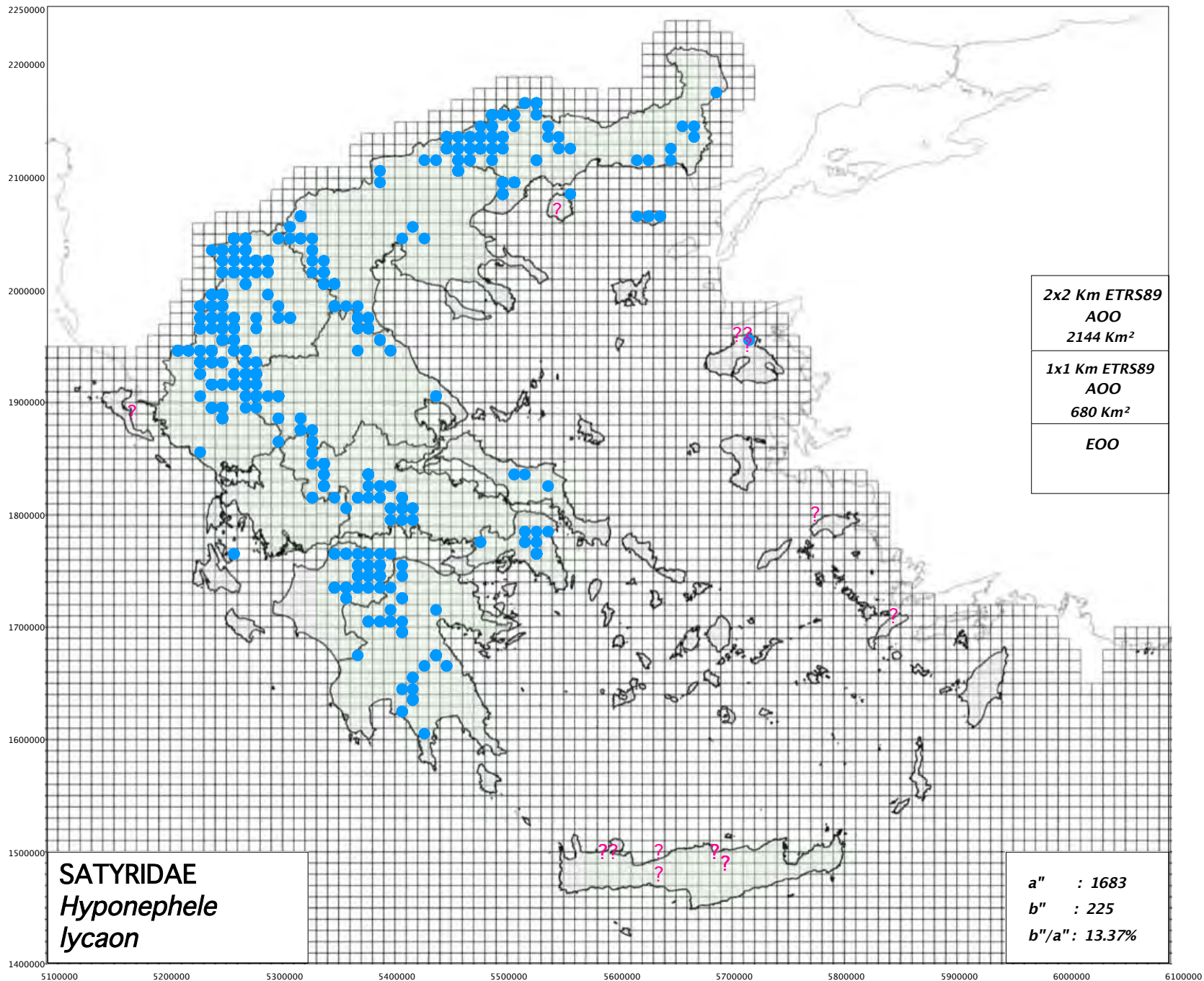


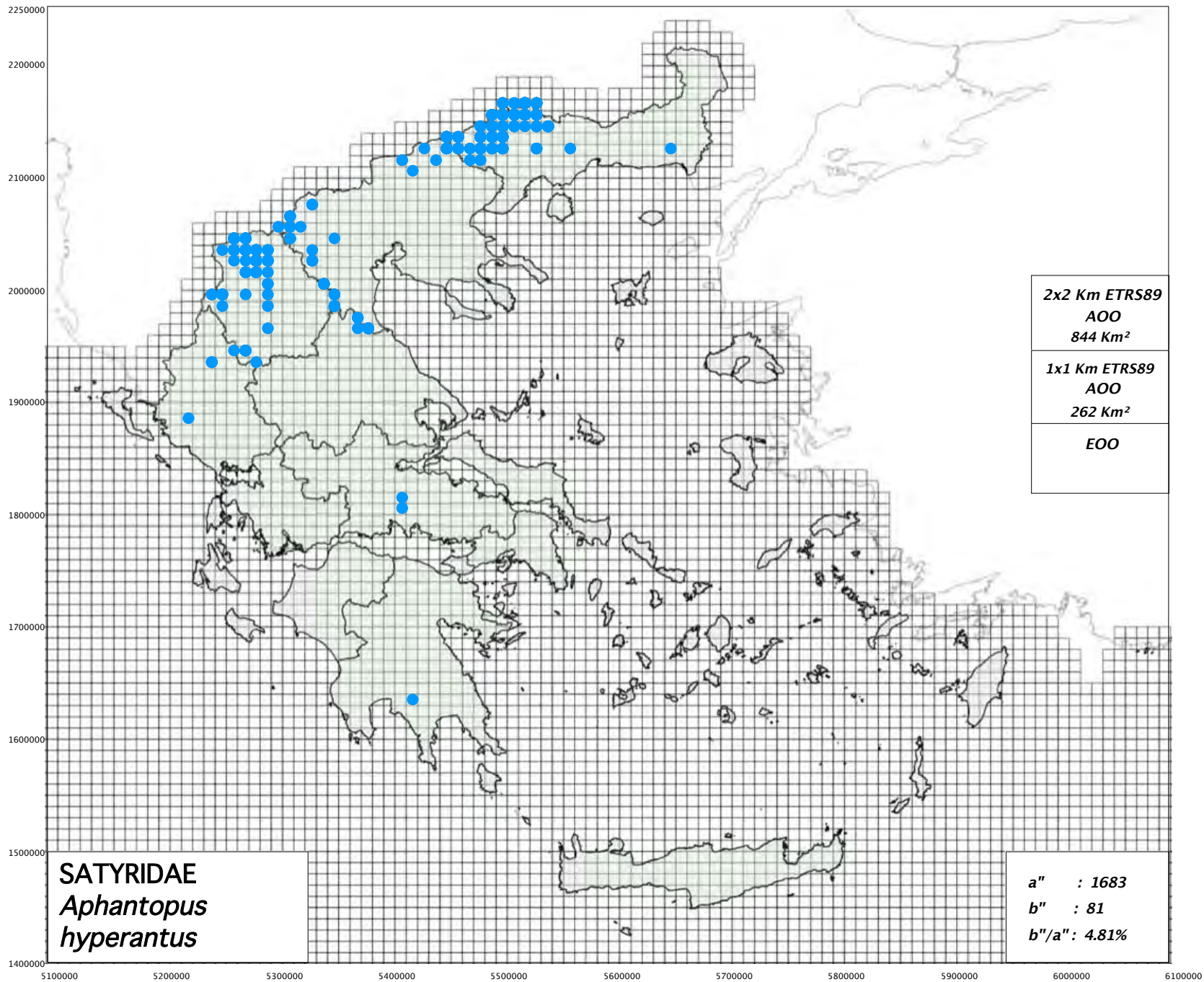


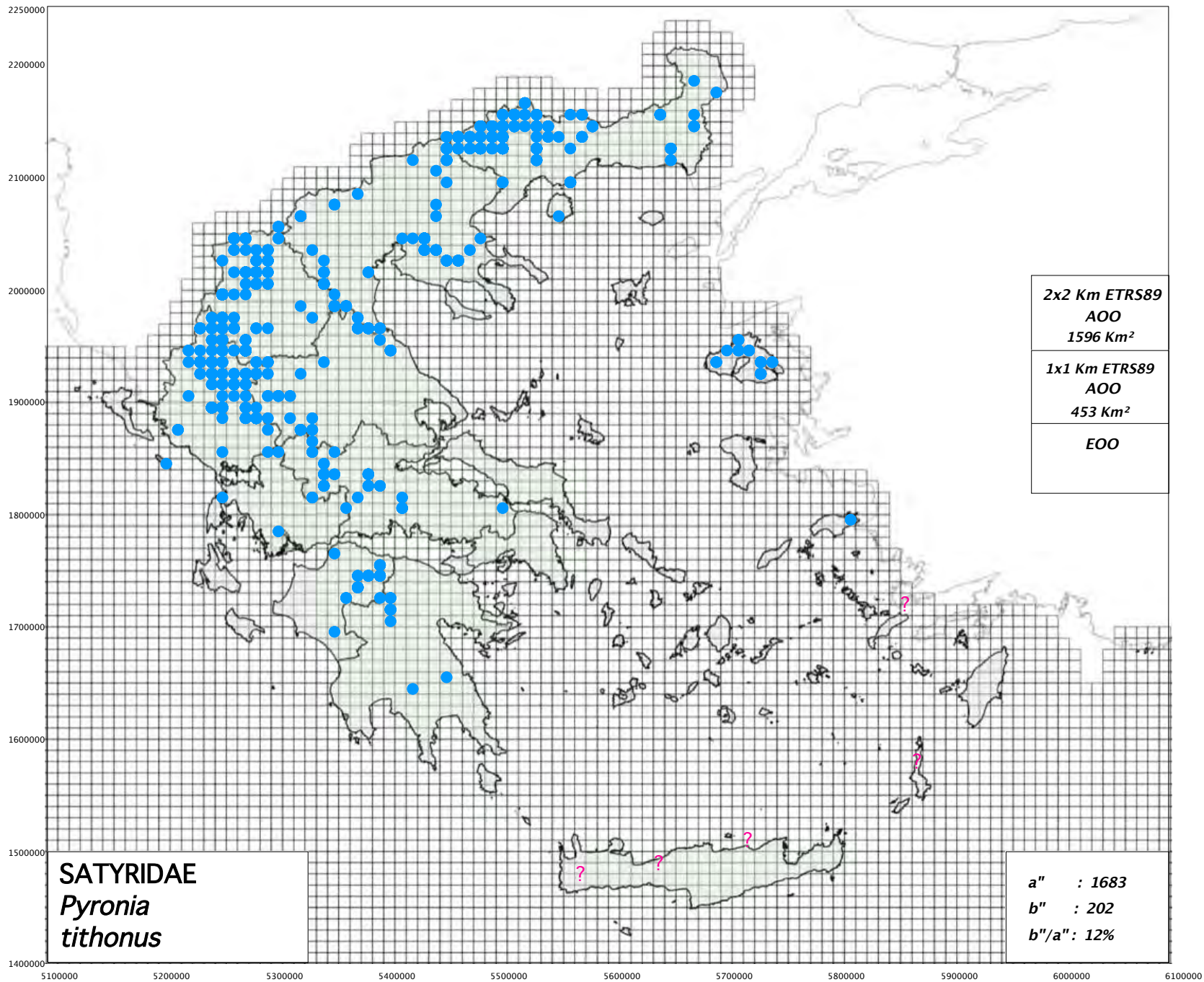


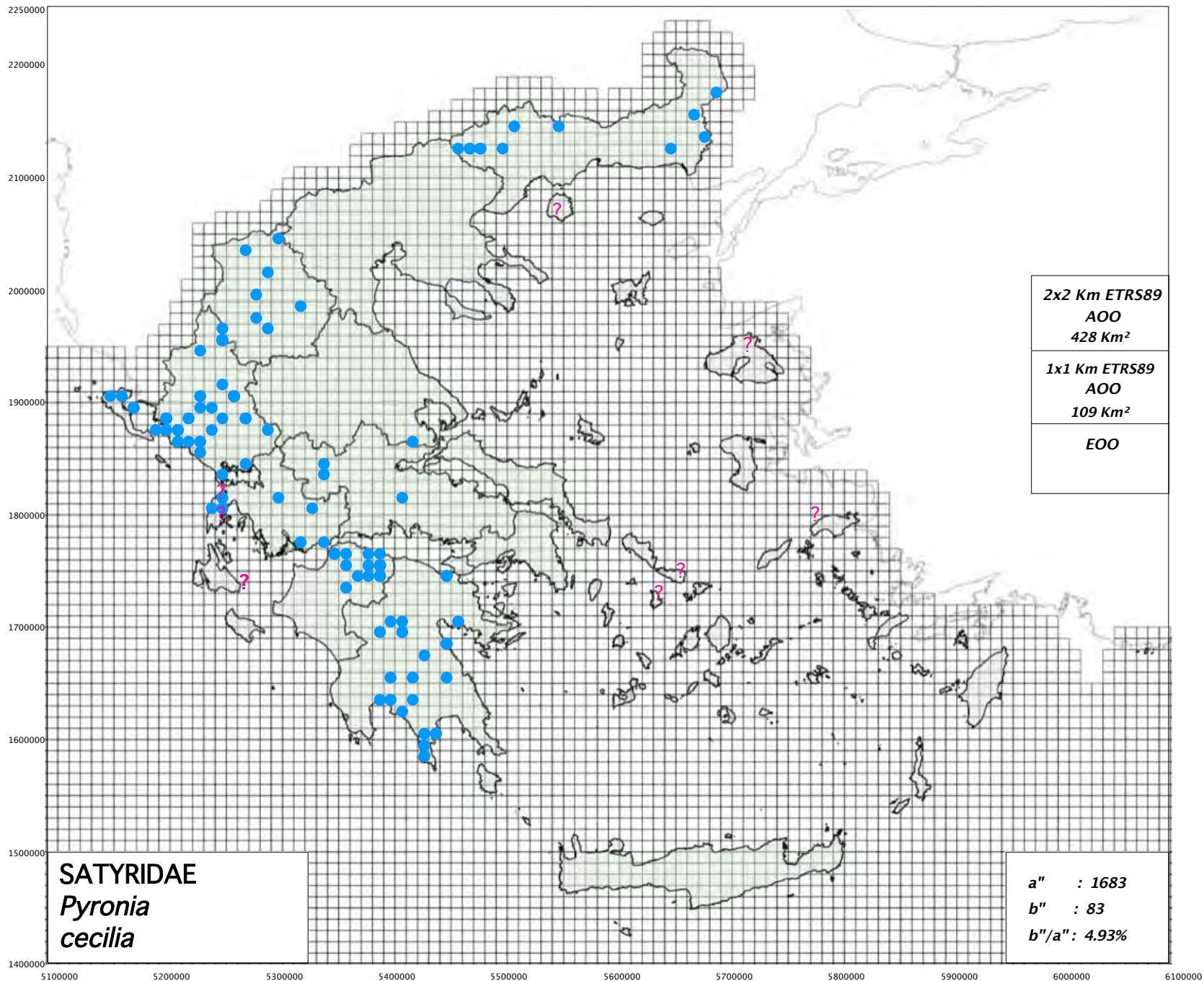


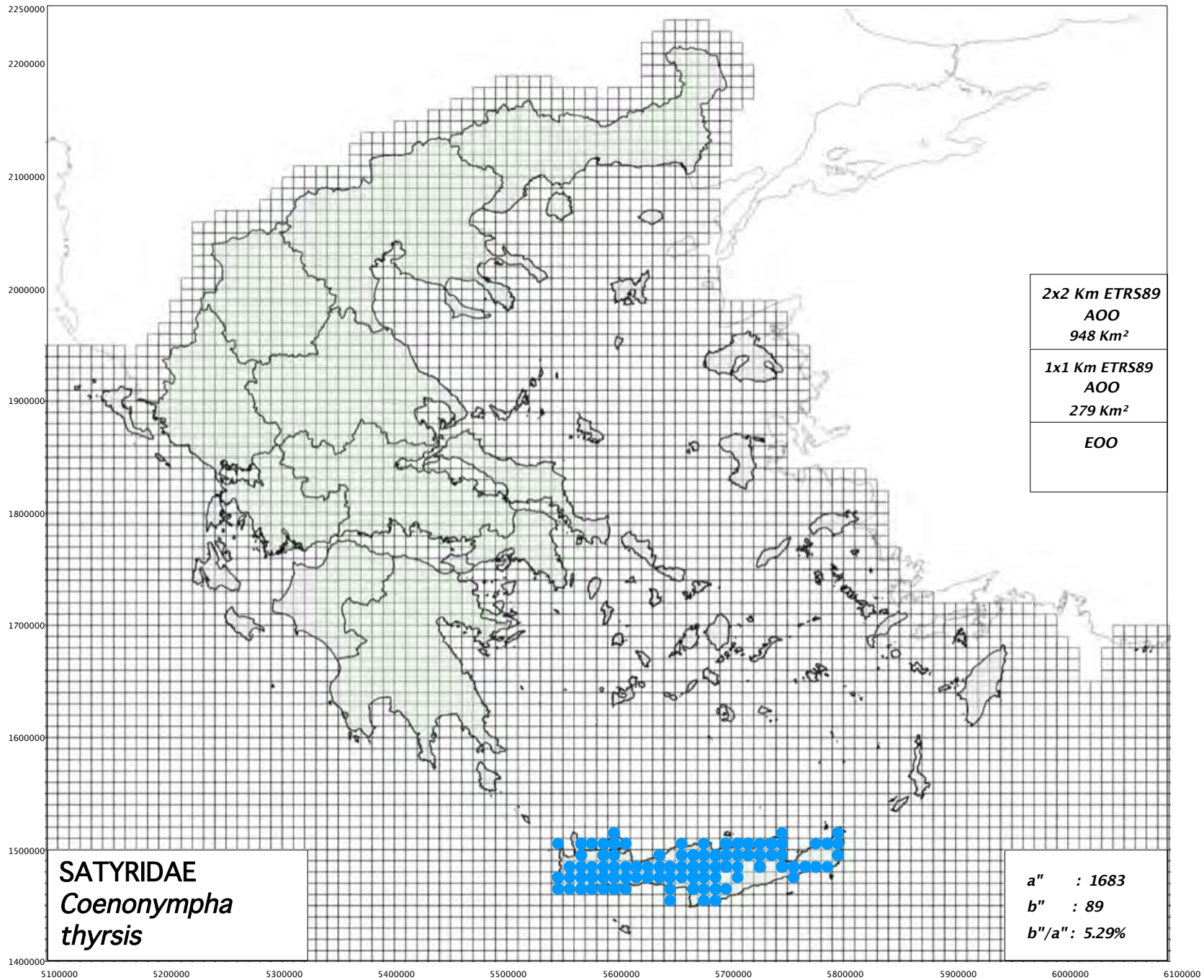


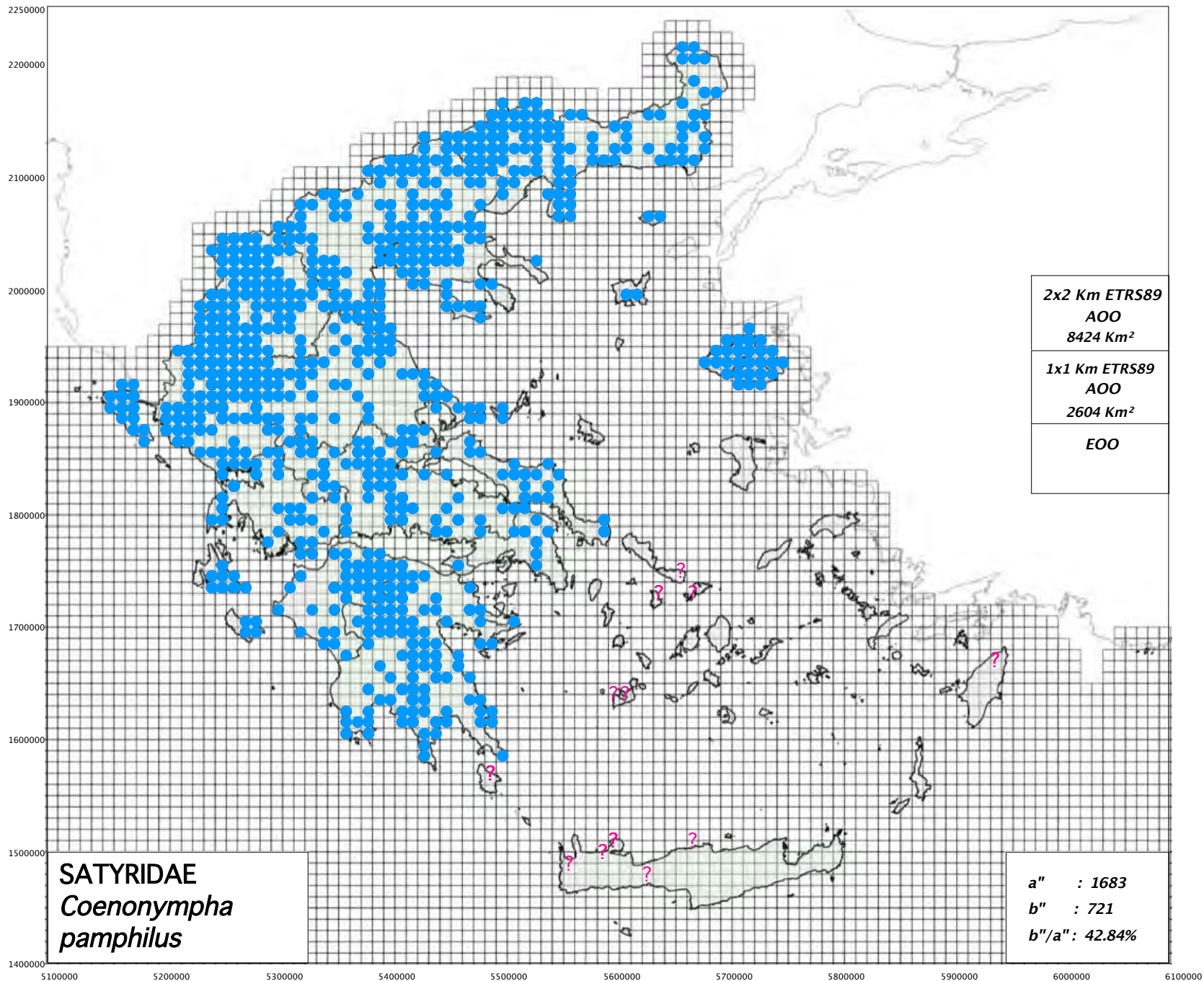


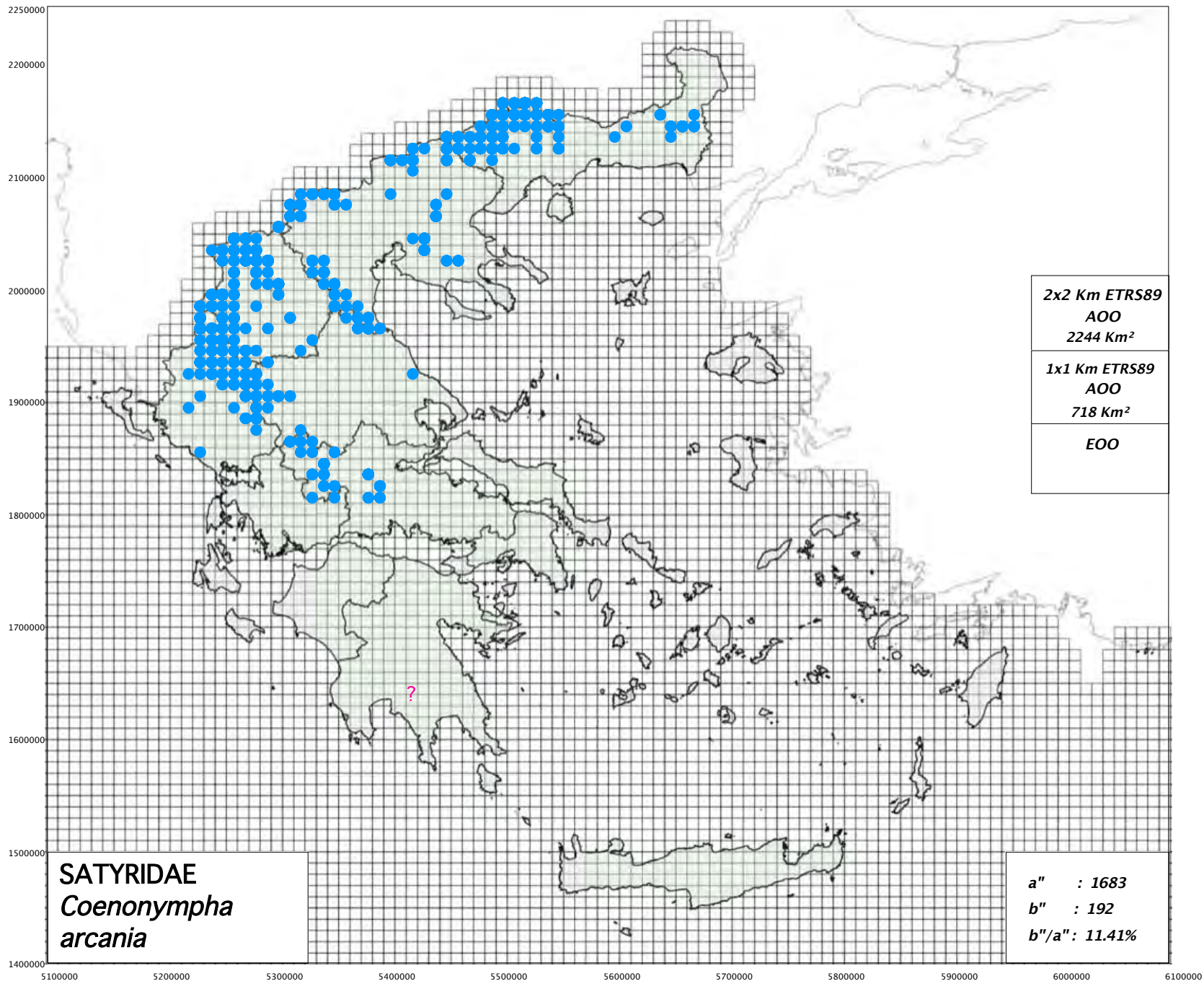


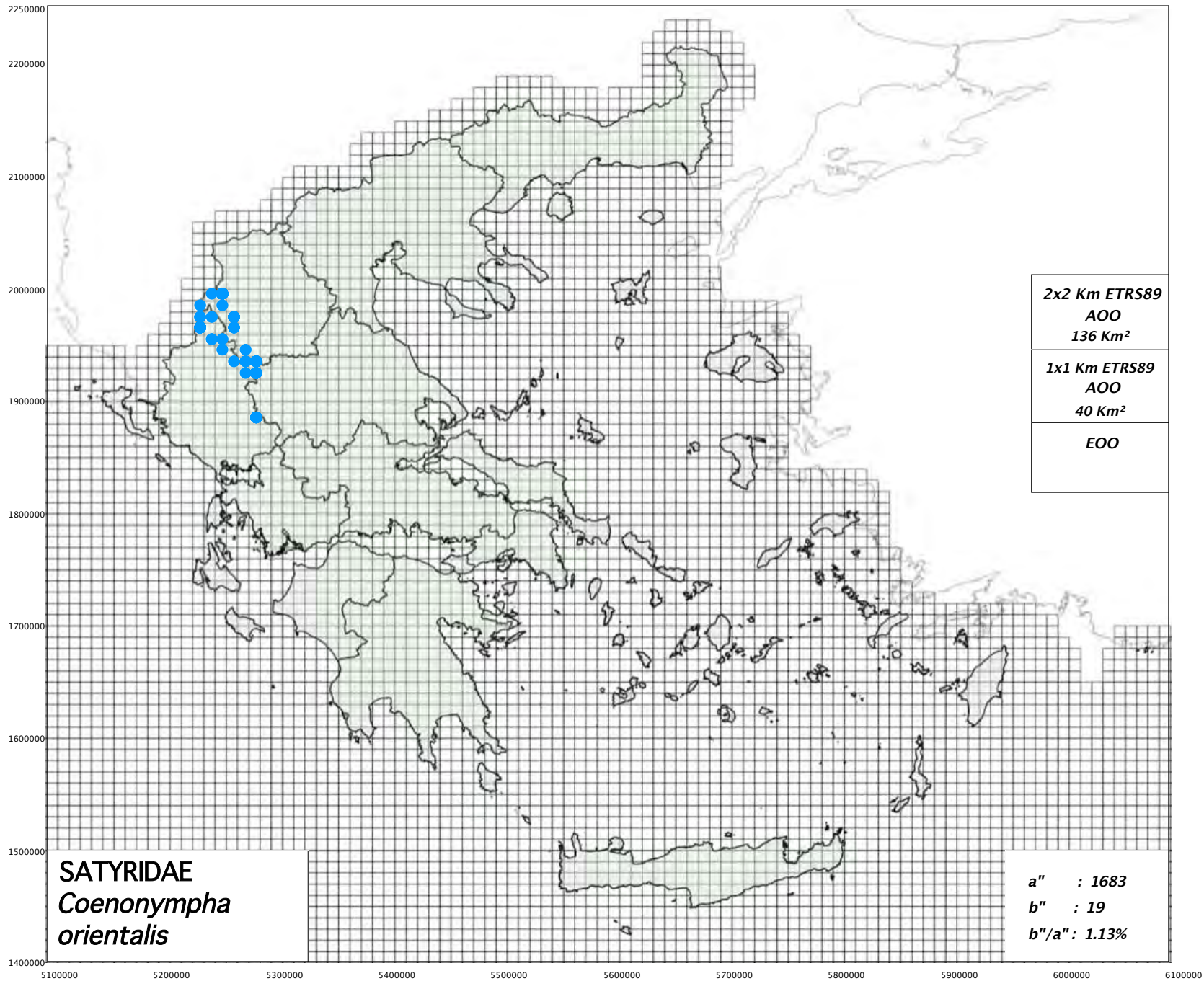


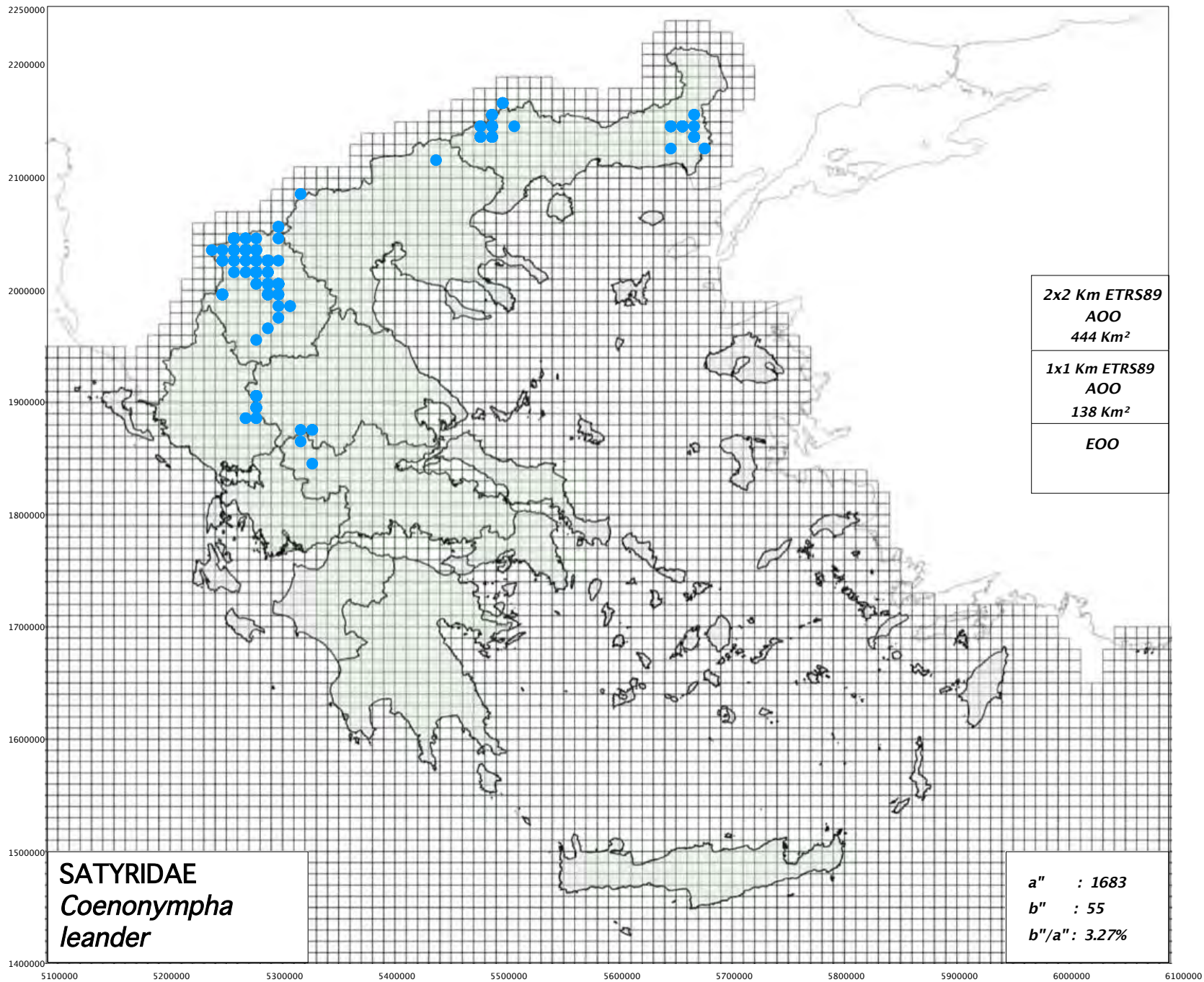


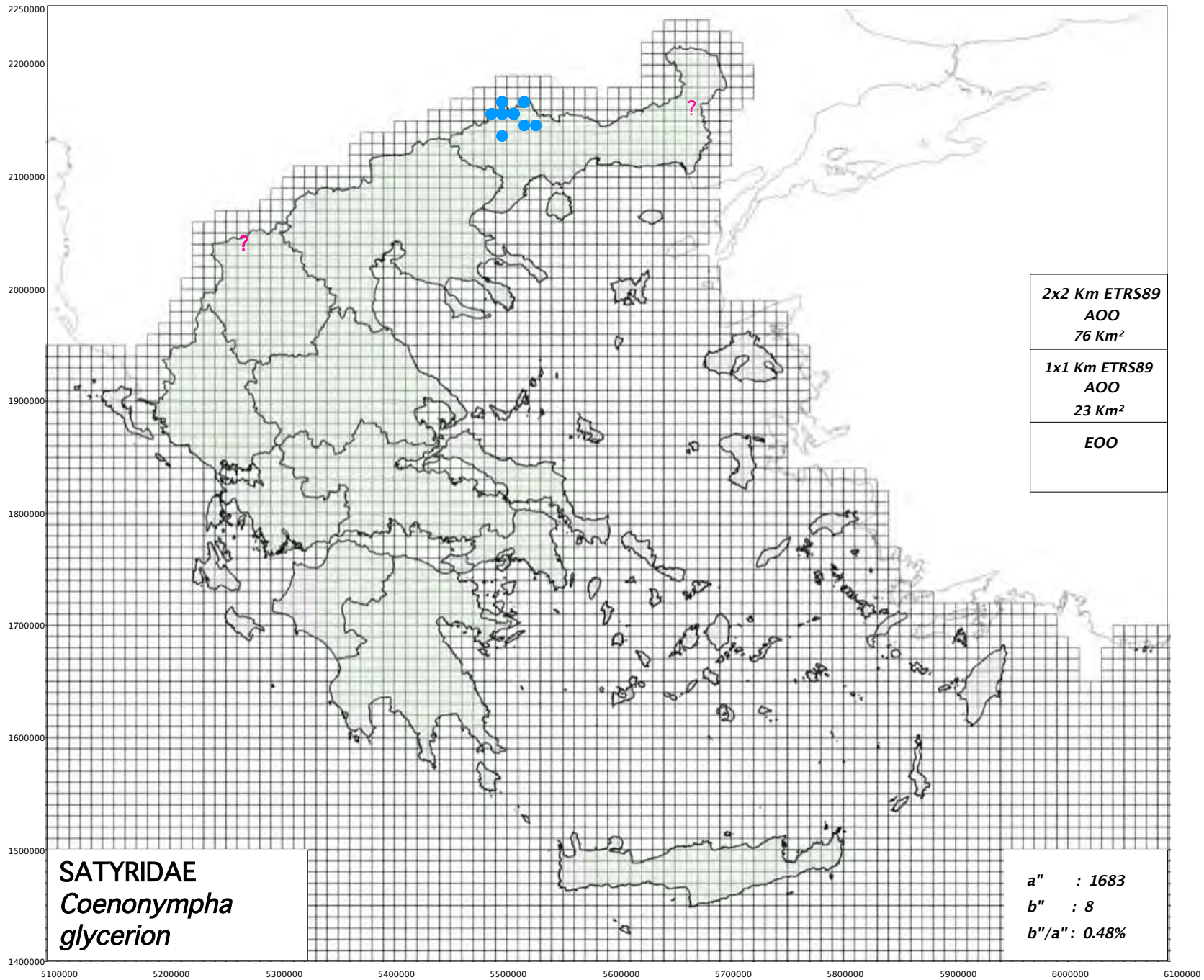


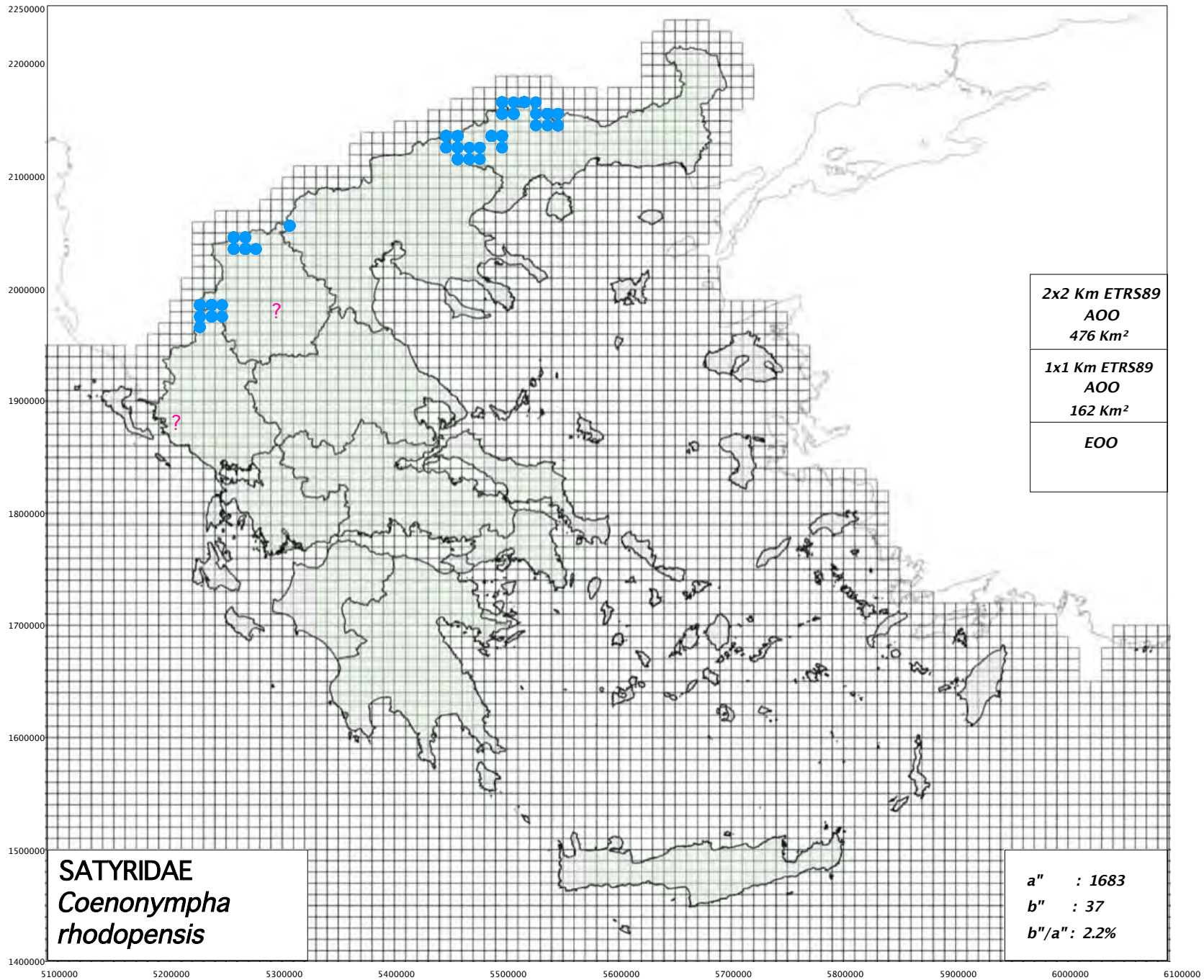


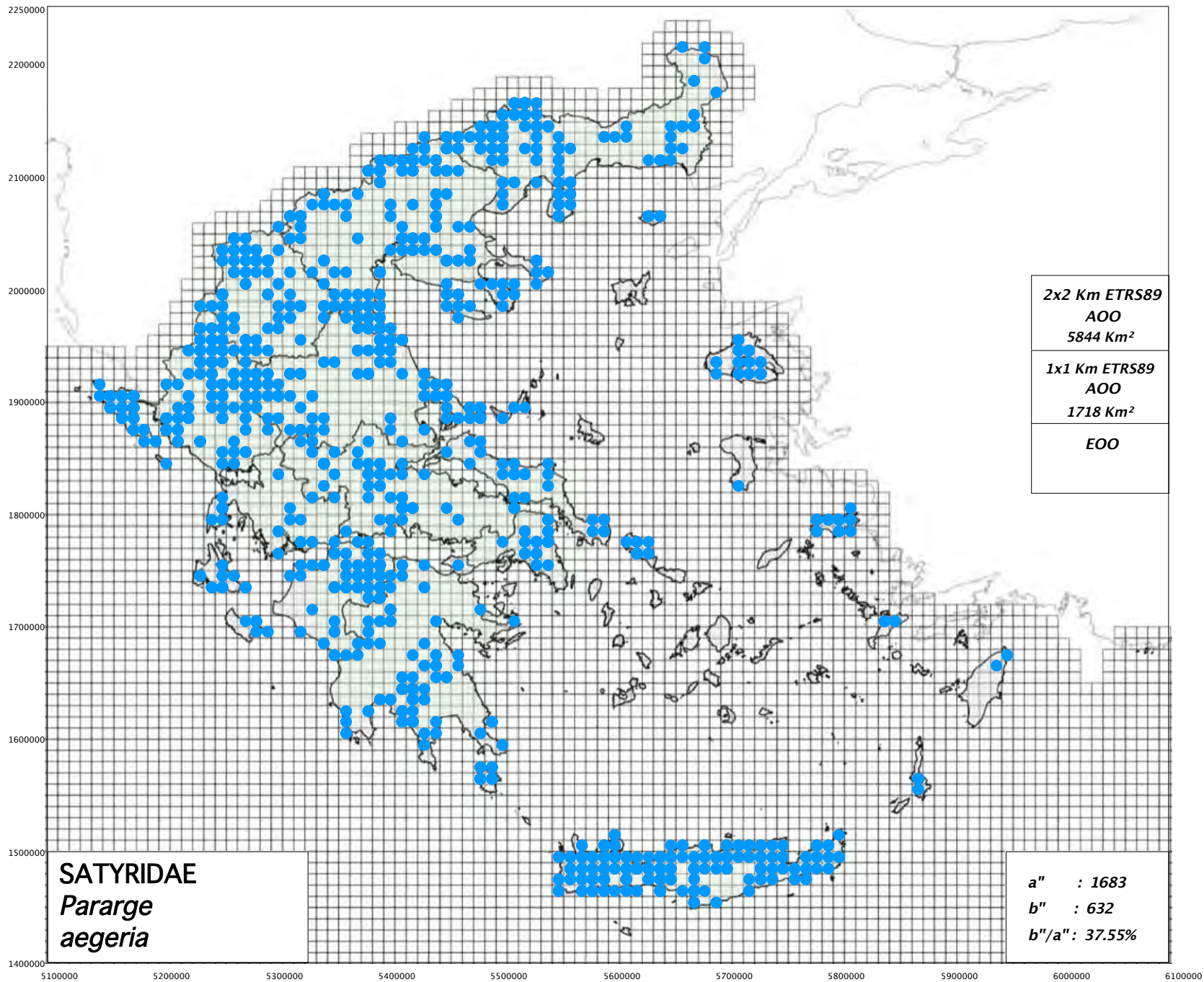


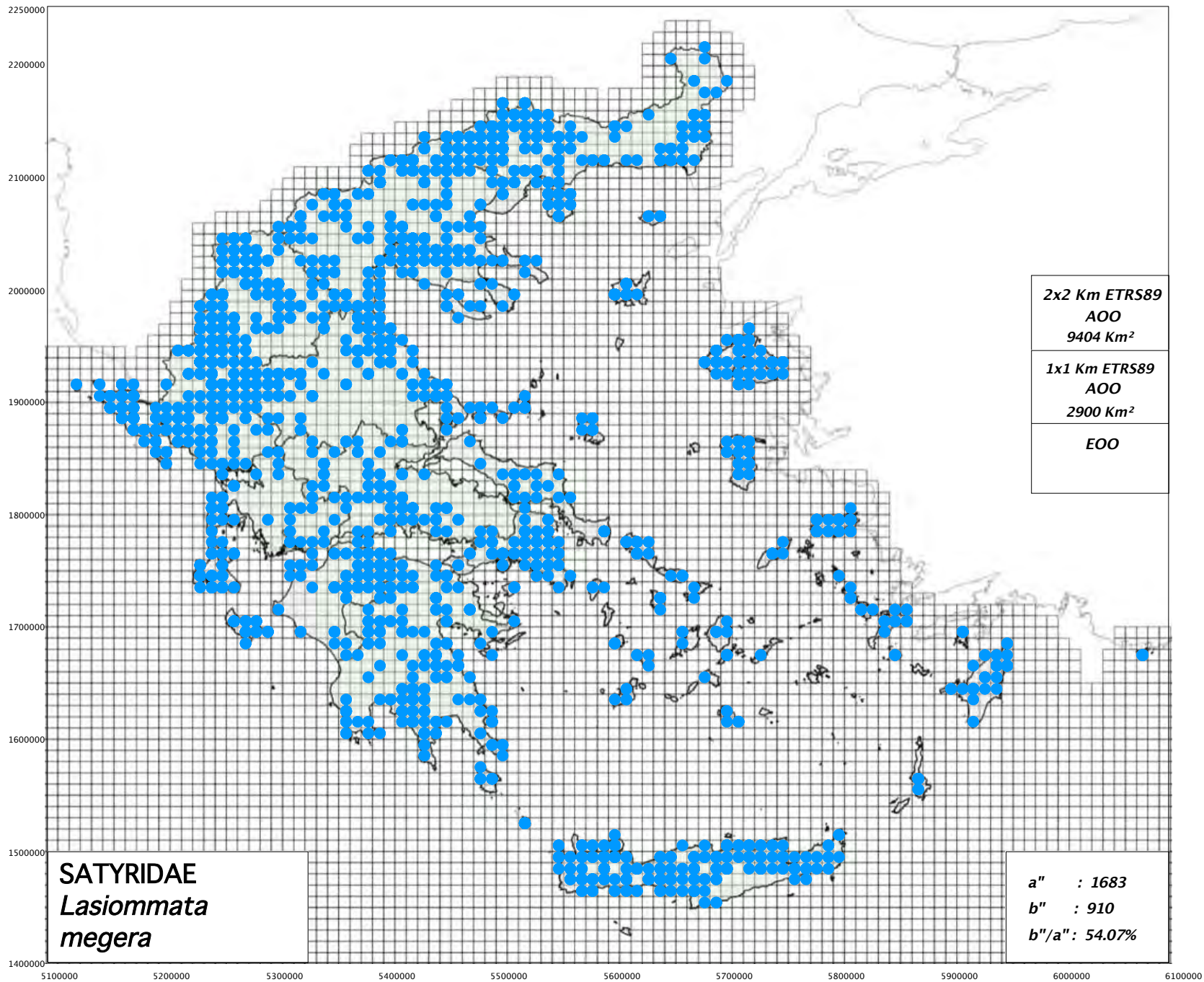


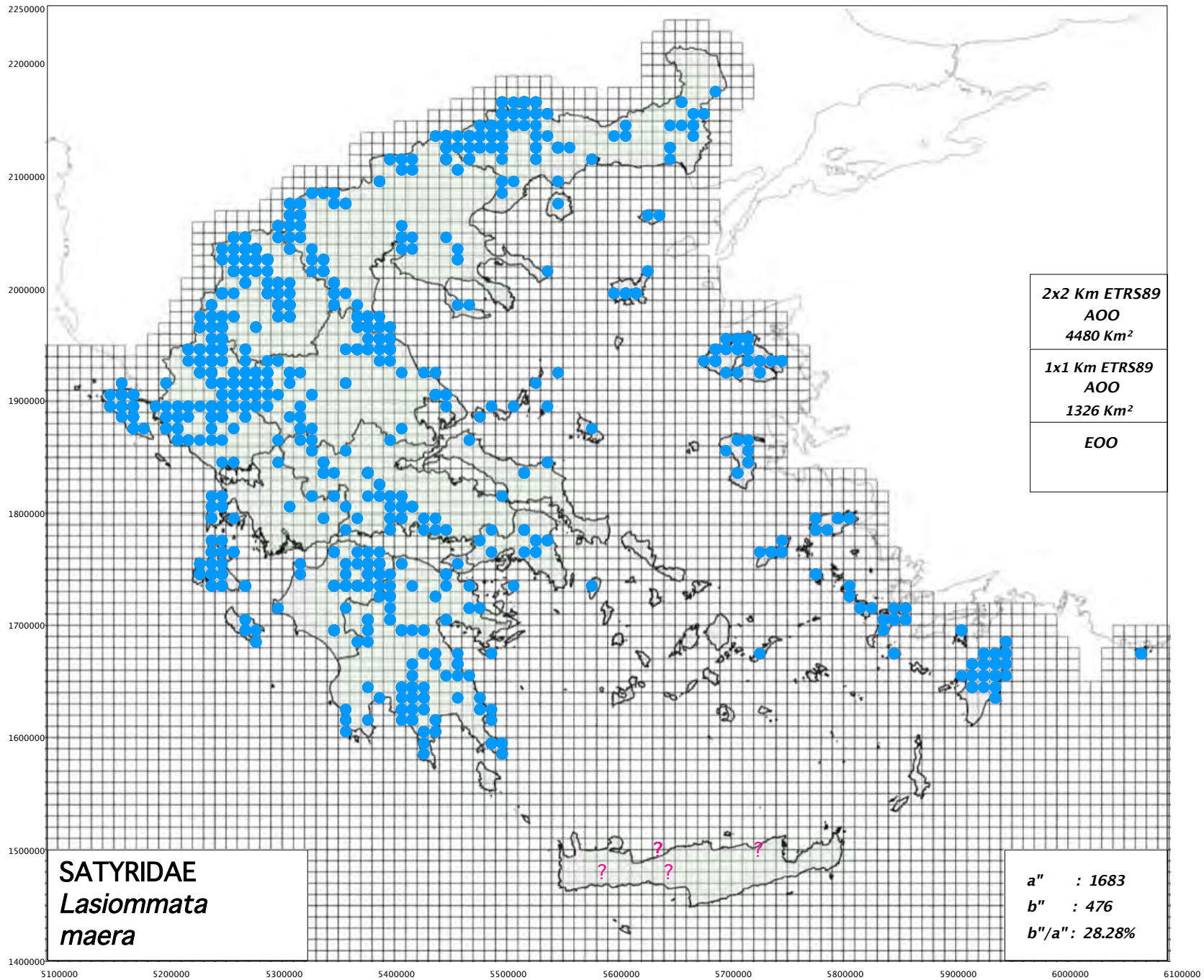


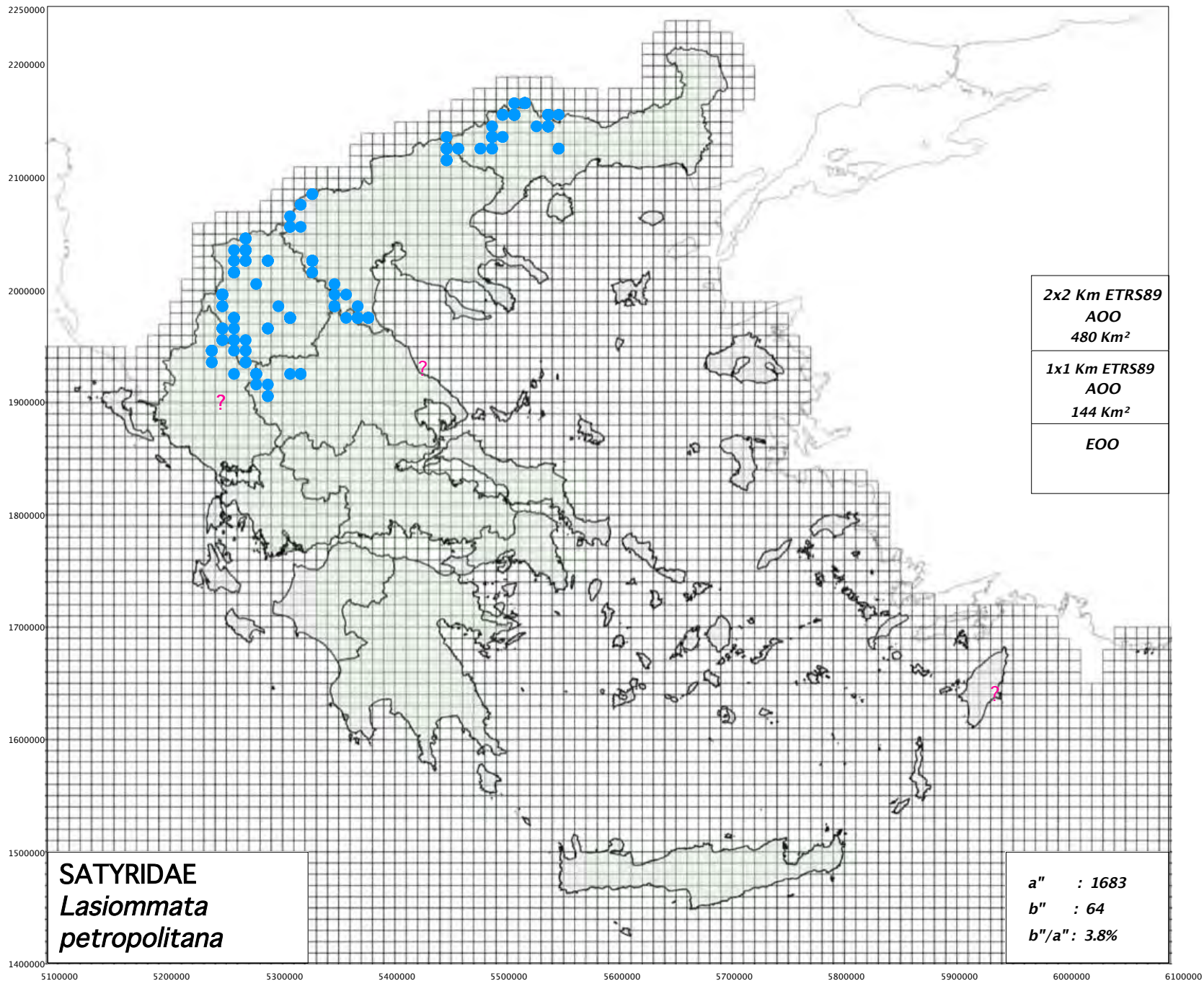


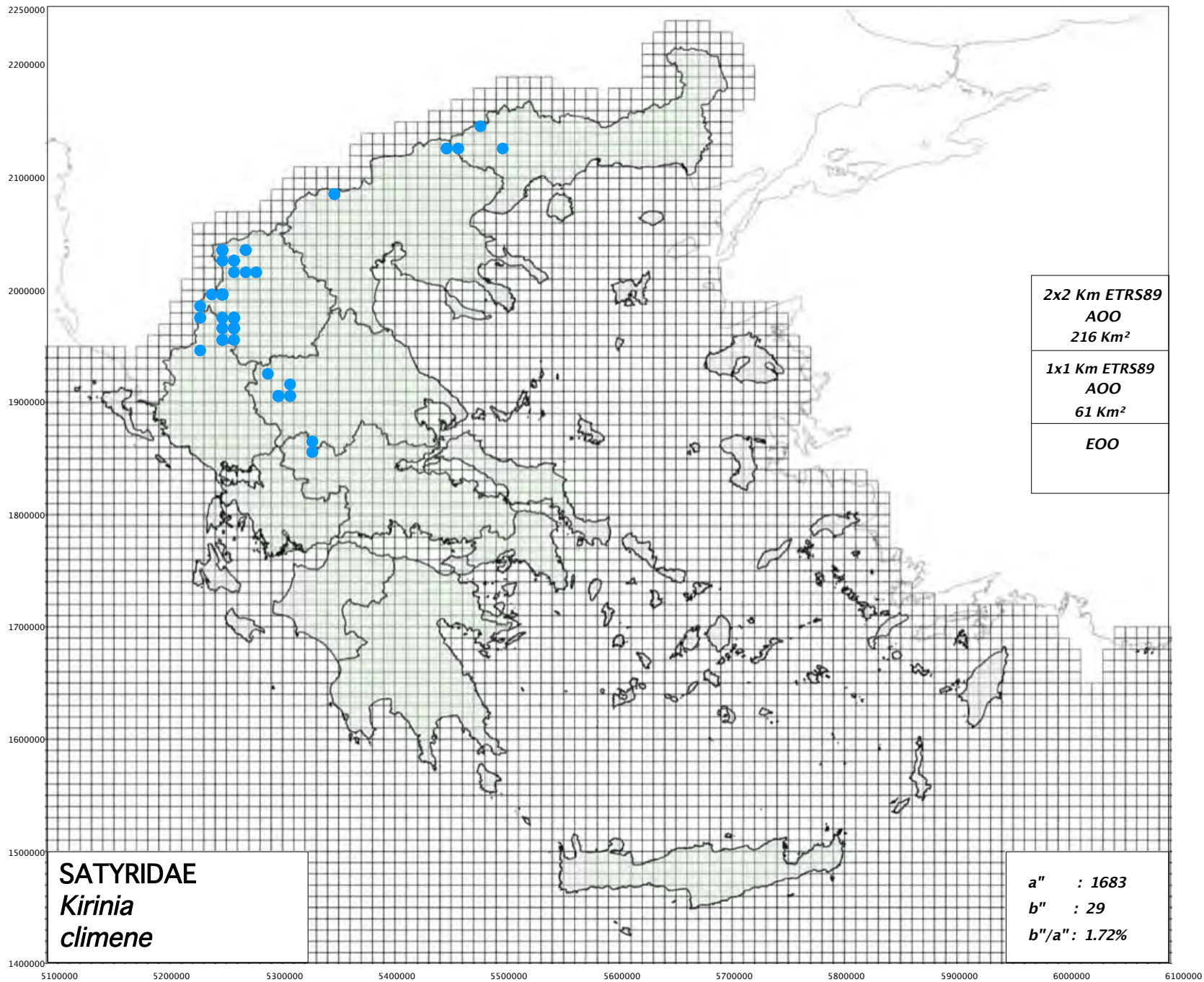


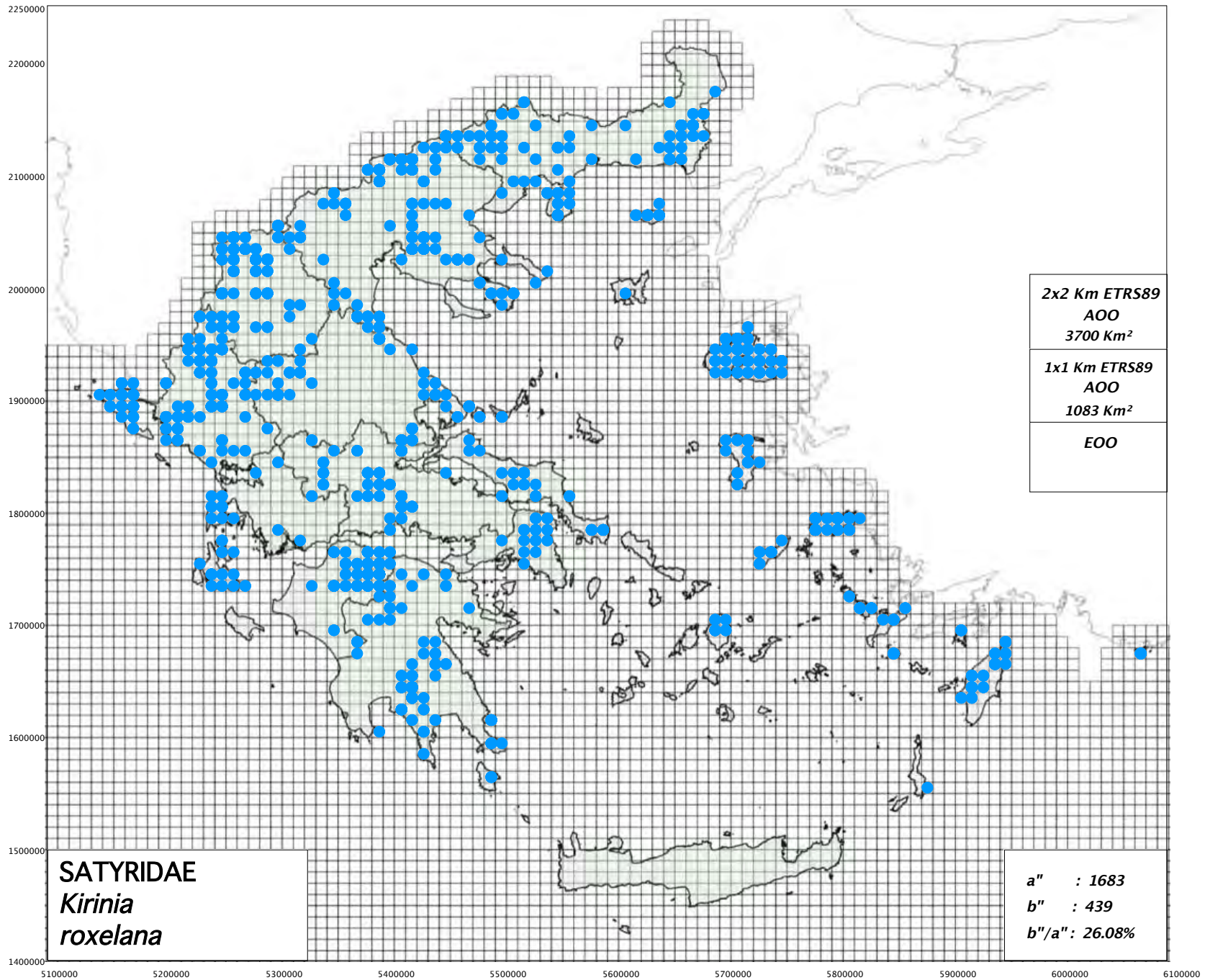


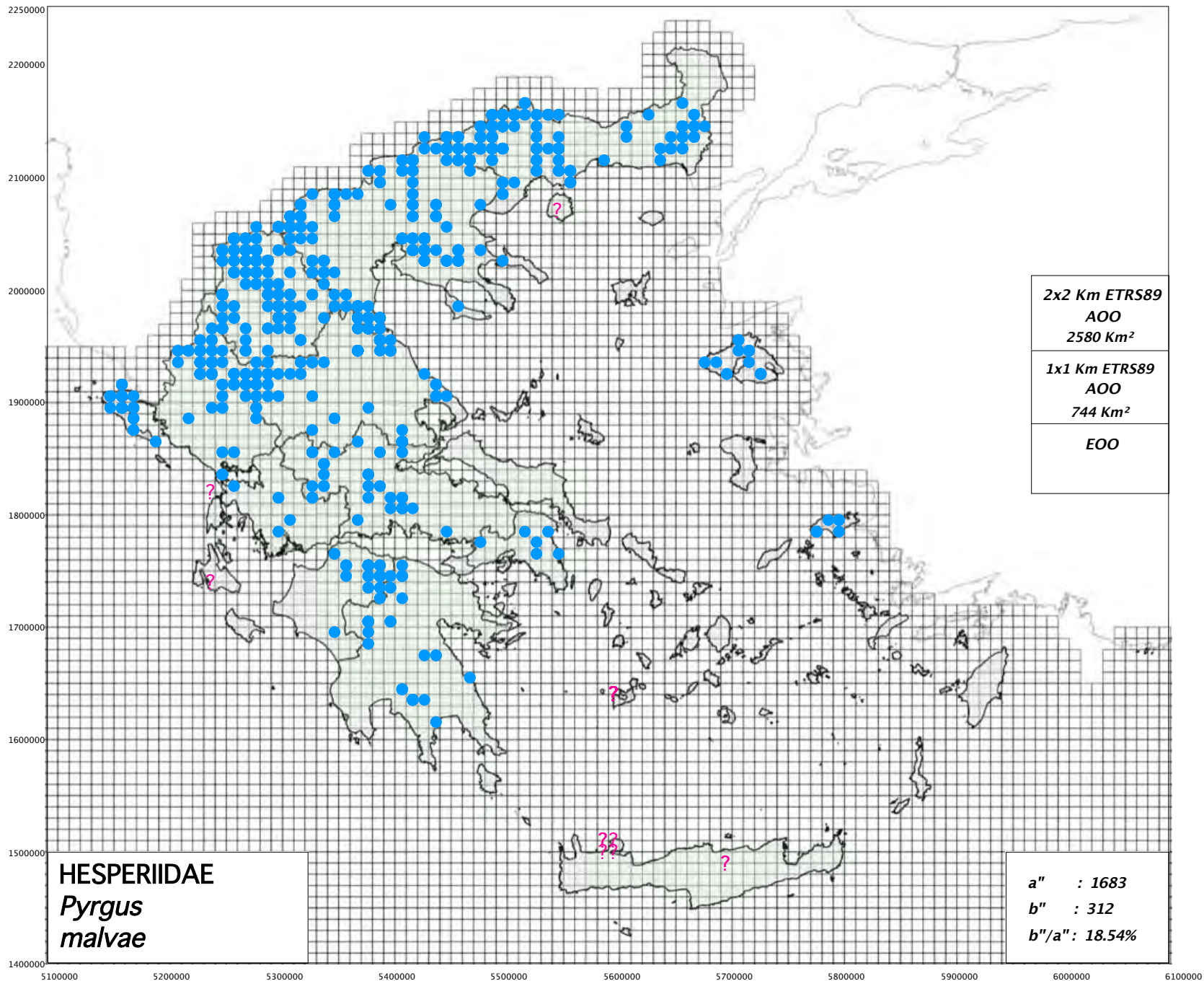


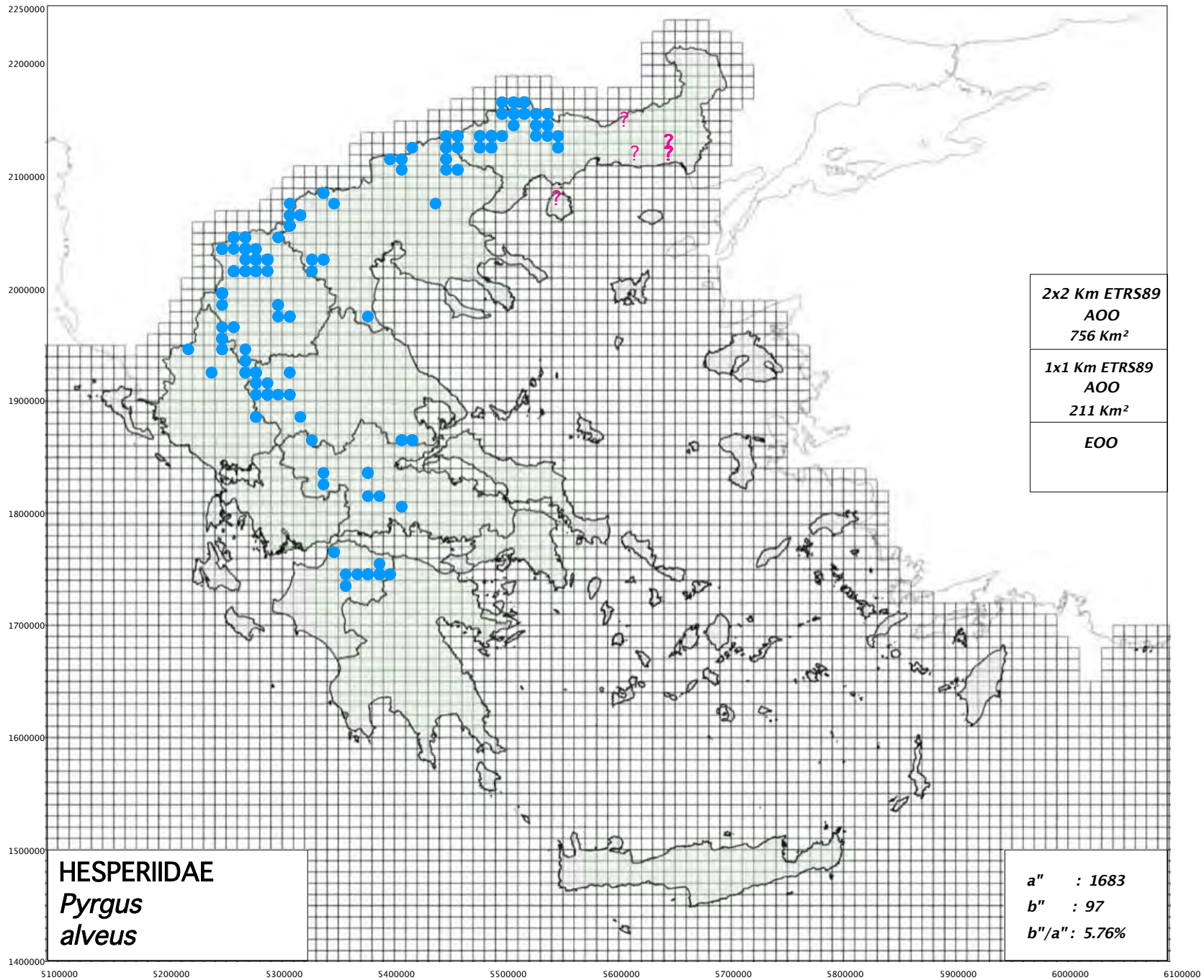


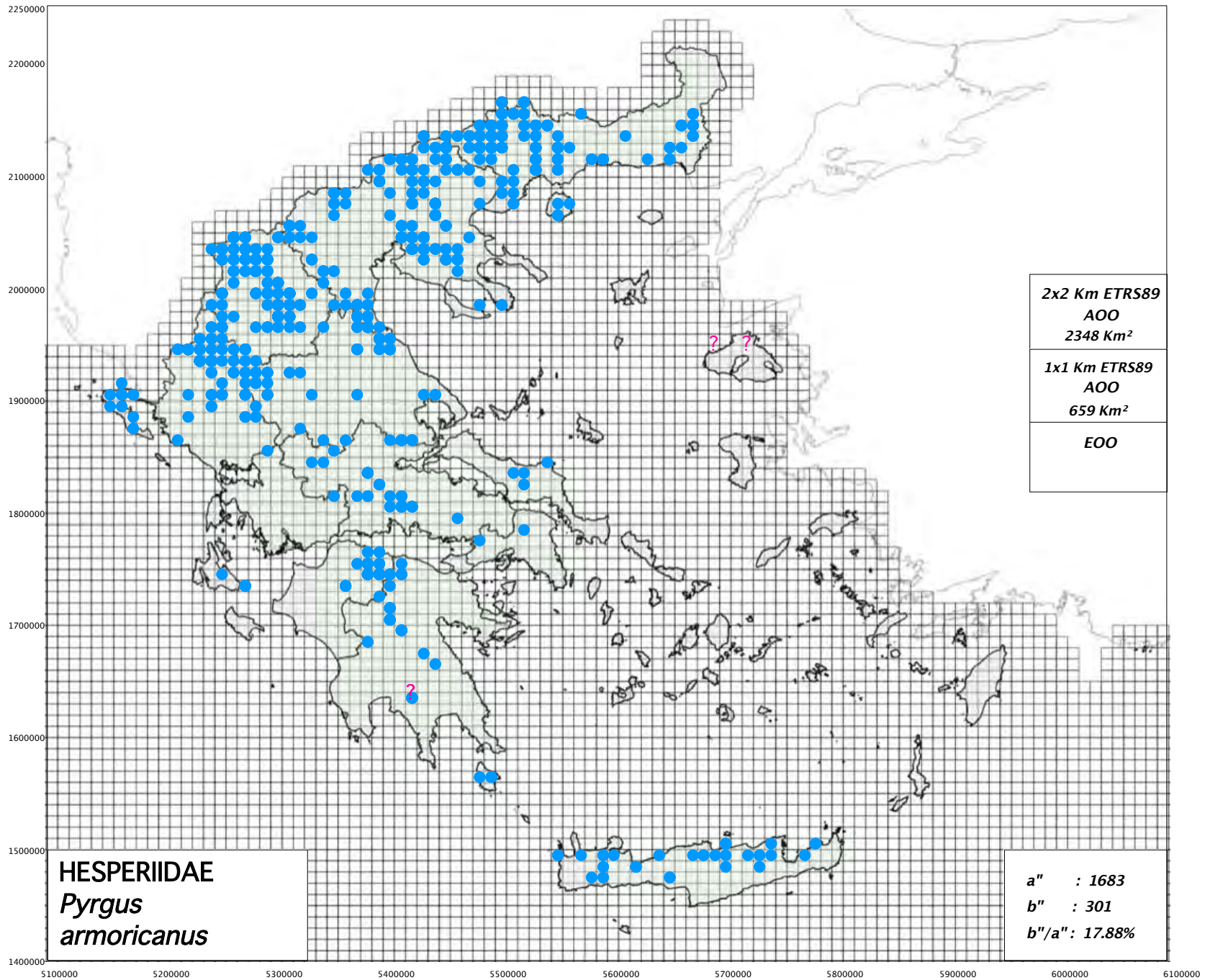


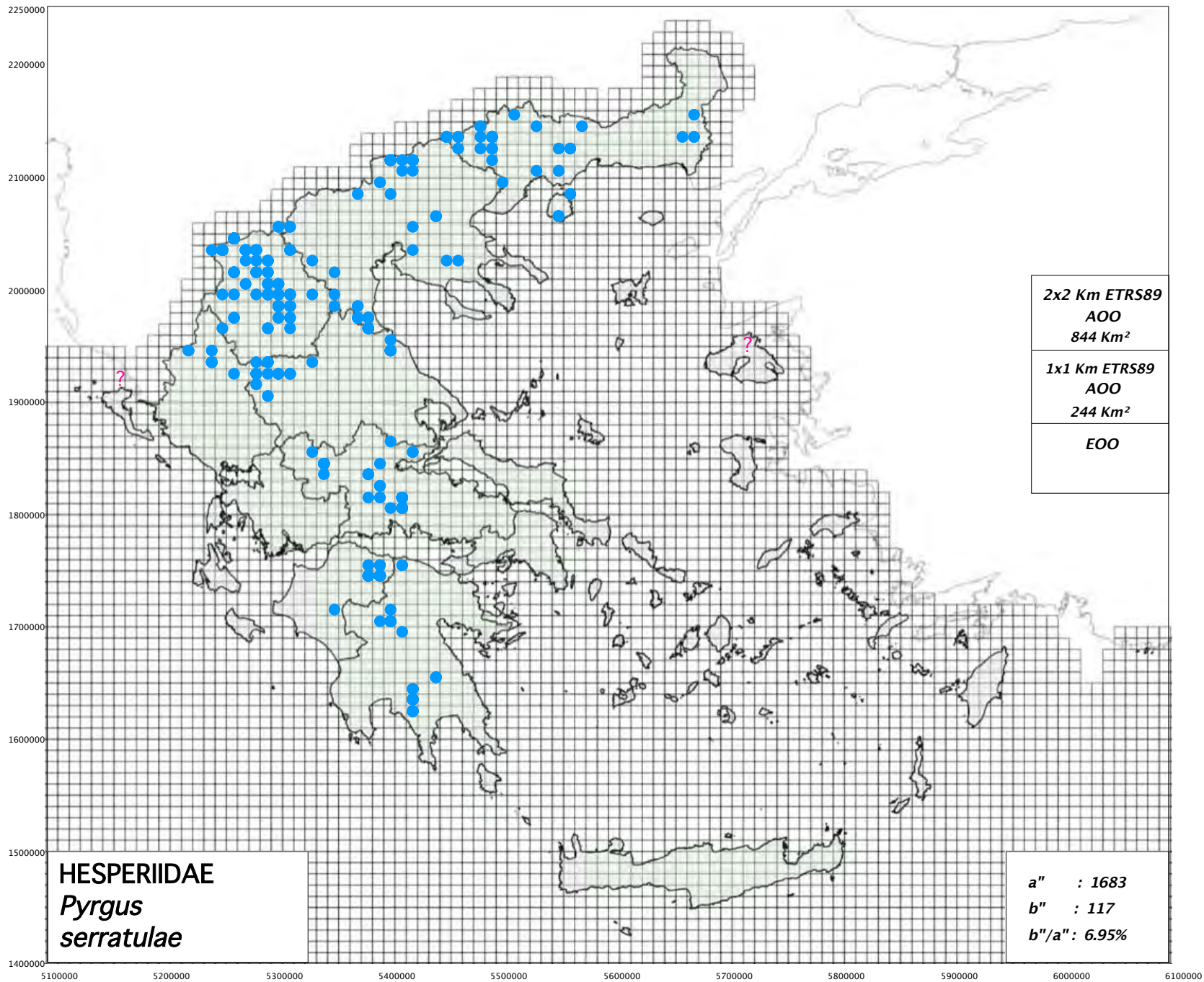


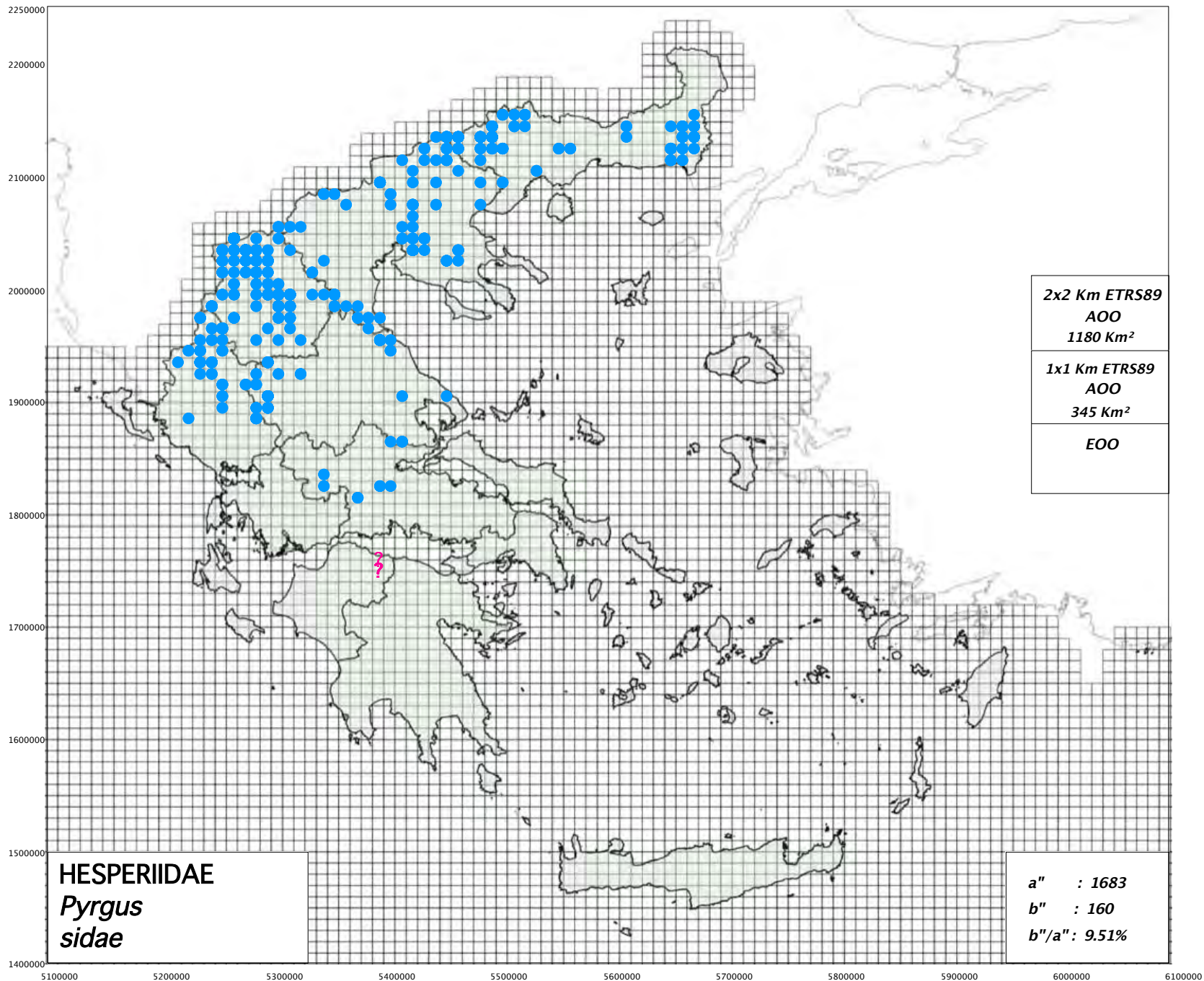


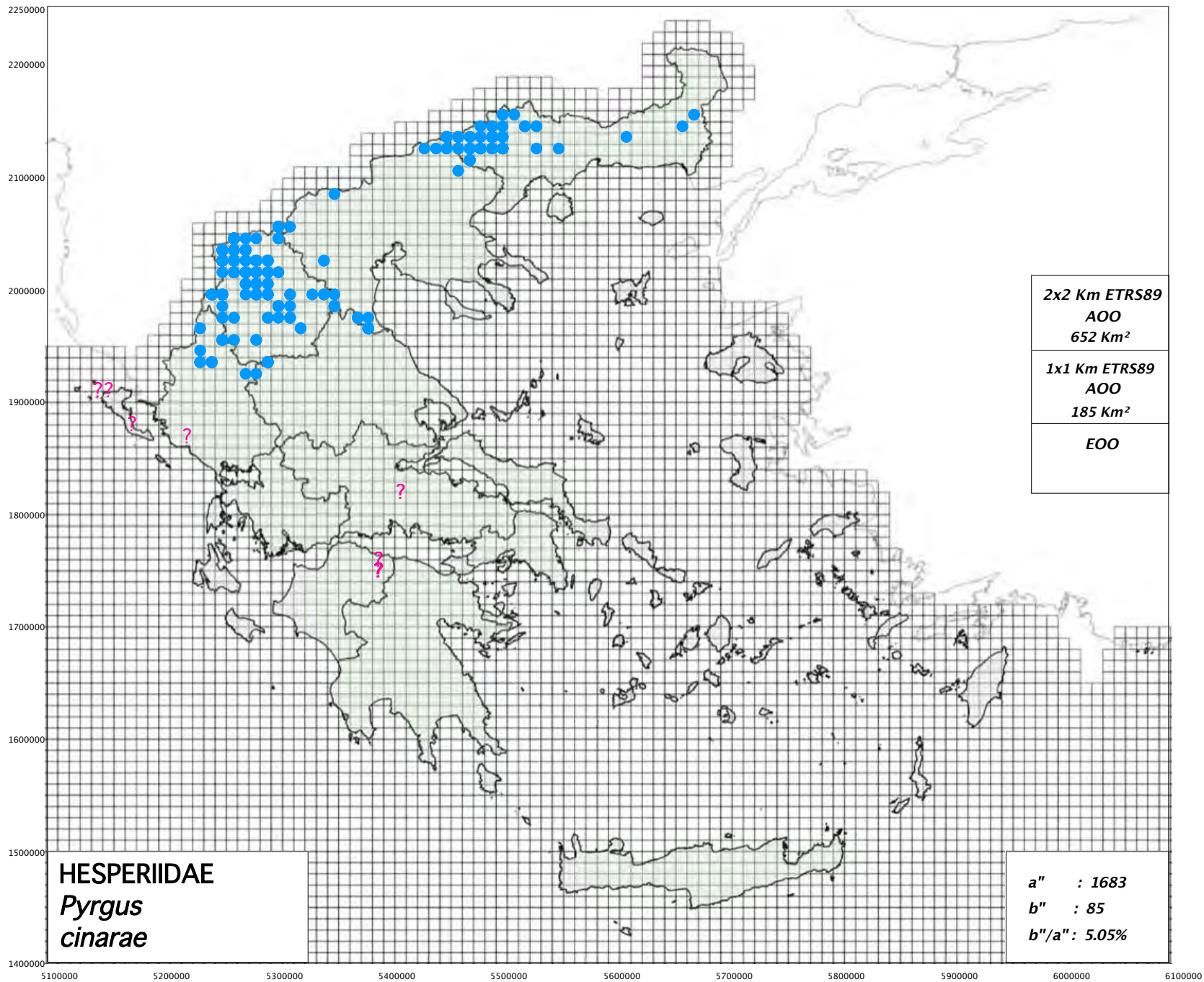


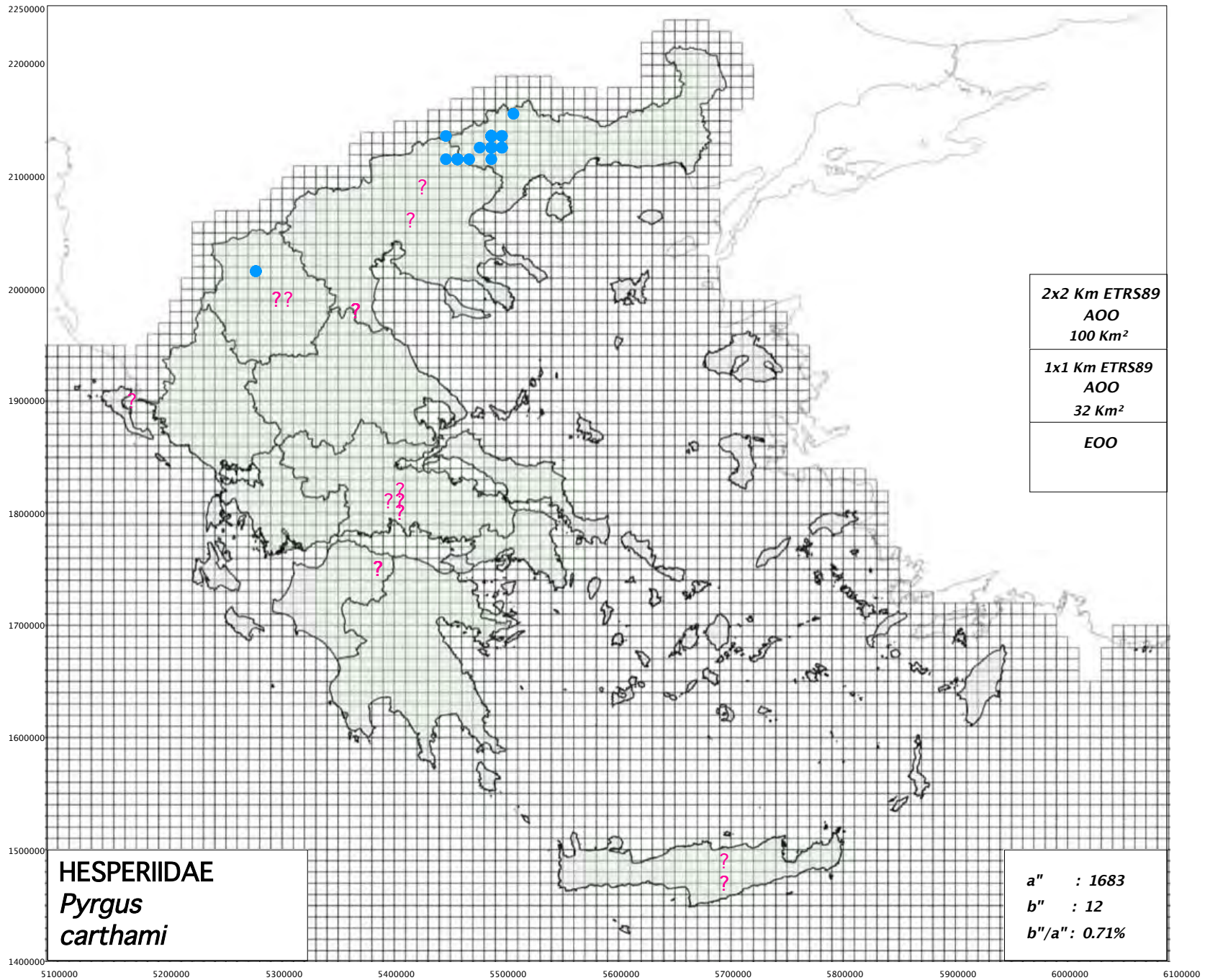


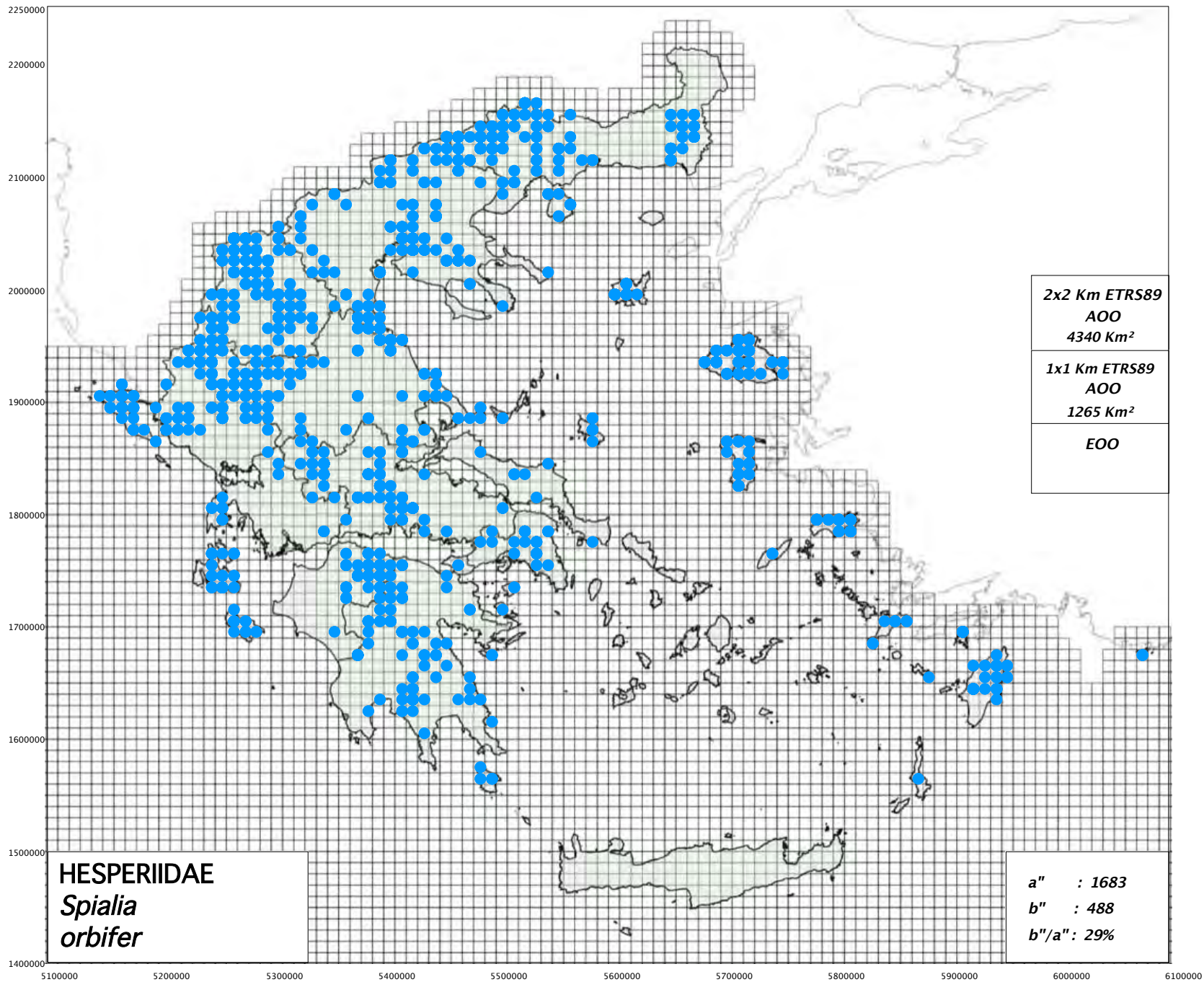


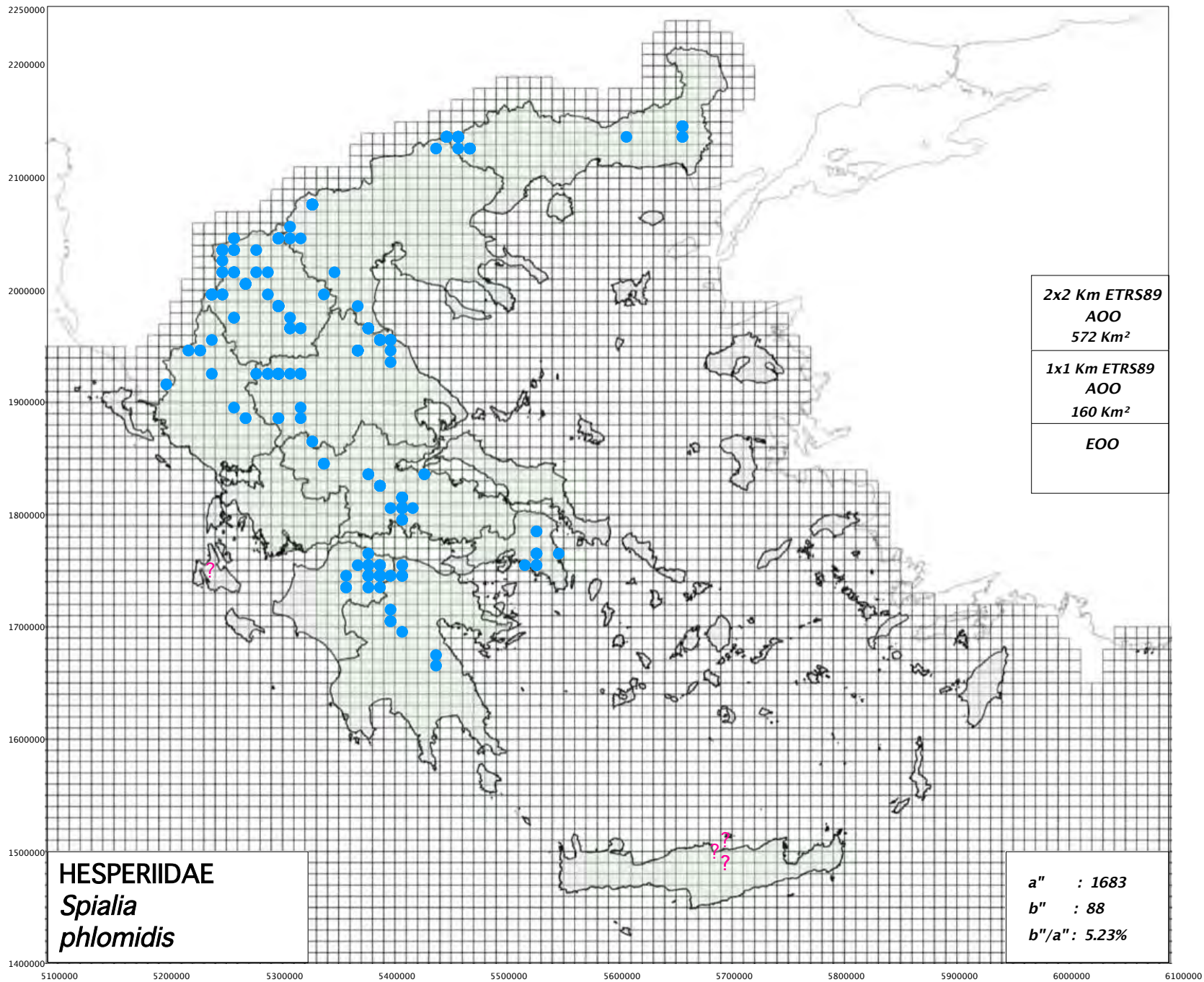


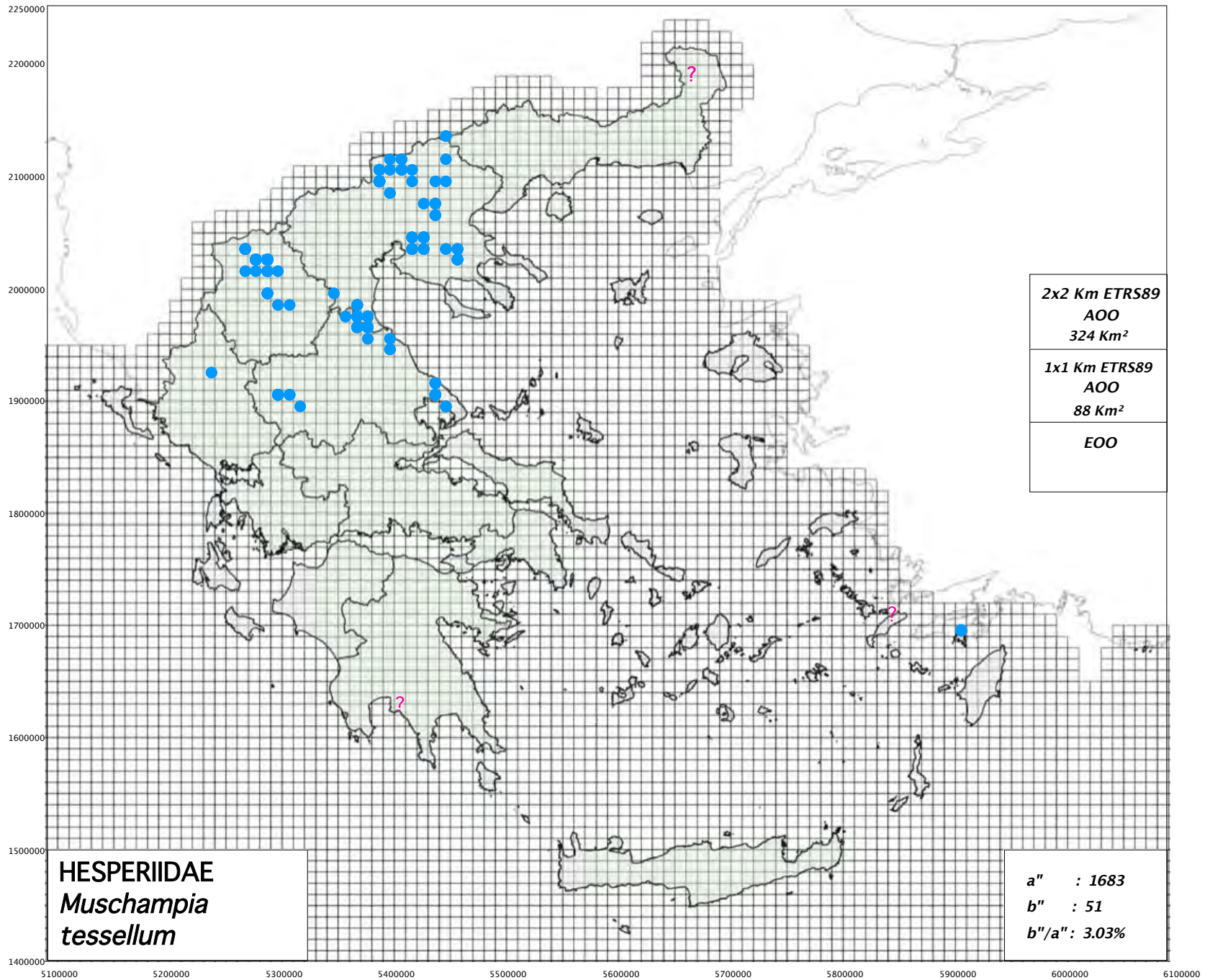


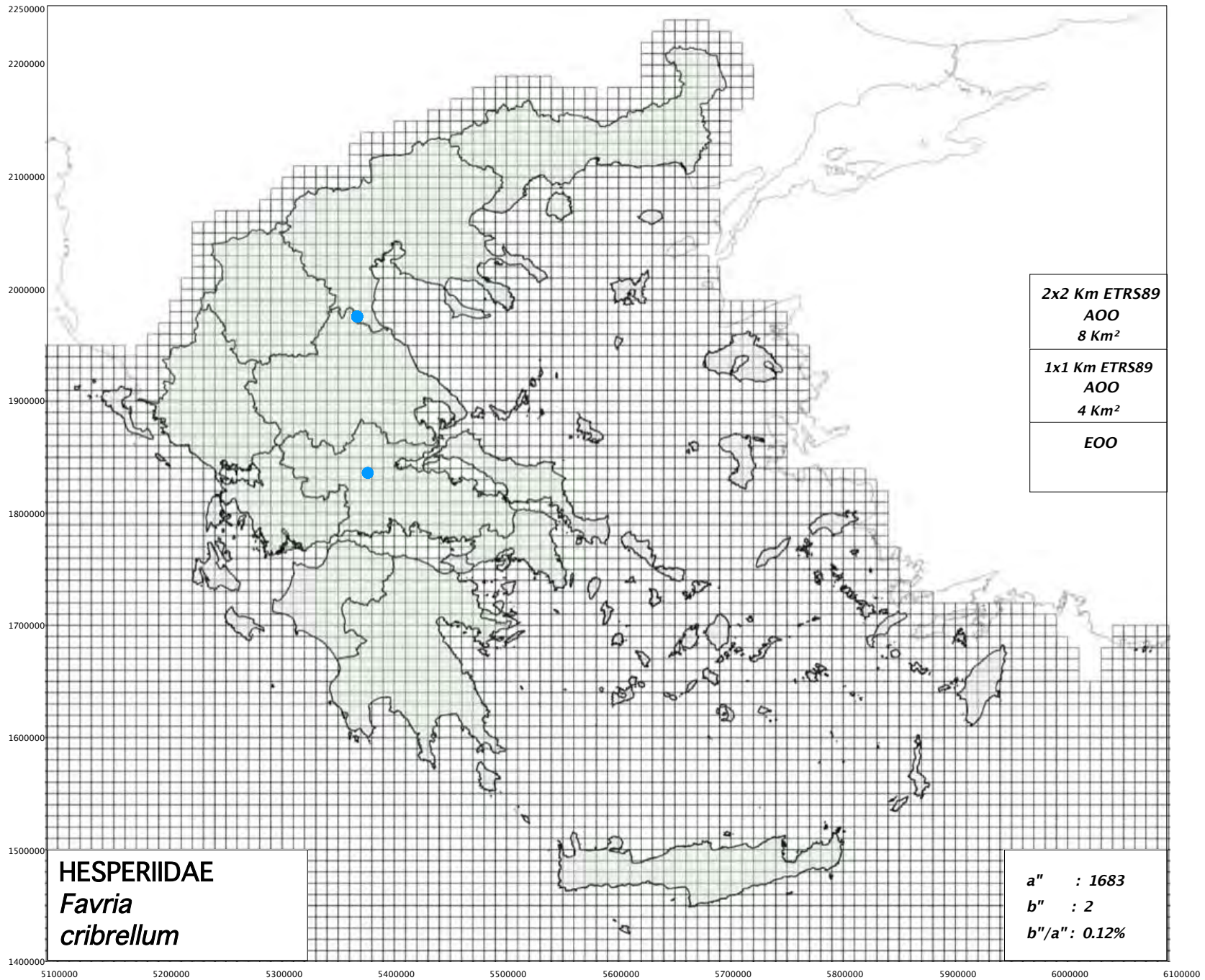












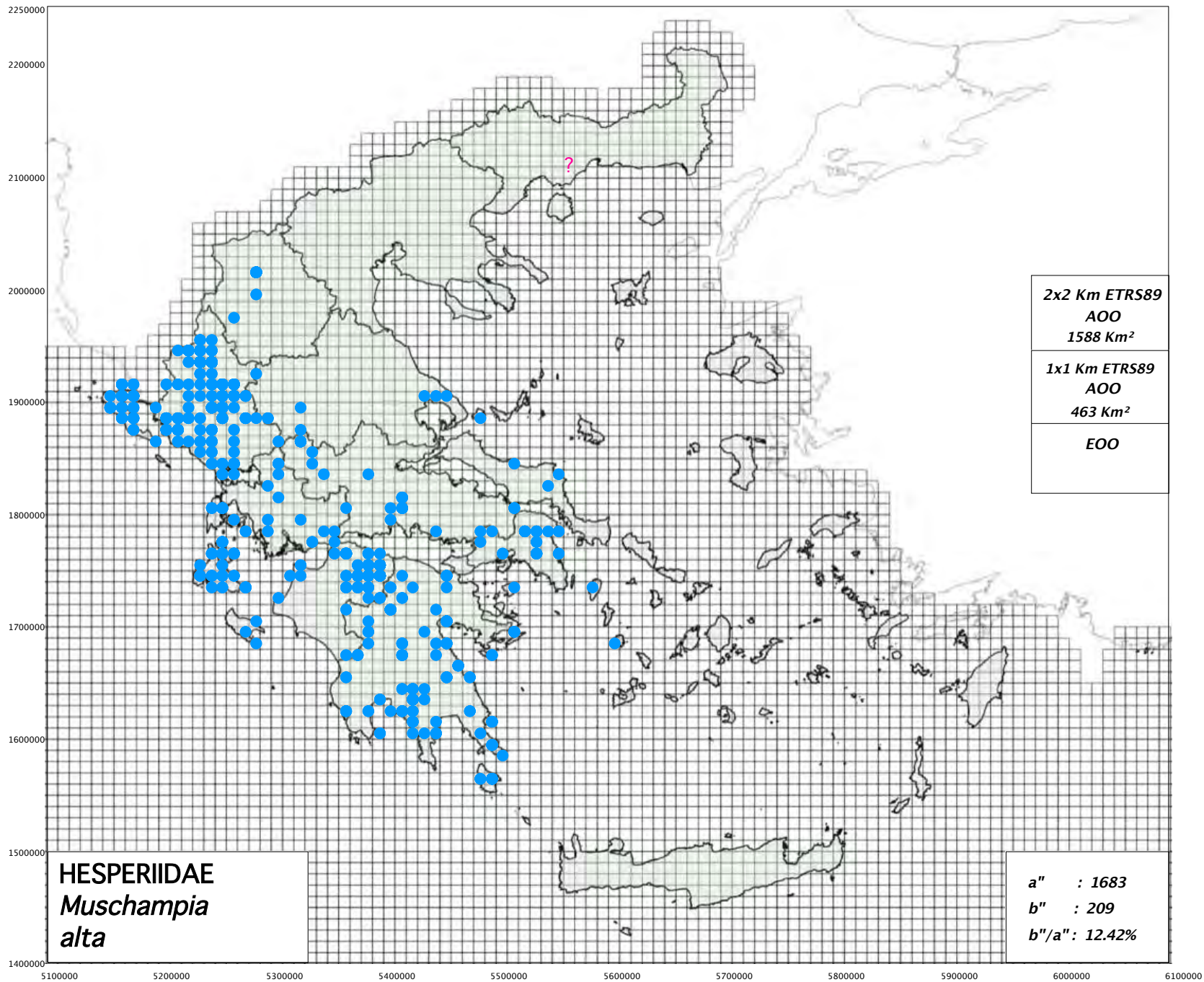
2x2 Km ETRS89
AOO
8 Km²

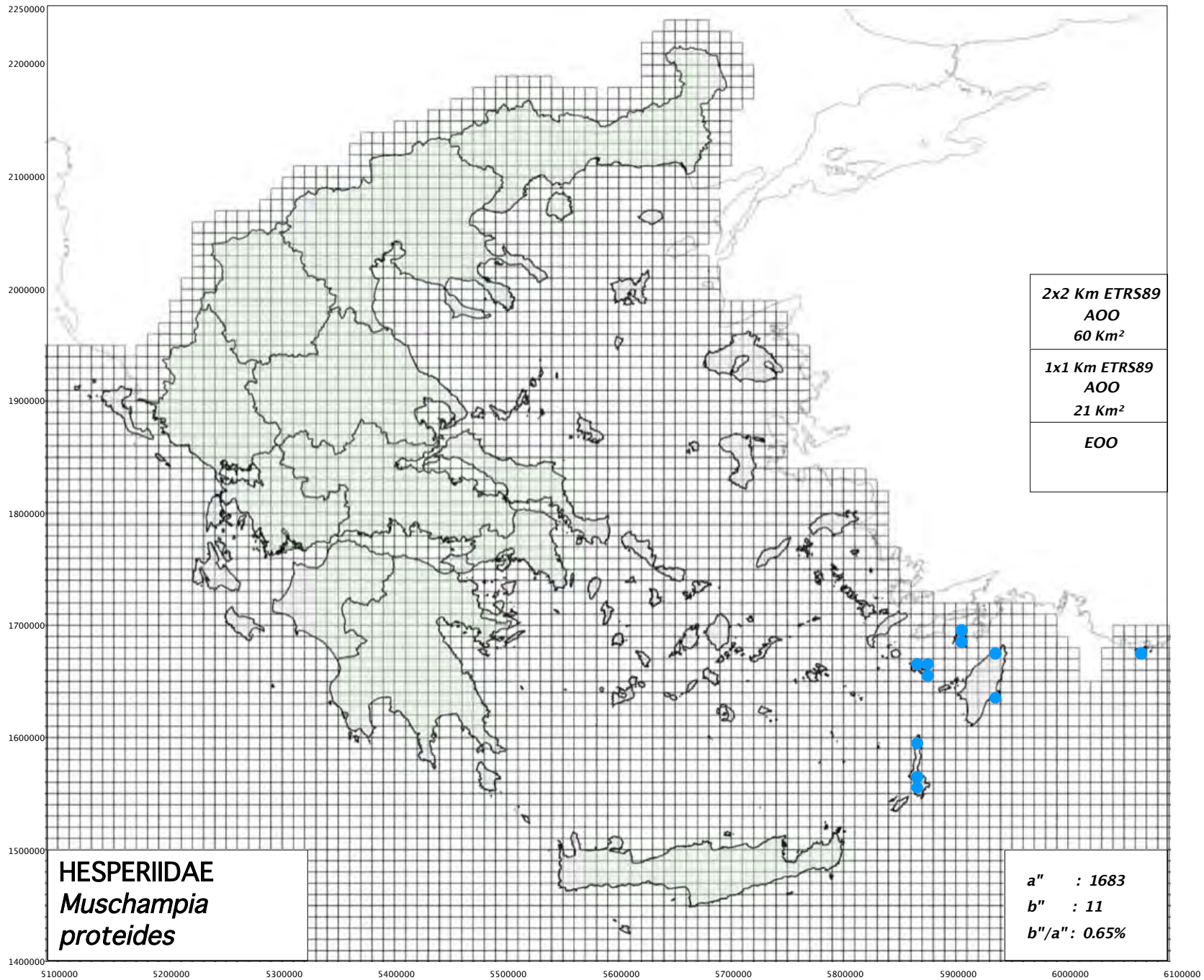
1x1 Km ETRS89
AOO
4 Km²

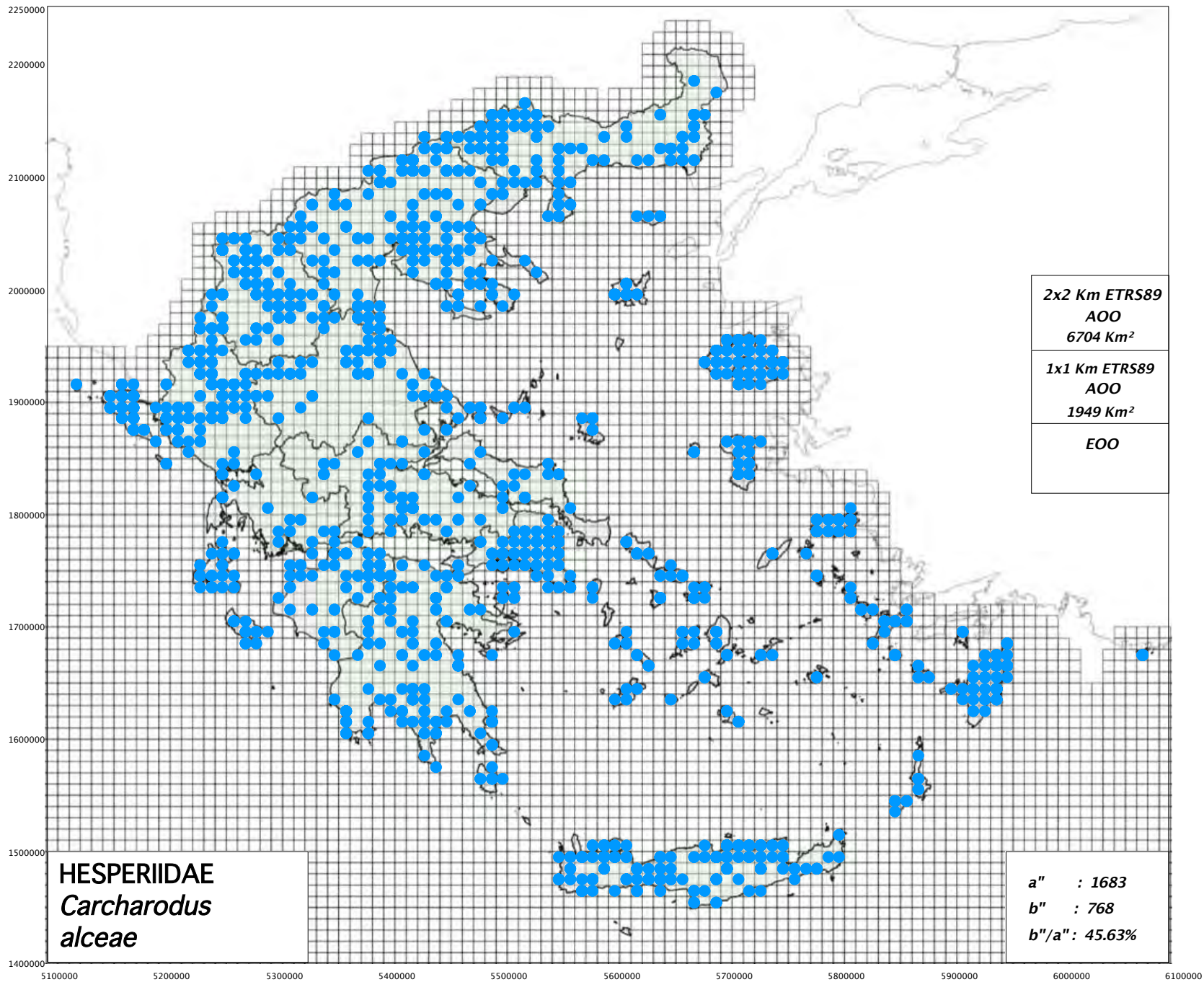
EOO

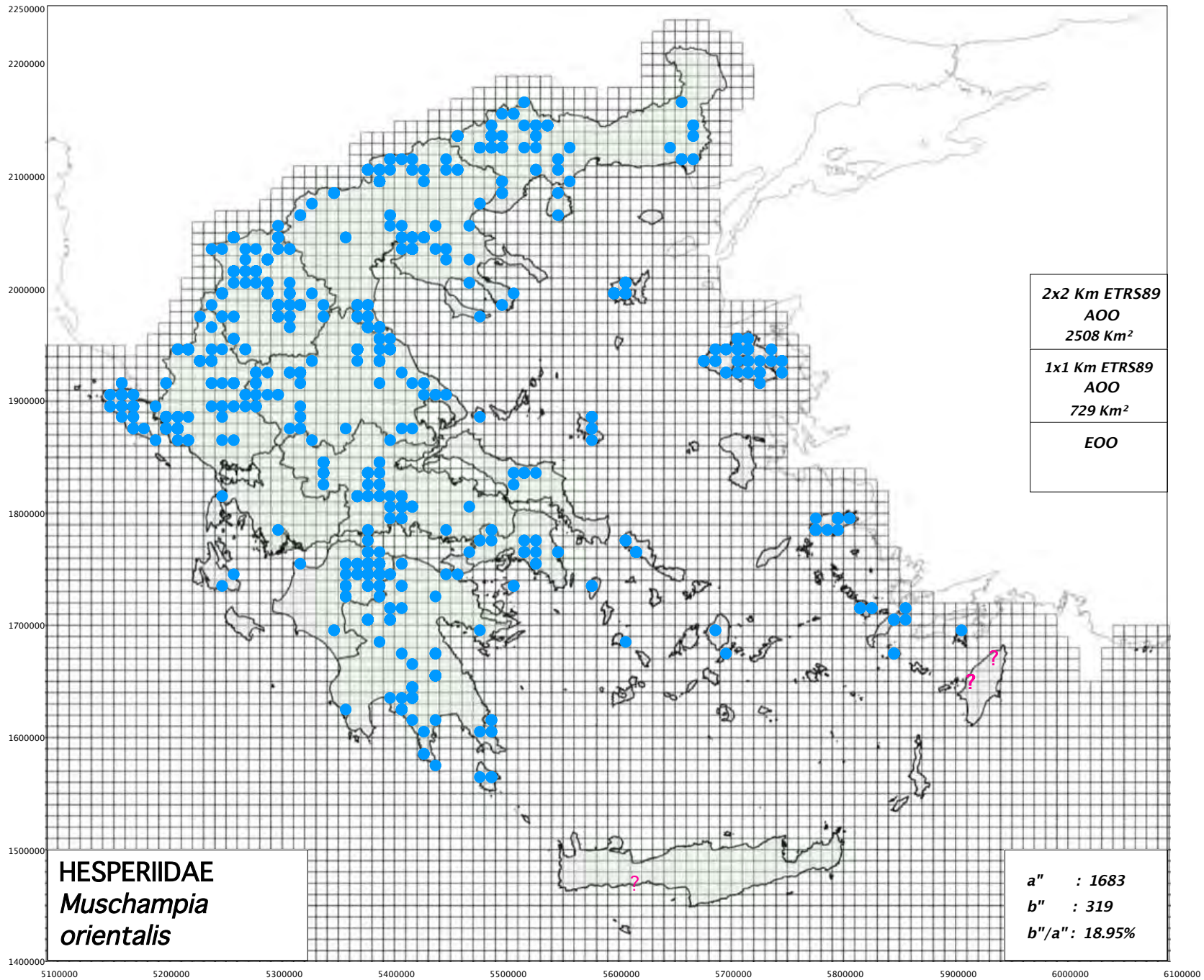
HESPERIIDAE
Favria
cribrellum

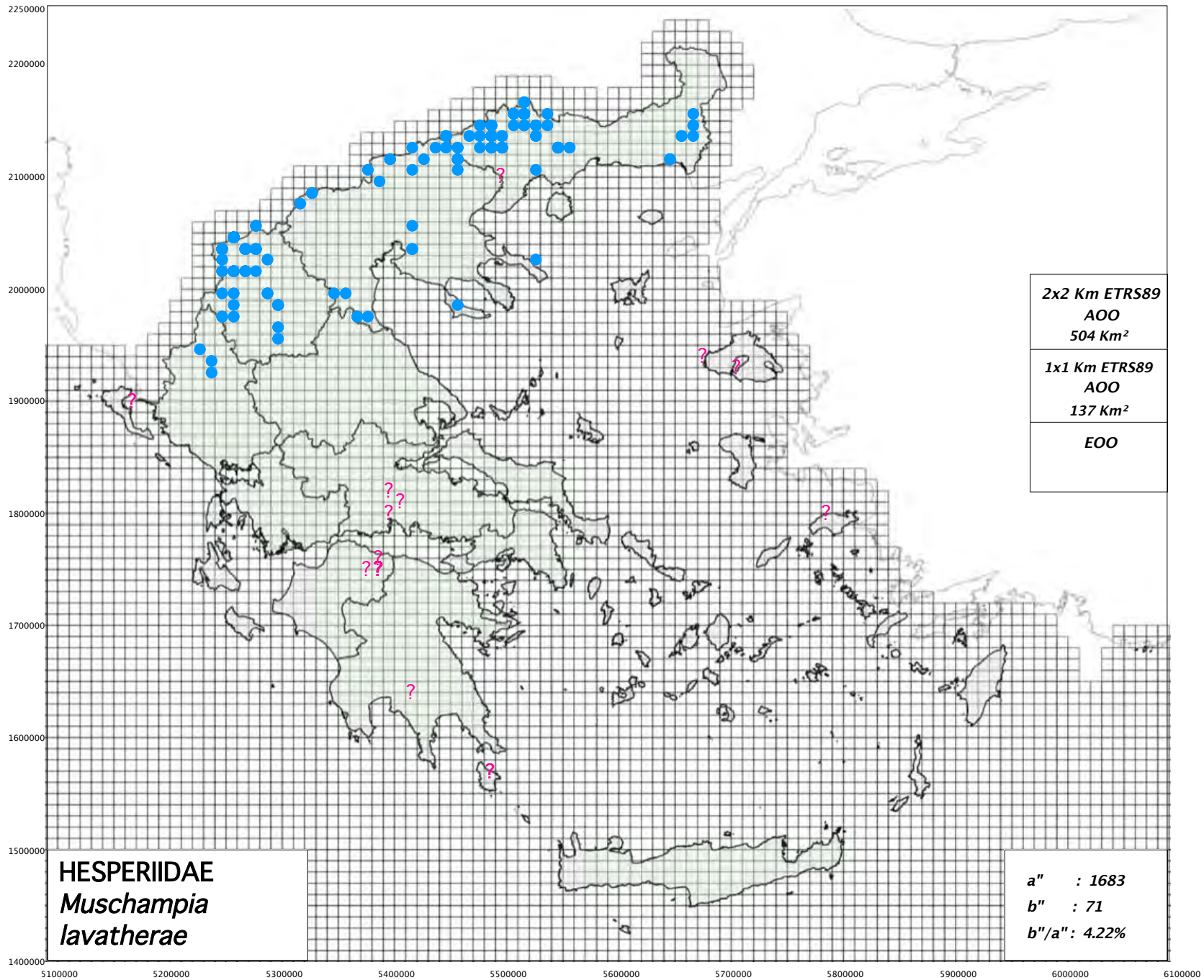
a" : 1683
b" : 2
b"/a" : 0.12%

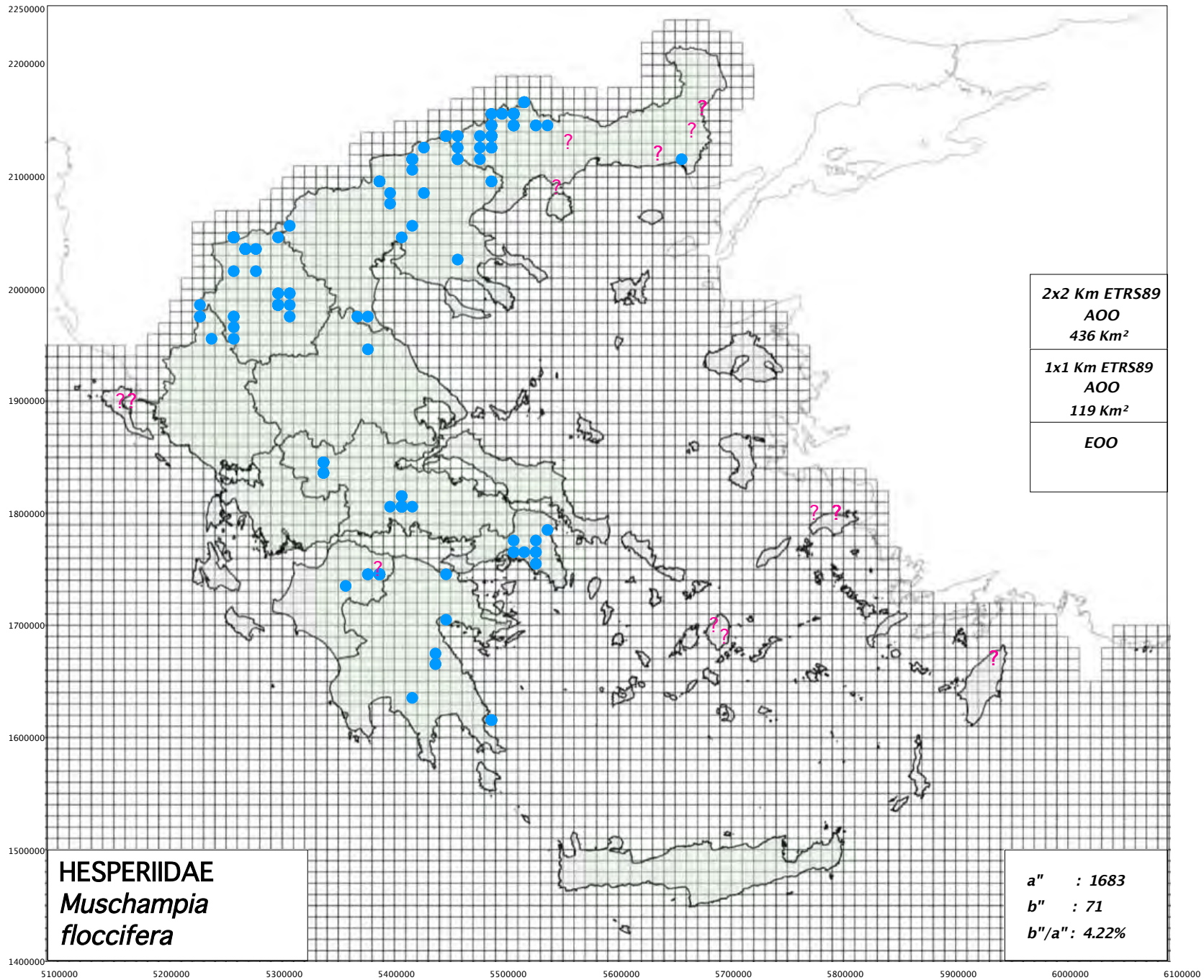


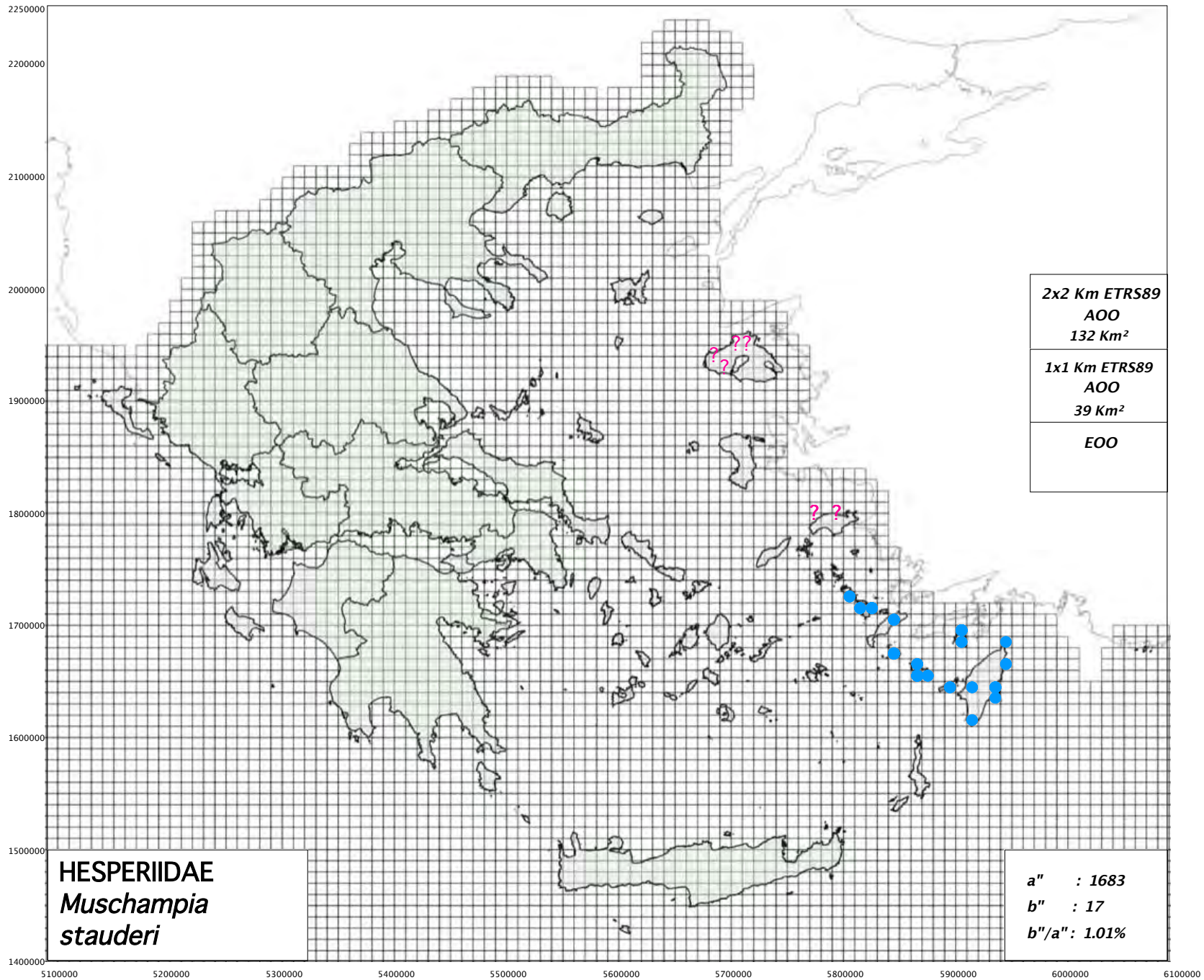


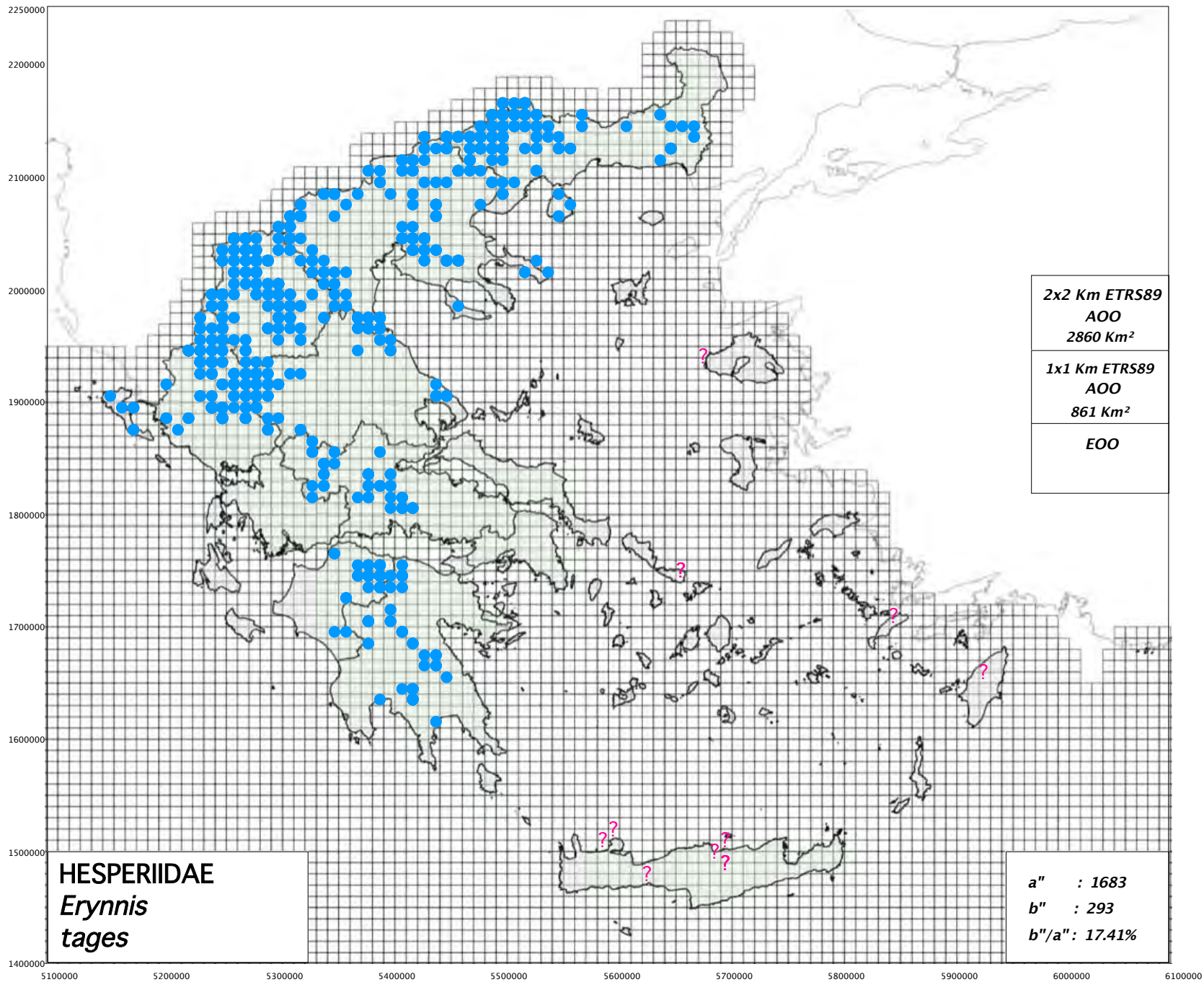


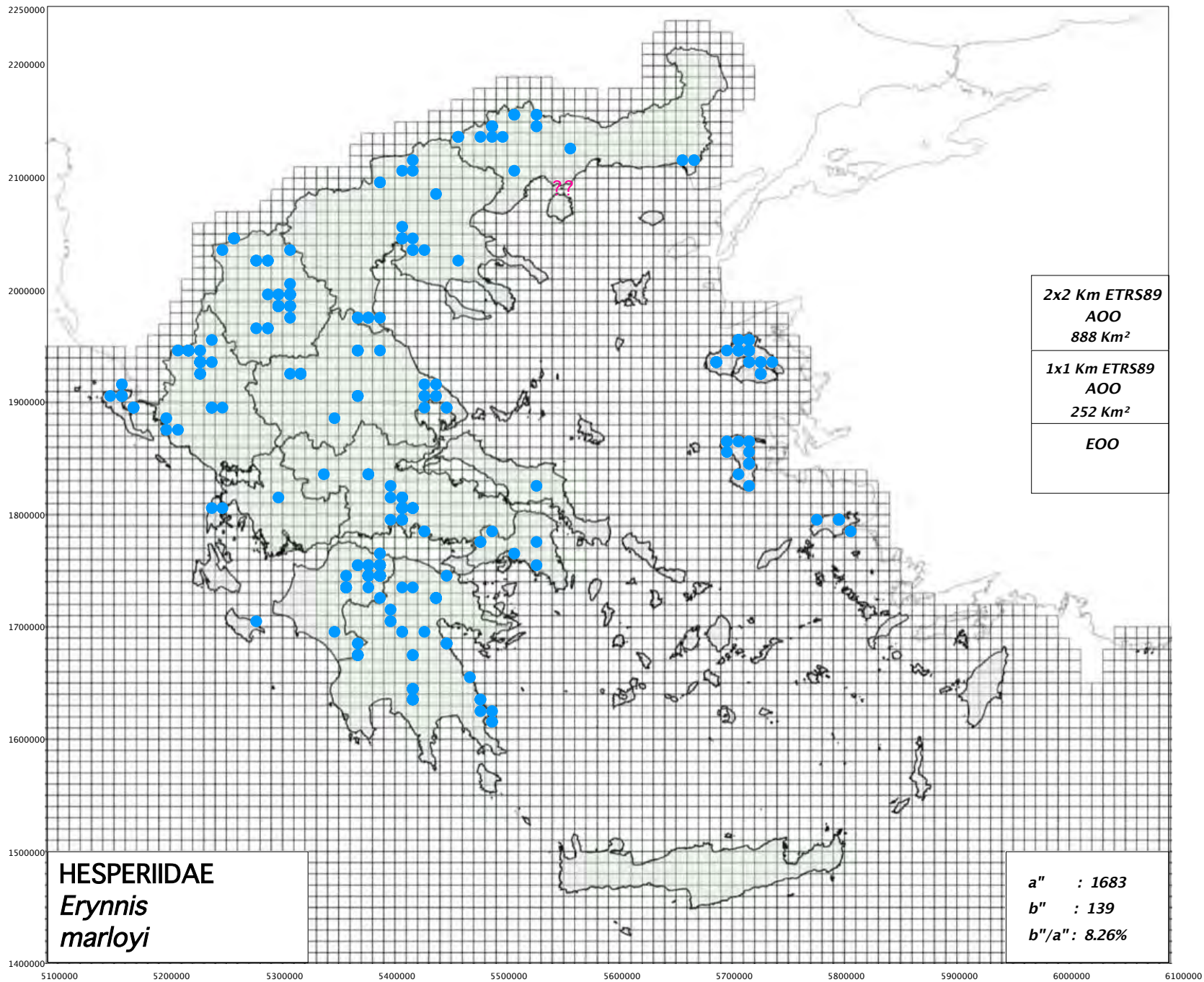


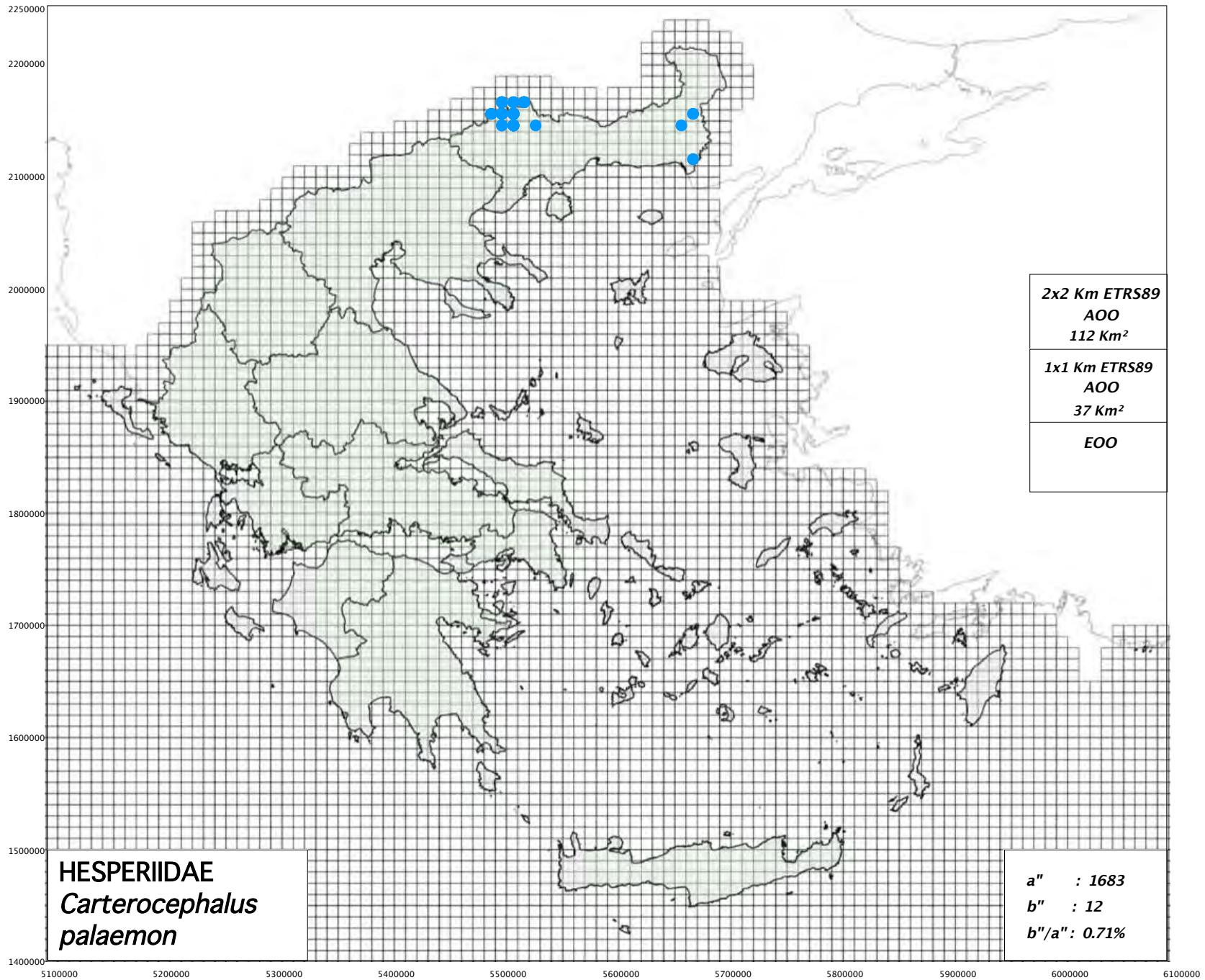


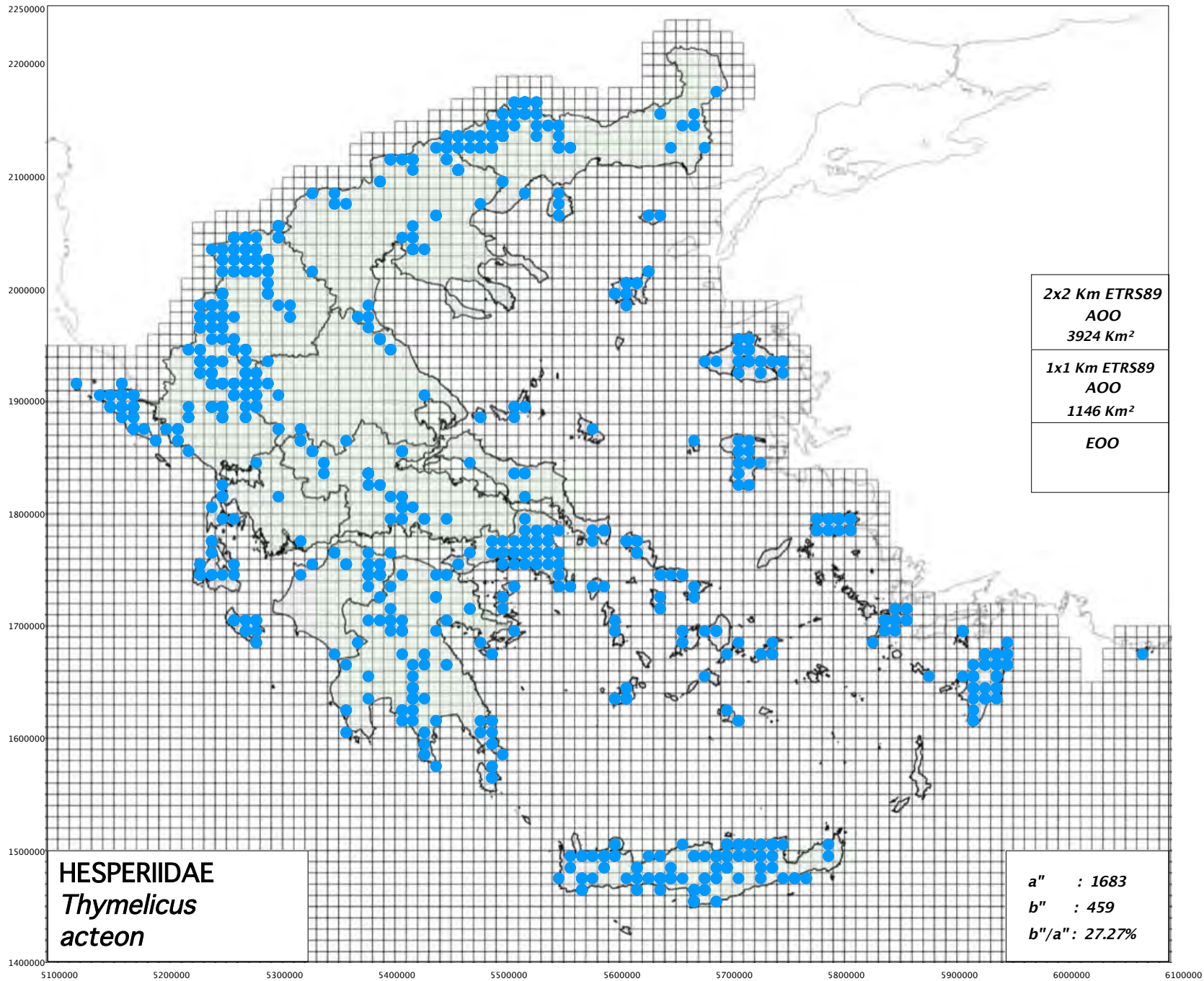


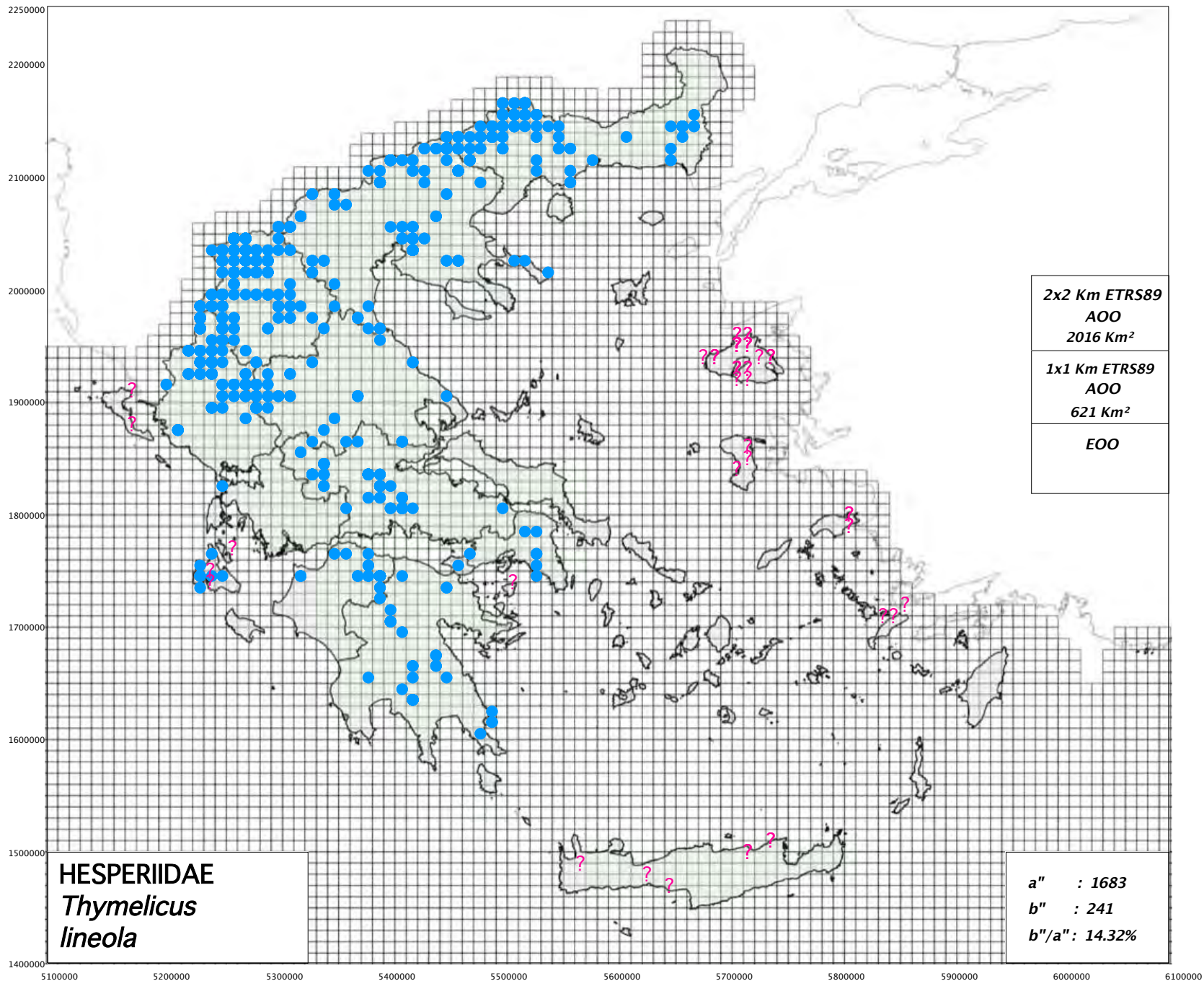


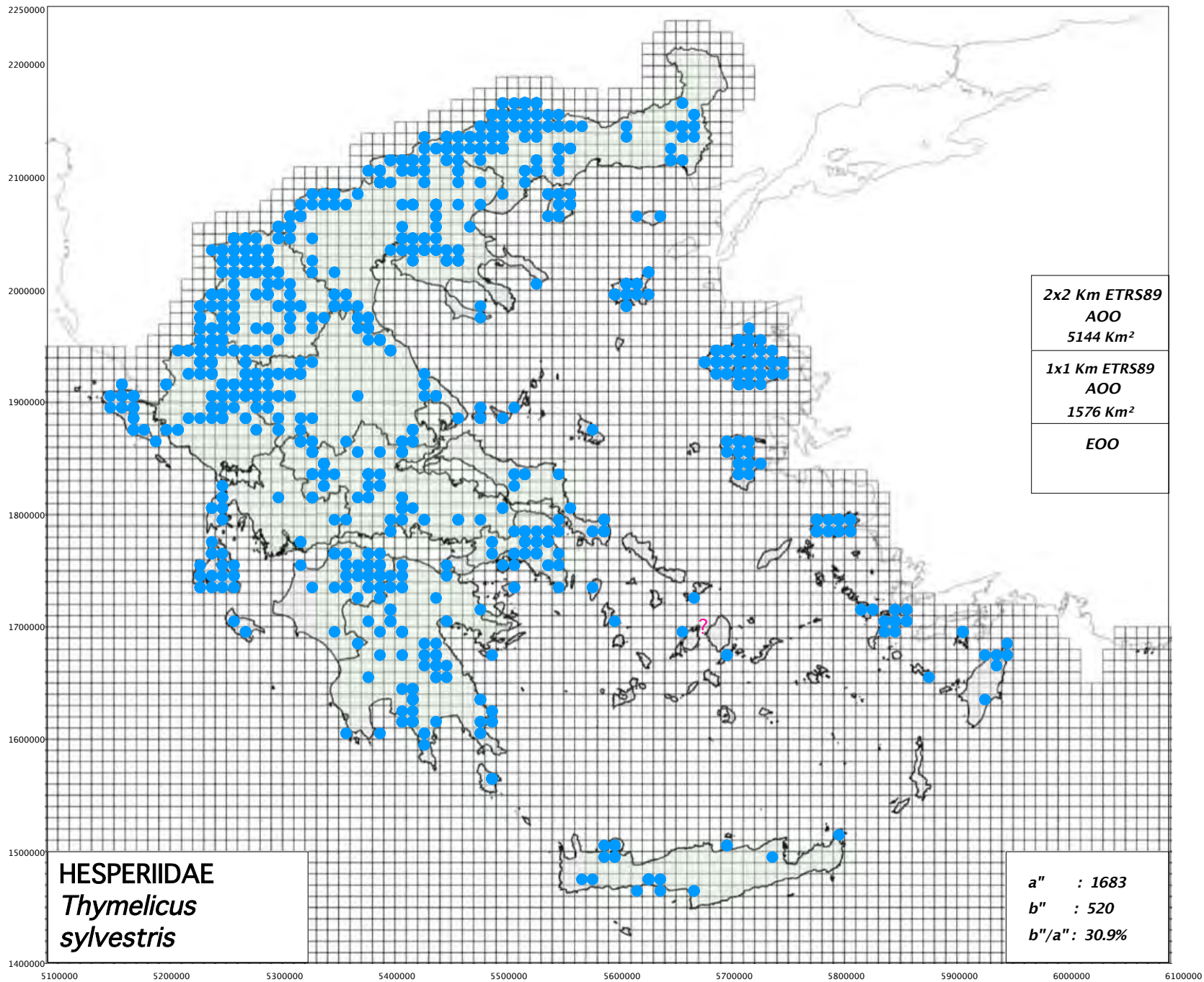


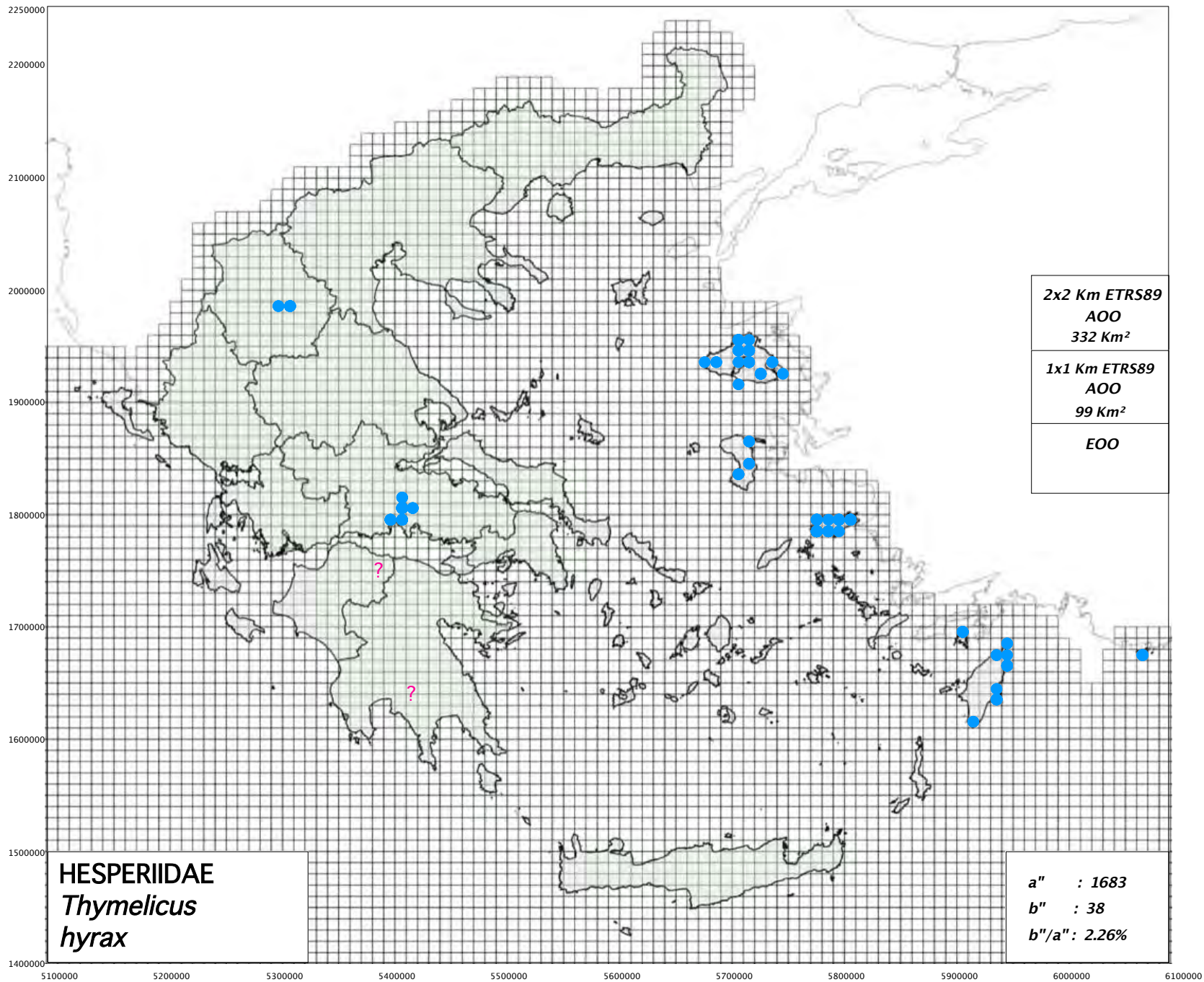


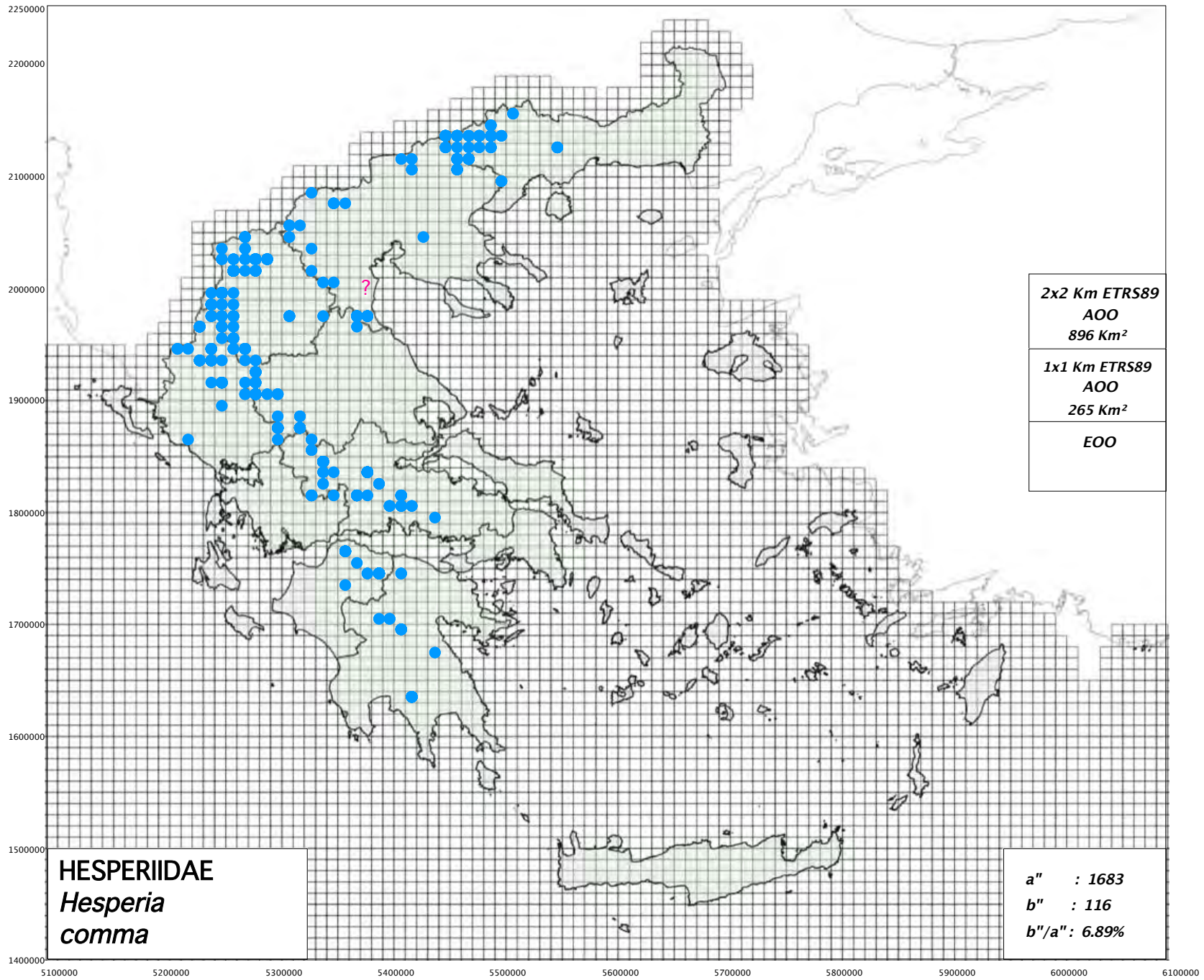












2x2 Km ETRS89
AOO
896 Km²

1x1 Km ETRS89
AOO
265 Km²

EOO

HESPERIIDAE
Hesperia
comma

a'' : 1683
b'' : 116
b''/a'' : 6.89%

